E. T. WILLHOITE.

SCREEN DOOR CONSTRUCTION.

APPLICATION FILED JAN. 30, 1922.

1,431,071.

Patented Oct. 3, 1922.

2 SHEETS—SHEET 1.

Fig. 1.

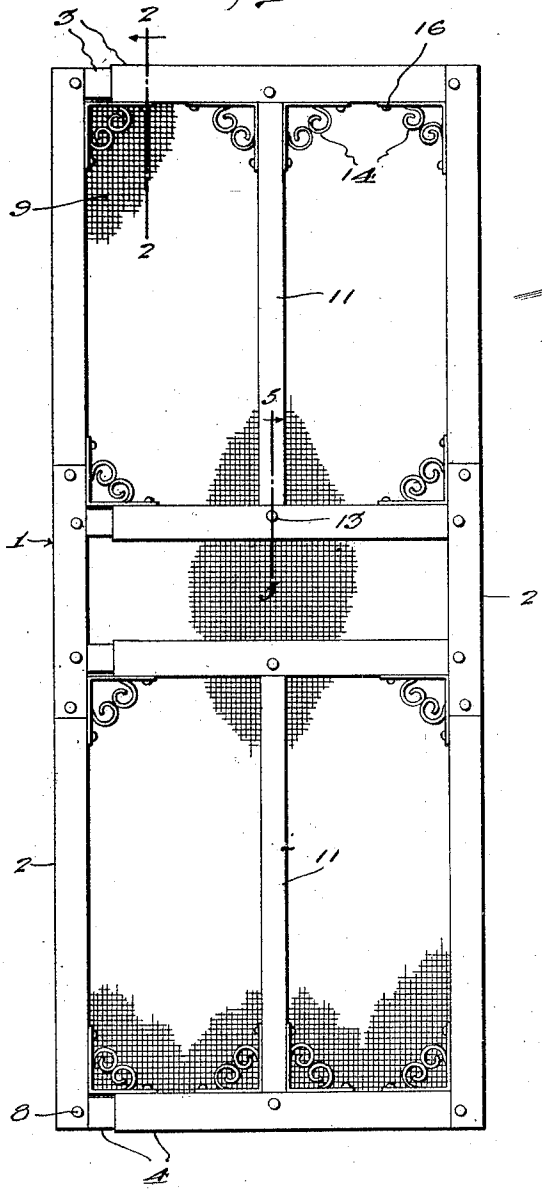


Fig. 4.

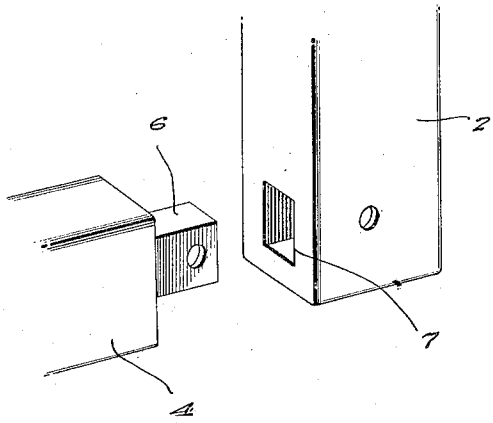
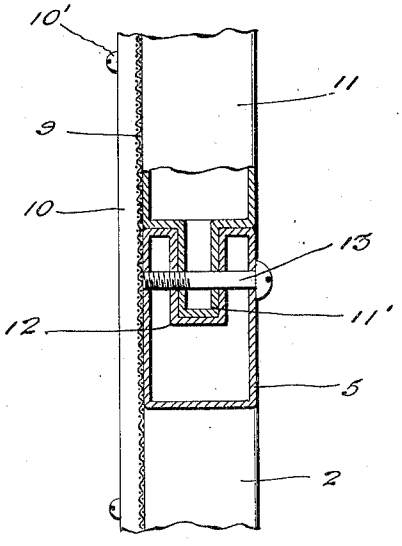


Fig. 5.



Paul M. Hunt.

WITNESS:

E. T. Willhoite INVENTOR

BY Victor J. Evans

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2 SHEETS—SHEET 2.

Fig. 2.

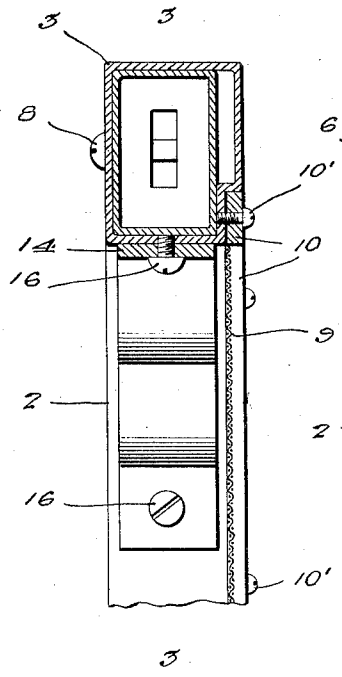
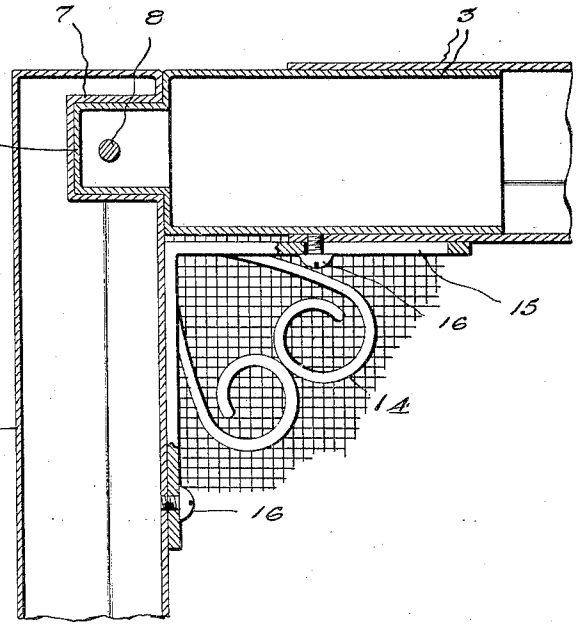


Fig. 3.



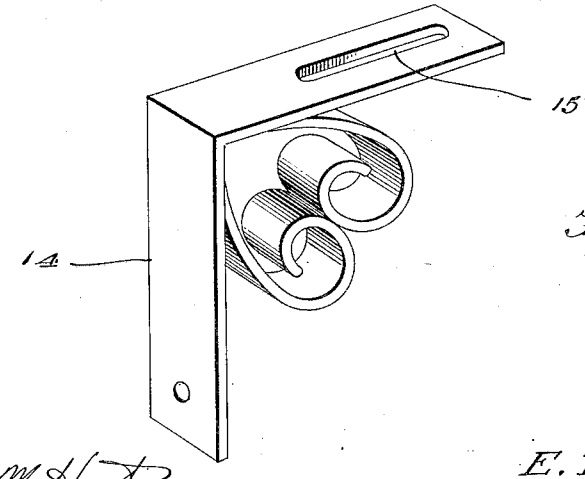


Fig. 6.

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UNITED STATES PATENT OFFICE.

ELMER T. WILLHOITE, OF WOODRUFF, MISSOURI.

SCREEN-DOOR CONSTRUCTION.

Application filed January 30, 1922. Serial No. 532,762.

To all whom it may concern:

Be it known that I, ELMER T. WILLHOITE, a citizen of the United States, residing at Woodruff, in the county of Platte and State of Missouri, have invented new and useful Improvements in Screen-Door Constructions, of which the following is a specification.

My present invention has reference to screen door construction and has particular application to a metal door.

My primary object is to produce a screen door wherein the frame is constructed of telescopic sections which have their inner edges rabbeted to provide a pocket for the marginal edges of a screen, and wherein strips are received in the said rabbeted portions secured thereto for sustaining the screen on the frame and bridging the joints of the frame to effect in producing a light but strong and durable door construction.

It is also my purpose to produce a screen door construction in which the frame is formed of removable telescopically associated sections, said sections being removably associated so that the same may be knocked down to produce a small package for storage or shipment and wherein the parts when set up will be held as rigidly associated as an ordinary door construction.

It is a still further object to produce a screen door construction in which the frame thereof is made up of telescopic sections whereby the door can be adjusted to different sized casings, and wherein the sections constituting the frame are rabbeted to provide a continuous groove for the marginal edges of the screen, the screen being held in the grooves by strips which bridge the joints of the telescopic sections, while in addition thereto there is provided at the corners of the frame and at the corners of panels when the frame is constructed to provide the same, brackets secured to the said sections in a manner to permit of the adjustment of said sections, and also to materially assist the strips in sustaining the sections rigidly connected.

The foregoing, and other objects which will appear as the nature of the invention is better understood, may be accomplished by a construction, combination and operative association of parts, such as is disclosed by the drawings which accompany and which form part of this specification.

In the drawings:—

Figure 1 is a view in front elevation of a screen door constructed in accordance with this invention.

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

Figure 3 is a sectional view on the line 3—3 of Figure 2.

Figure 4 is a perspective view showing the manner in which one of the rails may be connected to one of the stiles by mortise and tenon.

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

Figure 6 is a perspective view of one of the brackets.

Referring now to the drawings in detail, the numeral 1 designates a substantially rectangular frame. The frame includes the stiles 2, the top rails 3, the bottom rail 4 and the middle rails 5. The stiles and rails are preferably formed of hollow metal members, in the nature of tubings, and both the stiles and rails comprise any desired number of telescopically associated sections. In the showing of the drawings, the stiles and rails each comprise a central section and end sections, the end sections being telescopically received in the middle sections. The outer or end rail sections have their ends in contact with the stiles provided with tenons 6 which are received in mortises 7 in the said stiles, and if desired, removable securing means 8 pass through the stiles and through the tenons.

The frame is rabbeted on its inner edge to provide the same with continuous grooves in which are received the marginal edges of the screens 9. The screens are held in the grooves by strips 10. Of course, a number of such strips are employed, and the strips are of such length that they bridge the joints between the telescopic sections of the stiles and rails. Removable securing means 10 hold the strips on the frame. By such construction, it will be seen that the telescopic sections constituting the frame will be effectively held in adjusted condition so that a strong and durable door construction is provided. Montants 11 which also comprise tubular telescopically associated sections

may be provided when panel effect is desired in the door construction. The montants have their outer ends formed with tenons 11 which are received in mortises 12 in the central sections of the rails 4 and 5, removable securing means 13 holding the tenons in the mortises.

To more effectively sustain the frame in rigid set-up condition, I provide at the corners of the frame proper and at the corners of the panels in the frame, angle brackets 14. The arms of these angle brackets are comparatively long, each of the arms being provided with an elongated slot 15 respectively. Passing through these slots are headed binding elements 16 whose heads contact with the outer faces of the arms of the brackets. The arms of the brackets are of sufficient length to bridge the joints between the telescopic sections of the frames, and when the frames are to be adjusted after the brackets are applied, it is merely necessary to unscrew the threaded headed elements 16 to permit of a sliding telescopic adjustment of the frame sections.

It is thought that the foregoing description, when taken in connection with the drawings will fully set forth the construction and advantages of the improvement and therefore further detailed description will not be attempted. It is thought necessary to state, however, that I do not wish to be restricted to the precise details of construction herein set forth, as I hold myself entitled to such changes therefrom as fall within the scope of what I claim.

Having described the invention, I claim :—

A knock-down screen door construction, comprising stiles, rails and montants, a mortise and tenon joint at the confronting ends of the stiles, rails and montants, removable securing means passing through the joints, the stiles, rails and montants each comprising telescopically associated tubular sections, and the elements constituting the frame having their inner edges rabbeted to provide continuous grooves, screens having their marginal edges seated in the grooves, strips overlying the screens, secured in the grooves and lapping the joints between the telescopic frame sections, brackets at the inner corners of the frame and the panels provided by the middle rails and montants, each of said brackets being of a length to have the arms thereof bridge the joints between the frame sections, each of said brackets having its arms provided with elongated openings, and headed securing elements having their shanks adjustably connected to the frame sections and the heads thereof contacting the inner faces of the arms of the brackets.

In testimony whereof I affix my signature.

ELMER T. WILLHOITE.