

A. J. MALMBERG.  
METALLIC DOOR.

APPLICATION FILED NOV. 2, 1914.

1,129,042.

Patented Feb. 16, 1915.

2 SHEETS—SHEET 1.

FIG. 1.

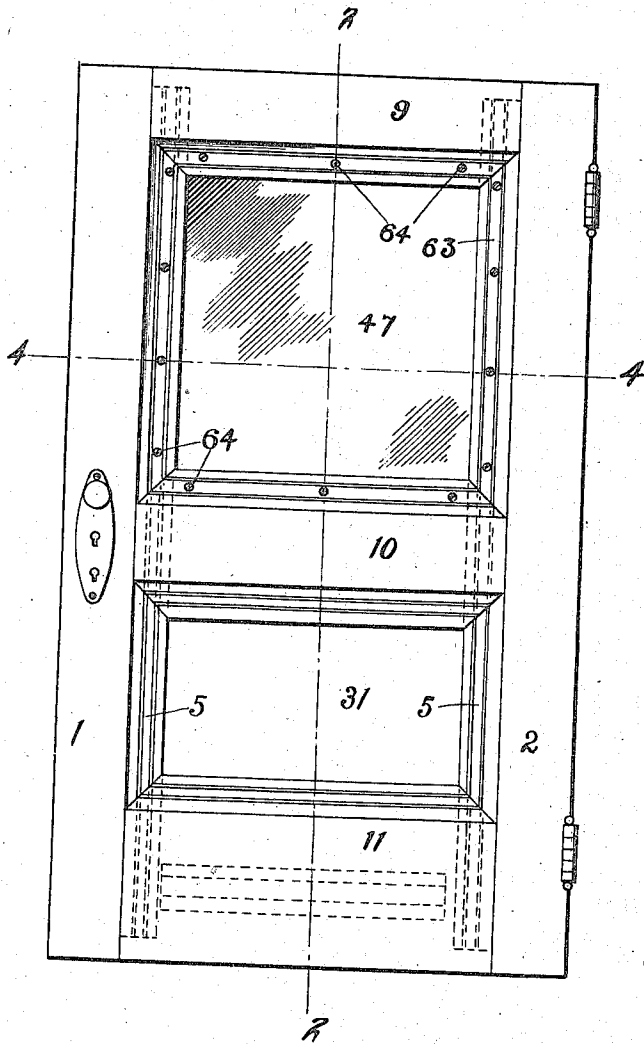
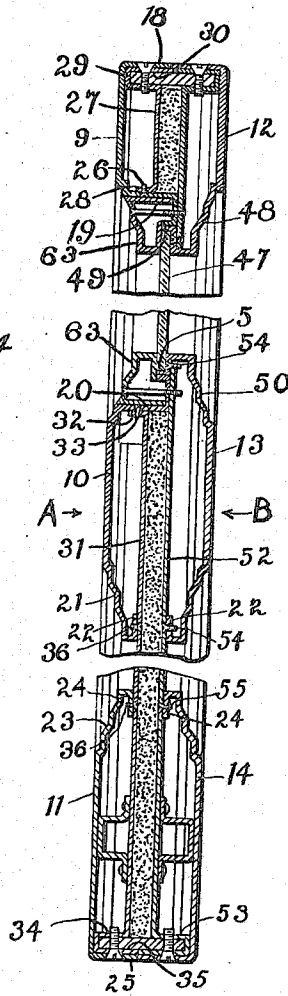


FIG. 2.



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2 SHEETS—SHEET 2.

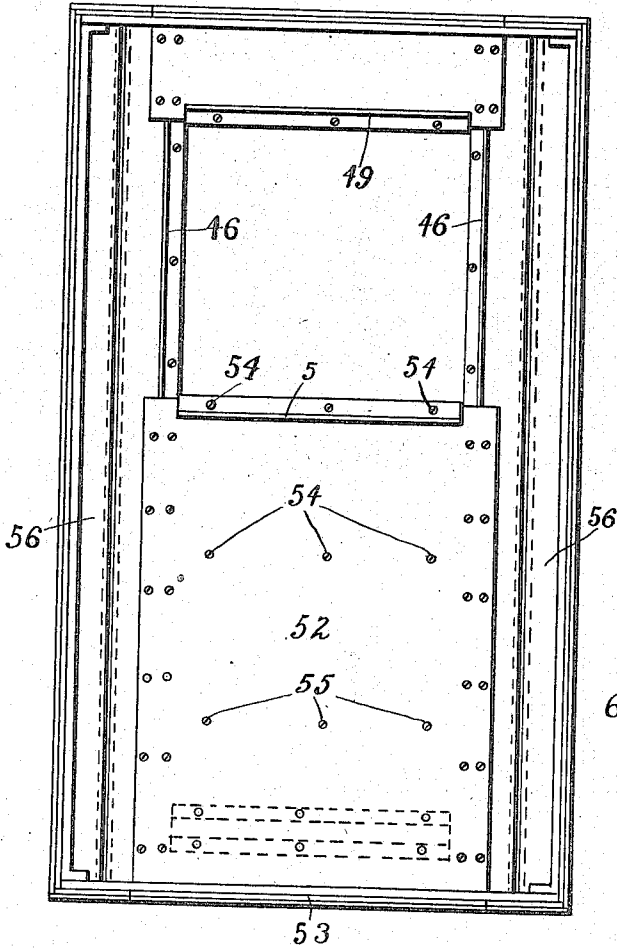


FIG. 3.

FIG. 5. FIG. 6.

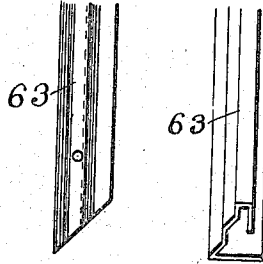
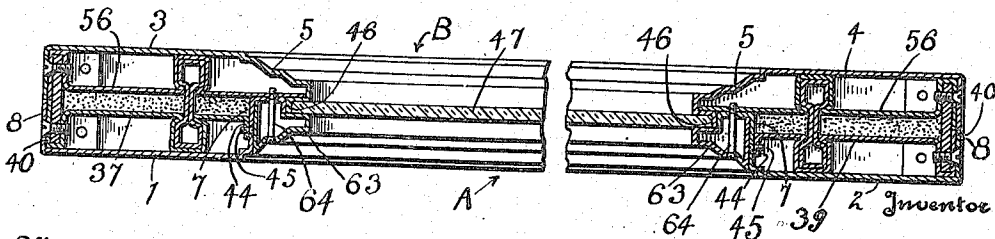


FIG. 7

FIG. 4.



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# UNITED STATES PATENT OFFICE.

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## METALLIC DOOR.

1,129,042.

Specification of Letters Patent.

Patented Feb. 16, 1915.

Original application filed November 8, 1913, Serial No. 798,889. Divided and this application filed November 2, 1914. Serial No. 869,873.

To all whom it may concern:

Be it known that I, ARVID J. MALMBERG, a subject of the King of Sweden, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Doors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to metallic doors, consists in certain novel and useful improvements in the same and is a division of my application, Serial No. 799,889 filed Nov. 8, 1913.

My invention consists in the novel features hereinafter described with reference to the accompanying drawings, in which I have shown one form in which the invention may be embodied and which has been selected by me for the purpose of illustrating the invention, and the said invention is fully disclosed in the following specification and claims.

Referring to the drawings, Figure 1 is a plan view of the outer side of my improved door. Fig. 2 is an enlarged vertical sectional view taken on line 2—2 of Fig. 1. Fig. 3 is a plan view of the interior of one side of the door. Fig. 4 is an enlarged horizontal sectional view taken on line 4—4 of Fig. 1. Fig. 5 is a plan view of a detail showing a portion of one of the panel securing plates. Fig. 6 is a side view of the same. Fig. 7 is an end view.

The object of my invention is to provide a panel securing means for metallic doors or the like, to hold the panel securely in place and which may be attached quickly by unskilled labor. It is to be understood, however, that the device may also be employed in other relations in which its use may be found advantageous or desirable.

In carrying out my invention, I employ a door made up of two sides, each provided with a panel opening, one of the sides being provided around its panel opening with a plurality of flanges for supporting the panel, and when the two sides of the door are secured together, with the glass resting in its supports, I retain the panel in place by means of a securing frame.

In the drawings A and B represent oppo-

site sides of the door, which are formed and connected together in a manner hereinafter described.

1 and 2 designate the outer plates of the side stiles of the side A of the door and 3 and 4 are the outer plates of the opposite side of the door B. The side stiles 1 and 2 are provided on their inner edges with inwardly and rearwardly extending moldings 5, which are connected with the panels, hereinafter described, in any suitable manner (not shown). The moldings are formed as above described, throughout their entire length, with the exception of the portions which accommodate the upper panel of the door and these portions have rearwardly, inwardly and forwardly extending flanges 7. The stile plates 1 and 2 are also provided on their outer edges with flanges 8 bent at right angles thereto, which extend throughout their entire length.

9, 10 and 11 are respectively the outer plates of the top, middle and bottom cross rails on the side A of the door and 12, 13 and 14 are similar plates on the opposite side of the door. These cross rail outer plates and side stile outer plates may be connected or joined in any desired manner (not shown).

The top cross rail outer plate 9 is provided on its upper edge with a rearwardly extending flange 18 which has apertures, through which fastening means are passed in assembling the door and its lower edge is provided with a rearwardly, downwardly and again rearwardly, downwardly and forwardly extending flange 19, the lateral edges of which are cut diagonally to closely engage the moldings 7.

The plate 10 of the middle cross rail is provided on its upper edge with a rearwardly, upwardly and forwardly extending flange 20 having diagonal edges for engaging the moldings 7, and on its lower edge with an irregular shaped molding 21, which has an upwardly extending flange 22. The lateral edges of said moldings are also diagonal for engaging the moldings 5. The bottom cross rail plate 11 is provided on its upper edge with a stepped molding 23 which has a downwardly extending flange 24, and the molding 23 also has its lateral edges cut diagonally for the purpose hereinbefore mentioned. A rearwardly extending flange

25 is provided on the lower edge of the outer plate 11.

5 Secured to the inside of the top cross rail outer plate 9, by means of screws 26, is an inner plate 27, which has a flange 28 that rests on and is secured to the rearwardly extending portion 19 of the cross rail. The inner cross rail is provided on its upper edge with a hook shaped portion 29, which forms a recess 30 for a purpose hereinafter described.

10 A plate 31, which forms one side of the lower panel of the door, is provided on its upper edge with an outwardly extending flange 32, secured to the rearwardly extending portion 20 of the cross rail outer plate 10 by means of screws 33. The lower edge of said plate 31 is provided with a hook shaped portion 34, which forms a recess 35 for a purpose hereinafter described. The plate 31 is also connected to the flanges 22 and 24 of the middle and bottom cross rail outer plates by screws 36 and to the inner stile plates 37 and 39 by suitable means (not shown).

25 The inner stile plates 37 and 39 are provided on the interior of the stile plates 1 and 2 and said stile plates 37 and 39 are provided throughout their entire length with hook-shaped portions 40. These inner stile plates are also provided on their inner edges with outwardly extending flanges 44 at the portions of the stile plates in which the upper panel of the door is placed, and said flanges 44 are secured to the flanges 7 of the outer plates by means of screws 45.

30 The outer plates 3 and 4 of the stiles on the side B of the door are formed in a manner similar to the outer plates 1 and 2, with the exception that the moldings 5 are formed slightly differently on their inner edges at the portions engaged by the top panel of the door. In this case the moldings 5 are integral with the right angle flanges 46, which form lateral supports for the top panel 47. This top panel 47 may be constructed of any suitable material, but is preferably made of glass.

40 The cross rail outer plate 12 is similar in form to the rail plate 9, with the exception of the lower edge, which has an irregular shaped molding 48, provided with an inwardly extending flange 49. The cross rail outer plate 13 is similar to the cross rail plate 10 with the exception of its upper edge, which is provided with an irregular shaped molding 50, having a flange 51. The flanges 49 and 51 of the cross rails act as the top and bottom supports for the panel 47 and they abut against the outwardly extending portions of the flanges 19 and 20.

50 The cross rail outer plate 14 is similar to the cross rail plate 11 and is secured to an inner panel plate 52, and to the side stiles 3 and 4 in a manner similar to the securing

of the like plates on the opposite side of the door. This inner plate 52 is provided on its lower edge with a hook shaped portion 53 which is similar in form to the hook shaped portion 34 of the panel plate 31. The upper edge of the plate 52 is secured to the moldings 50 and 22 of the cross rail outer plate 13 by means of screws 54. The flanges 24 of the lower cross rail outer plate 14, is connected to the plate 52 by screws 55. Inner stile plates 56 are provided on the interior of the stile plates 3 and 4 and are made similar in form to the plates 37 and 39 with the exception of their inner edges at the portion where the upper panel 47 is located. The inner edges in this instance are on a line parallel with the side of the door.

70 In assembling the door, the sides A and B are joined in the manner hereinbefore described. A frame composed of a top bar 57, side bars 58 and a bottom bar 60 is inserted in the recesses formed by the hook shaped portions of the inner plates on the side B of the door and secured therein. The side A of the door is then placed against said side B and the bars 57, 58 and 60 are inserted in the recesses formed by the hook shaped portions of the inner plates of the side A of the door, to which the side A is connected. When the door has been assembled, the panel 47 is placed between the flanges 46, 49 and 51 and secured by means of a rectangular frame 63 which is in turn held in place by means of screws 64. The frame 63 is composed of four sides, each of which is formed of a single piece of metal bent to proper form as shown in Figs. 5, 6 and 7.

85 What I claim and desire to secure by Letters Patent is:—

1. A metallic door comprising two sides having stiles, cross rails and panels, each of said stiles consisting of inner and outer plates, one portion of the inner edges of the outer plates of one side of said door being rearwardly, laterally and again rearwardly extended to form lateral supports, and each of said cross rails consisting of inner and outer plates, the lower edge of the outer plate of the upper cross rail on one side of said door and the upper edge of the outer plate of the middle cross rail on the same side of said door being horizontally, vertically and again horizontally extended to form top and bottom supports, an upper panel having its edges engaging said supports, the outer plates of the side stiles on the opposite side of said door having their inner edges adjacent said upper panel rearwardly, laterally and forwardly extended, the forwardly extending portions abutting against the lateral supports of the other side of said door, and means for securing said panel in said supports.

2. A metallic door comprising two sides having stiles, cross rails and panels, each of

said stiles consisting of inner and outer plates, one portion of the inner edges of the outer plates of one side of said door being rearwardly, laterally and again rearwardly extended to form lateral supports, and each of said cross rails consisting of inner and outer plates, the lower edge of the outer plate of the upper cross rail on one side of said door and the upper edge of the outer plate of the middle cross rail on the same side of said door being horizontally, vertically and again horizontally extended to form top and bottom supports, an upper panel having its edges engaging said supports, the outer plates of the side stiles on the opposite side of said door having their inner edges adjacent said upper panel rearwardly, laterally and forwardly extended, the forwardly extending portions abutting against the lateral supports of the other side of said door, and a rectangular frame composed of sheet metal for holding said panel in said supports.

3. A metallic door comprising two sides having stiles, cross rails and panels, each of said side stiles consisting of inner and outer plates, one portion of the inner edges of the outer plates of one side of said door being rearwardly, laterally and again rearwardly extended to form lateral supports,

and each of said cross rails consisting of inner and outer plates, the lower edge of the outer plate of the upper cross rail on one side of said door and the upper edge of the outer plate of the middle cross rail on the same side of said door being horizontally, vertically and again horizontally extended to form top and bottom supports, an upper panel having its edges engaging said supports, the outer plates of the side stiles on the opposite side of said door having their inner edges adjacent said upper panel rearwardly, laterally and forwardly extended, the forwardly extending portions abutting against the lateral supports of the other side of said door, the certain of the cross rails on the opposite side of said door having certain of their edges provided with rearwardly, vertically and forwardly extending flanges, the forwardly extending flanges abutting against said top and bottom supports, and means for securing said panel in said supports.

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

ARVID J. MALMBERG.

Witnesses:

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ROBT. E. BARRY.