

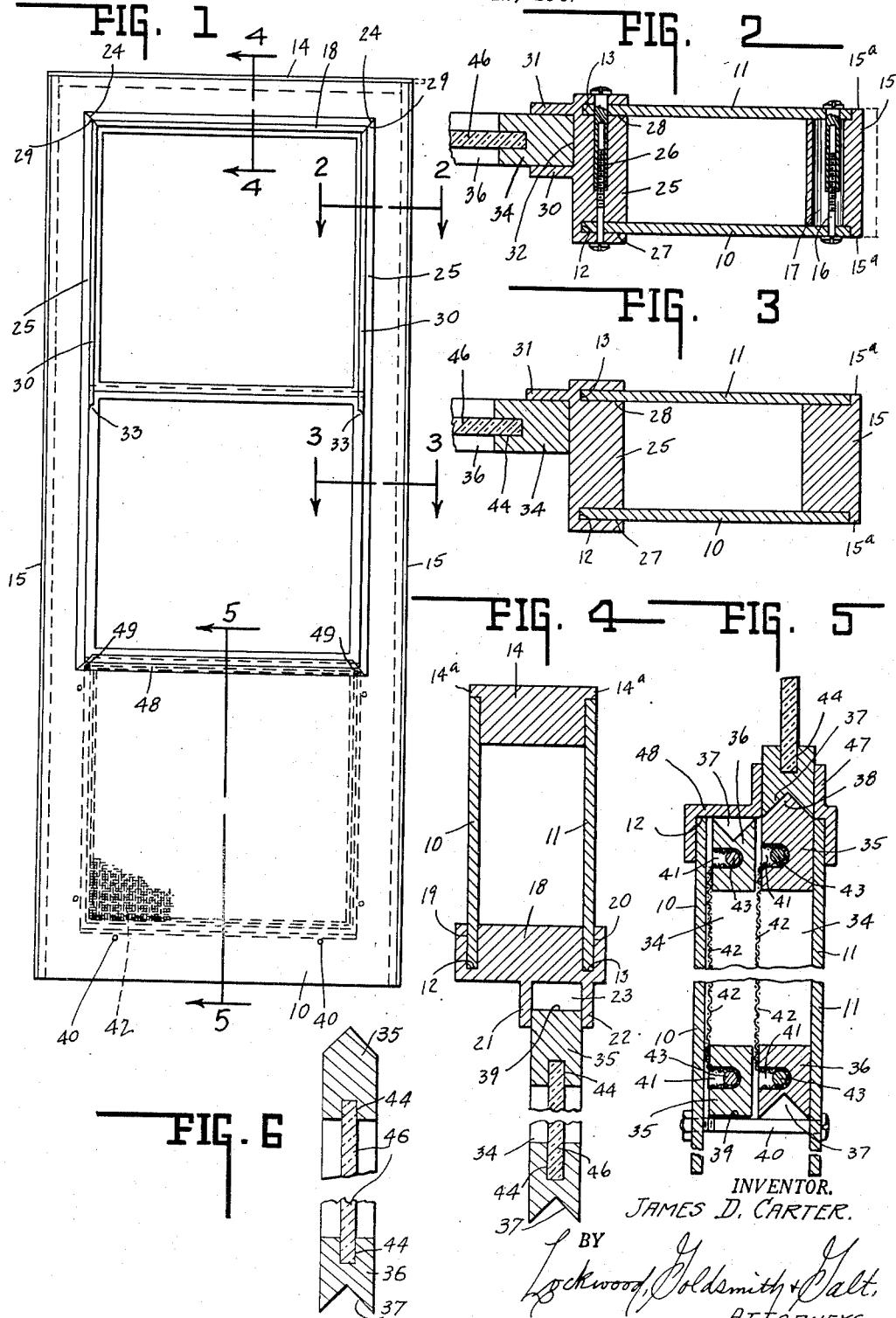
Feb. 6, 1951

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2,540,864

COMBINATION DOOR OF STORAGE TYPE

Filed March 12, 1947



UNITED STATES PATENT OFFICE

2,540,864

COMBINATION DOOR OF STORAGE TYPE

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Application March 12, 1947, Serial No. 734,079

6 Claims. (Cl. 160—37)

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This invention relates to a door structure of the combination type that is one that can serve as a screen or a storm door as desired.

The chief object of the present invention is to provide in such a door storage capacity for the unit or units (screen or glass) not then in use.

Another chief object of the present invention is to construct such a door that said units can be readily interchanged with a minimum of effort.

The chief feature of the present invention resides in providing in a door an opening for unit accommodation of two pairs of units, one pair being of screen type and the other of so-called glass type, the opening having a length approximately twice that of the units and of a width approximately that of the several units, and further providing in such door a storage compartment of a width sufficient to store the units and of a length approximately that of the units and of a third dimension at least sufficient to accommodate two side-by-side door concealed units.

Another feature of the present invention resides in utilizing one of the stored units as a support for two superposed opening exposed units.

A further feature of the present invention resides in the tongue and groove association between adjacent units for sealing purposes.

Other objects and features of the invention will be set forth more fully hereinafter.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims.

In the drawings:

Fig. 1 is an elevational view of the inner side of a door embodying the invention.

Fig. 2 is an enlarged sectional view taken on line 2—2 of Fig. 1 and in the direction of the arrows.

Fig. 3 is a similar view taken on line 3—3 of Fig. 1 and in the direction of the arrows.

Fig. 4 is a similar view taken on line 4—4 of Fig. 1 and in the direction of the arrows.

Fig. 5 is an enlarged broken sectional view taken on line 5—5 of Fig. 1 and in the direction of the arrows.

Fig. 6 is an enlarged broken sectional view of a glass sash with a V-tongue at one end and a V-groove at the other. This sash is companion to that shown in Fig. 4.

Preferably the door is metallic as will appear more fully from Figs. 2 to 5, inclusive, and comprises suitably spaced apart outside and inside sheets 10 and 11 each having an opening 12 and 13 therein which register with each other.

Interposed between the sheets at the top of the door is member 14, see Figs. 1 and 4. Interposed between the sheets at opposite sides are members 15, see Figs. 1, 2, and 3. Each of these members includes oppositely directed flanges

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designated by the corresponding numerals with subscript a.

Connections 16 suitably secure the several parts together into door formation, the bottom being closed or left open as desired. Herein at least one member 15 where associated with said means 16 is slotted as at 17, see Fig. 2, so said spacing closure 15 can be adjusted in and out and secured in the desired position to provide a door of proper width. Top closure 14 may be cut to the required length.

If only one side is extensible it is preferred to have that side mount the hinges. Obviously, the length can be readily adjusted by cutting off the bottoms of sheets 10 and 11 and closures 15 because thresholds for different door openings of the same size do vary.

Referring more particularly to the opening to be closed by the dual units, it will be noted the top thereof is closed, see Figs. 1 and 4, by member 18 channelled at 19 and 20 to accommodate sheets 10 and 11 adjacent openings 12 and 13, respectively. The inner face includes spaced flanges 21 and 22 to form groove 23, same as shown at its root having appreciable clearance with respect to the top of the unit then seated therein and for a purpose hereinafter to be described. The member 18 has its ends mitred as at 24, see Fig. 1.

30 The sides of the opening are similarly closed by member 25, see Figs. 1, 2, and 3. Means 26, see Fig. 2, secures sides 10 and 11 and member 25 together and like means may secure member 18 to members 10 and 11. Member 25 is channelled as at 27 and 28 to take the members 10 and 11 at openings 12 and 13, respectively. The upper ends of members 25 are mitred as at 29.

For slightly more than half the length of member 25 there is provided flange 30, see Figs. 1 and 2, which is coplanar with flange 21. For the entire length of member 25 there is provided flange 31 coplanar with flange 22. These two flanges 30 and 31 form a groove 32, see Fig. 2, which slidably supports and retains the upper unit in the opening. The inner flange 30 terminates at 33, see Fig. 1, for a purpose to be later set forth.

50 The glass and screen units are similar in most respects. Both members of the screen unit are fully illustrated in broken vertical section in Fig. 5, while both members of the glass unit are shown in broken vertical section in Figs. 4 and 6. Each unit comprises a frame having sides 34, a top 35, and a bottom 36. Each member of both units also includes a V-groove 37. While one member of each unit includes a V-tongue 38, the other includes a flat end 39. The end of the respective members in which the groove is formed is herein referred to as the bottom end.

55 It will be observed in Fig. 5 that the non-supporting member of the stored unit is disposed in

inverted relation whereas the supporting member is right side up. This arrangement is also followed when the glass unit is stored.

The frame members are suitably secured together. Each screen unit includes an opening enveloping groove 41 upon the inner face of the unit and spaced from the opening. A screen 42 closes the unit opening and means 43 in the groove 41 suitably secure the screen to the frame.

The glass units are somewhat similar except that the frame members at the opening are co-extensively channelled as at 44 and seated therein is glass 46. The glass unit frame members may be detachably secured together or one member so secured as to facilitate glass replacement when necessary. The screen frame members may be permanently secured together.

Reference will now be had to Figs. 1, 4 and 5. Positioned at the bottom of opening 43 and carried by the member or sheet 44 in any suitable, but non-obstructing manner is the panel completing member 47 of bayonet sections having one flange coplanar with the exterior portion of members 25 and 18 and the other flange coplanar with flanges 31 and 22.

At the lower end of the opening in the door and upon the interior side thereof is a detachable inner member 48 having one flange coplanar with the interior of members 25 and the other flange coplanar with flanges 30 and 21. Means 49 detachably secures member 48 in position.

When member 48 is detached the uppermost unit can be elevated slightly into groove 23 which permits detachment of the tongue and groove connection between the stored supporting unit and the lowermost exposed unit. Then such detachable lower exposed unit is removed and then the uppermost unit may be lowered and removed. Then both stored units are removed. The previously exposed units are then stored, the other units applied to the opening and then member 48 reattached.

While the invention has been illustrated and described in great detail in the drawings and foregoing description, the same is to be considered as illustrative and not restrictive in character.

The several modifications described herein, as well as others which will readily suggest themselves to persons skilled in this art, all are considered to be within the broad scope of the invention, reference being had to the appended claims.

The invention claimed is:

1. In a closure such as a door structure for closing an opening, and having a body portion with an opening therethrough, the combination therewith of two pairs of closure elements, one of window type and the other of screen type, said body portion having a storage compartment therein communicating at one end with said body portion opening and adapted to store simultaneously two of said closure elements, one of the stored closure elements constituting a support for the two closure elements of the other pair in superposed relation and when positioned for closing the body portion opening.

2. A closure as defined by claim 1 wherein the adjacent ends of any selected pair of coplanarly disposed, opening exposed, closure elements include a tongue and groove seal association therebetween.

3. A closure as defined by claim 1 wherein outer rail means is provided to define the body portion opening, other rail means at that opening being spaced from the first means to form there-

with a closure element end seating groove opposite the compartment communication, rail means disposed oppositely with respect to and partially defining that opening, spaced from the first rail means and of a length but slightly greater than the uppermost closure element, and a fourth rail means coplanar with the said second and third rail means opposite the second rail means for closure element retention.

4. A closure as defined by claim 1 wherein outer rail means is provided to define the body portion opening, other rail means at that opening being spaced from the first means to form therewith a closure element end seating groove opposite the compartment communication, rail means disposed oppositely with respect to and partially defining that opening, spaced from the first rail means and of a length but slightly greater than the uppermost closure element, a fourth rail means opposite the second rail means for closure element retention, and means detachably connecting the fourth rail means to the body portion.

5. A closure as defined by claim 1 wherein outer rail means is provided to define the body portion opening, other rail means at that opening being spaced from the first means to form therewith a closure element end seating groove opposite the compartment communication, rail means disposed oppositely with respect to and partially defining that opening, spaced from the first rail means and of a length but slightly greater than the uppermost closure element, and a fourth rail means coplanar with the said second and third rail means opposite the second rail means for closure element retention, the adjacent edges of any selected pair of coplanar disposed, opening exposed, closure elements including a tongue and groove seal association therebetween.

6. A closure as defined by claim 1 wherein outer rail means is provided to define the body portion opening, other rail means at that opening being spaced from the first means to form therewith a closure element end seating groove opposite the compartment communication, rail means disposed oppositely with respect to and partially defining that opening, spaced from the first rail means and of a length but slightly greater than the uppermost closure element, a fourth rail means opposite the second rail means for closure element retention, and means detachably connecting the fourth rail means to the body portion, the adjacent edges of any selected pair of coplanar disposed, opening exposed, closure elements including a tongue and groove seal association therebetween.

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