

(No Model.)

J. K. WIESENDANGER & J. ULRICH.

SCREEN AND STORM DOOR.

No. 404,999.

Patented June 11, 1889.

Fig. 1.

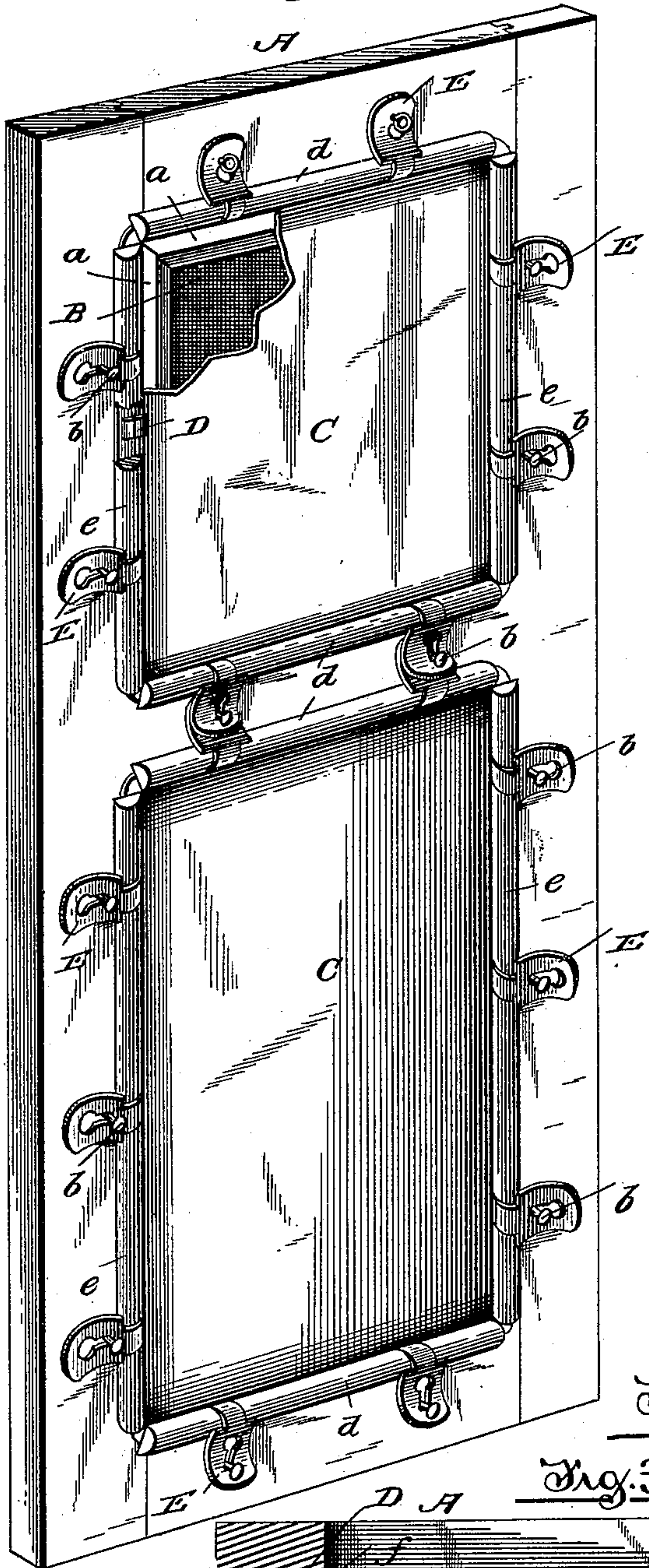


Fig. 5.

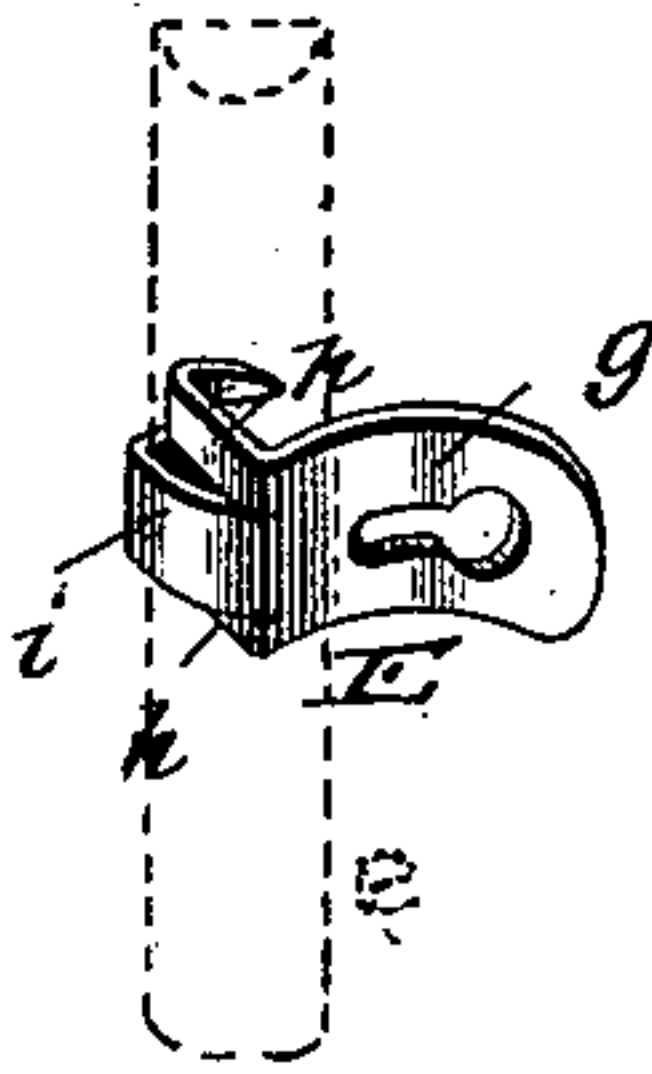


Fig. 4.

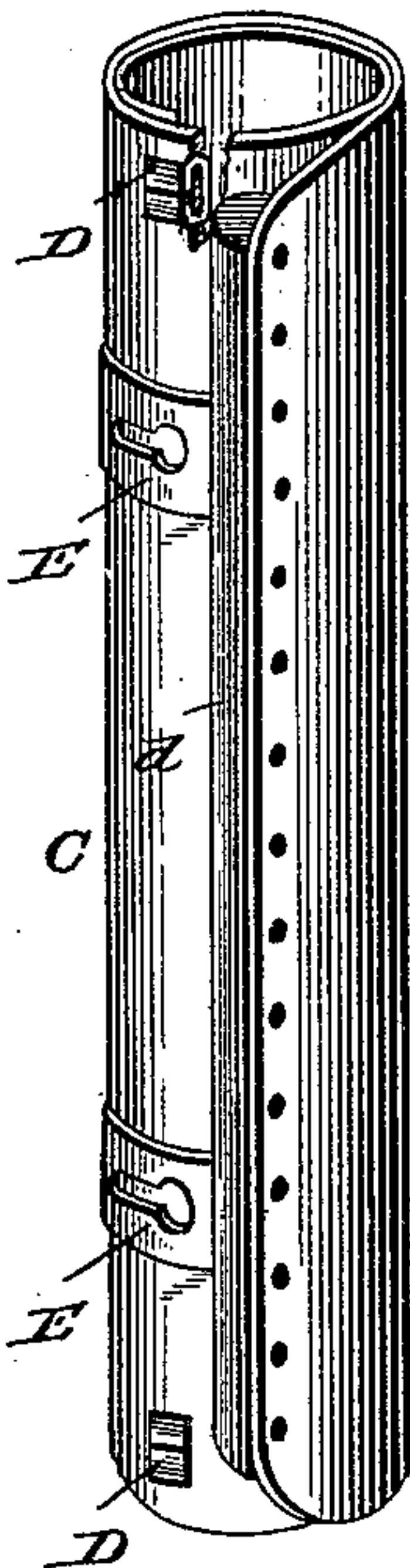
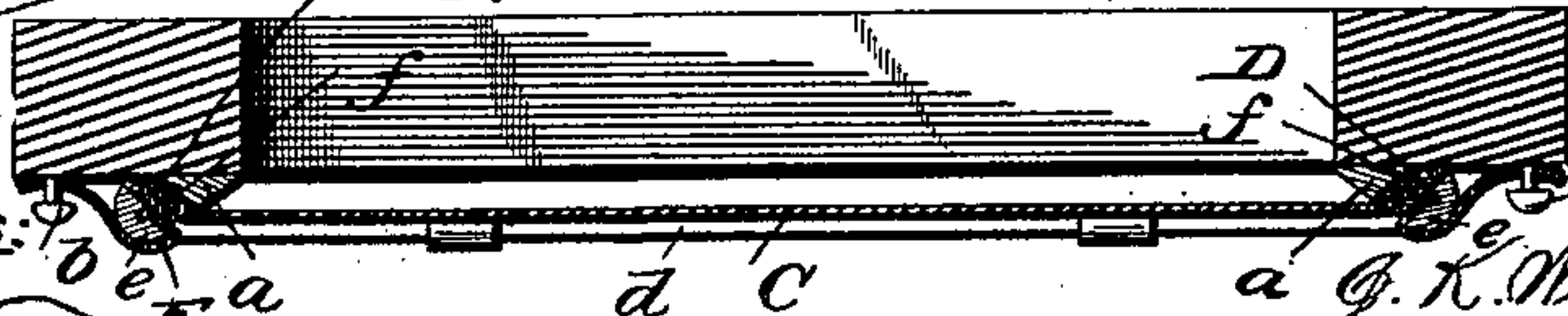


Fig. 6.



Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN K. WIESENDANGER AND JOHN ULRICH, OF LA CROSSE, WISCONSIN.

SCREEN AND STORM DOOR.

SPECIFICATION forming part of Letters Patent No. 404,999, dated June 11, 1889.

Application filed December 12, 1888. Serial No. 293,347. (No model.)

To all whom it may concern.

Be it known that we, JOHN K. WIESENDANGER and JOHN ULRICH, citizens of the United States, residing at La Crosse, in the county of La Crosse and State of Wisconsin, have invented certain new and useful Improvements in Combined Screen and Storm Doors; and we do 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.

This invention relates to means for converting summer or screen doors into storm-doors; and it has for its object to produce such means at a minimum expense, as well as facilitating the application and removal of the protecting devices from the door.

The invention will be fully understood from the following description and claims, when taken in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of an ordinary screen-door inverted, showing our improvements applied. Fig. 2 is a longitudinal vertical sectional view of the same, and Fig. 3 is a cross-sectional view. Fig. 4 is a view of one of the storm-covers removed and rolled up to show how compactly the same may be brought for storage or transportation, and Fig. 5 is a perspective view of one of the tabs or metallic fastening devices. Fig. 6 is a sectional detail view of the main frame, showing the recess in one of the permanent strips.

Referring by letter to the said drawings, A indicates a screen-door, which may be of any ordinary or approved construction, having the panels closed by wire screens or doors, as shown in Fig. 1, and indicated by the letter B. These panels are provided on the outer side of the door, or, if preferred, upon the inner side, with a molding *a*, and at a suitable distance from the molding are headed studs or knobs *b*, there being a sufficient number arranged adjacent to each strip of molding to receive the tabs or fastenings, as will be presently explained.

C indicates an auxiliary panel, which is formed from oil-cloth, gum, or other suitable textile fabric which will exclude rain, snow, and the like. This auxiliary panel is de-

signed to be snugly and firmly although detachably secured to the wire panel. The auxiliary panel has secured at two opposite edges a molding-strip *d*, the attachment being made by any suitable means—such, for instance, as tacks or screws or cement—and the inner sides of these strips *d* are flat, as better shown in Fig. 2 of the drawings, so that they may firmly and closely meet the outer beveled side of the regular molding *a*. By having these moldings *d* secured to the two opposite edges of the flexible panel only it will be seen that when the panel has been removed to obtain a screen-door the said flexible panels may be rolled up, so as to be conveniently placed away. In addition to these attached moldings or strips *d* we employ at the two remaining free edges of the panel C removable strips *e*, and the free edges of the panel at the point where the removable strips are employed are preferably provided with holding-plates, such as D. These holding-plates, which are of metal, are suitably secured to the free edges of the flexible panel at a point to be confined upon the permanent molding-strips *a* by the strips of the auxiliary or storm panel. In practice we find it desirable to notch the edges of the permanent panel-molding, as shown at *f*, so as to receive within them the metallic plates or holders D, and by this means a more firm and substantial fastening of the removable panel may be had, and one in which a drawing and tearing is not liable to occur.

E indicates the tabs for securing the flexible panel to the door-frame. These tabs are of a peculiar construction, being preferably formed of sheet metal, although they may be formed from other suitable material. The tabs (better shown in Fig. 5 of the drawings) have a curvilinear portion *g*, which is provided with a key-hole slot or a slot having an enlarged aperture communicating with a narrow and longer aperture, with the inner or opposite ends of the body divided by slitting into three branches, as shown. In applying these tabs to the removable molding strip or strips for securing the flexible panel to the wire panel we pass the two outer branches *h* transversely through the said strips *d* or *e*, and clinch the same on the under or opposite flat

sides thereof, while the main or central branch *i* is carried around the external portion of the strips and pressed firmly against the opposite or flat side. This forms a firm and secure tab
5 and one which always retains its proper position, holding the strips when applied to the panel firmly against the main molding strips with the panel interposed. When a door is used
10 this form of tab is particularly desirable, as the tabs on the two adjacent molding-strips may overlap one another and fit over the same knobs or headed studs in the cross-bar of the door. We do not, however, wish to con-
15 fine myself to the particular form of tab or the exact construction referred to; but the ones shown and described are preferable. In some cases screw-eyes instead of the headed or turn buttons may be employed.

20 Having described our invention, what we claim is—

1. The combination, with a door having a wire panel and a molding-strip around the same, of the flexible panel adapted to cover
25 the said wire panel, the strips having flat or plain inner sides to embrace and confine the edges of the flexible panel upon the said molding-strips, and the tabs secured to the said strips and having elongated eyes to receive

headed studs in the door-frame, substantially 30 as specified.

2. The combination, with a door-frame having a wire or open-work panel and a molding surrounding the same, of the flexible panel C, having flat-sided strips secured to two oppo- 35 site edges, tabs secured to the said strips to receive headed studs in the door-frame, and two opposite strips removably secured at opposite edges of the flexible panel, and also having tabs whereby the said strips may con- 40 fine the panel upon the molding-strips of the main panel, substantially as specified.

3. The flexible panel C, having the plates D secured thereto near its edges, the strips *e*, placed on the panel over the said plates D, and 45 the tabs E, constructed as described and secured to said strips, whereby the four edges of the flexible panel may be confined upon the molding of the main panel, substantially as specified. 50

In testimony whereof we affix our signatures in presence of two witnesses.

J. K. WIESENDANGER.
JOHN ULRICH.

Witnesses:

JENS LIENLOKKEN,
CHS. KOENIG.