

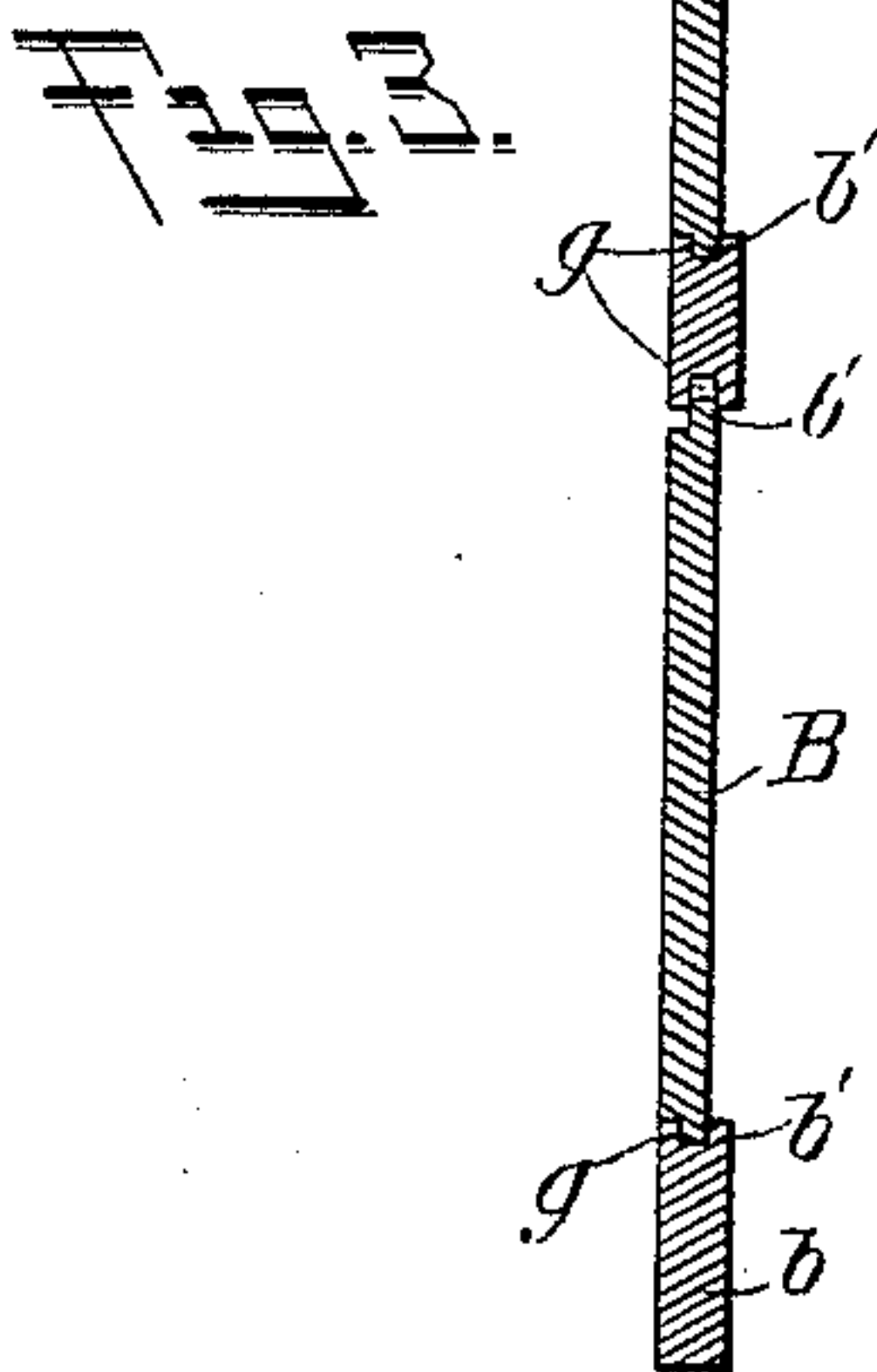
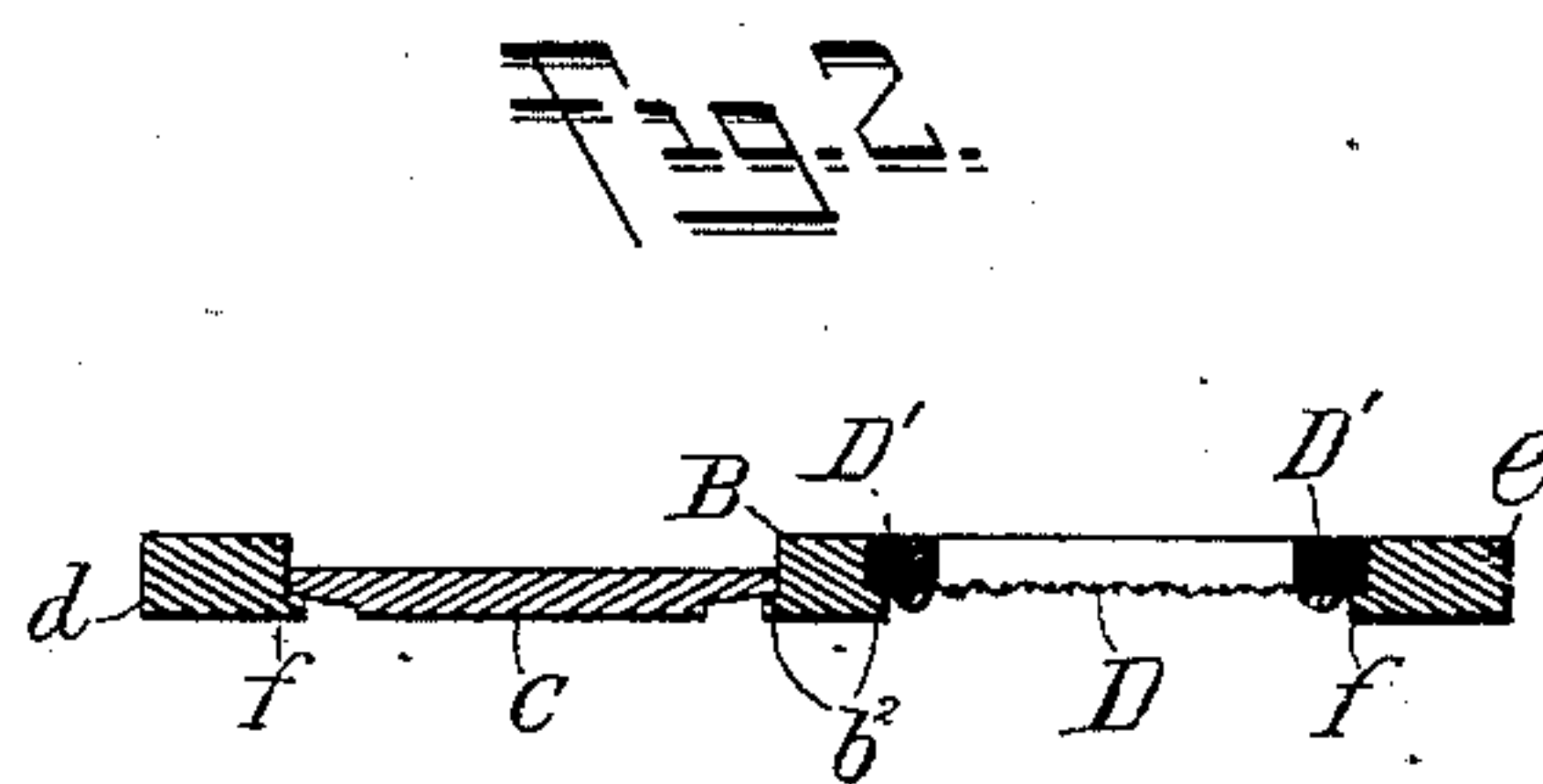
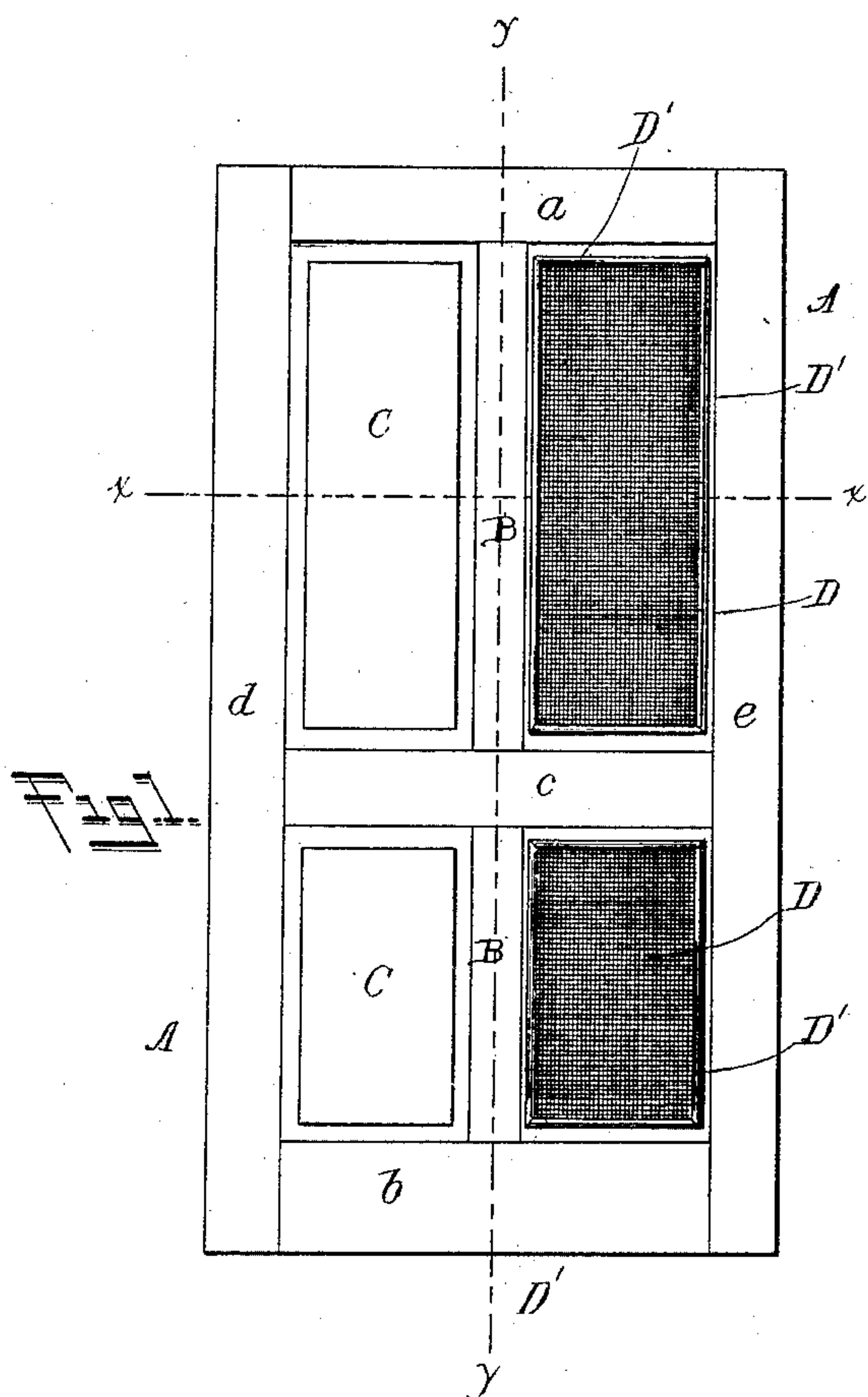
(No Model.)

E. F. KELLER.

DOOR.

No. 341,016.

Patented May 4, 1886.



Attest
Will T. Norton
E. G. Siggers

Inventor
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UNITED STATES PATENT OFFICE.

EUGENE FERDINAND KELLER, OF BARABOO, WISCONSIN.

DOOR.

SPECIFICATION forming part of Letters Patent No. 341,016, dated May 4, 1886.

Application filed March 5, 1886. Serial No. 194,154. (No model.)

To all whom it may concern:

Be it known that I, EUGENE FERDINAND KELLER, a citizen of the United States, residing at Baraboo, in the county of Sauk and State of Wisconsin, have invented a new and useful Improvement in Doors, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in doors; and it consists of the peculiar and novel construction and combination of parts, substantially as hereinafter fully set forth, and specifically pointed out in the claims.

The primary object of my invention is to provide means whereby a door can be readily converted from an air-tight door into a screened door, and vice versa, so that it is adapted to the different seasons of the year. The devices whereby I attain these objects are simple and strong in their construction, cheap and inexpensive of manufacture, and thoroughly effective for the purposes designed.

In the accompanying drawings, Figure 1 is an elevation from one side of a screen and panel-door embodying my invention. Fig. 2 is a horizontal sectional view on the line $x x$ of Fig. 1, and Fig. 3 is a vertical sectional view on the line $y y$ of the same figure.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates the frame of my improved door, which comprises the upper rail, a , the lower rail, b , the lock-rail c , intermediate the upper and lower rails, and the hanging and lock stiles $d e$, all of which are secured together in any ordinary or preferred manner. The lock and hanging stiles $d e$ are provided on their inner edges with a rib or seat, f , near one of the faces thereof, and the upper, lower, and lock rails $a b c$ are provided with grooves g on their opposing edges.

B designates the muntins, which are provided at their ends with tongues $b' b'$, and on their side edges with ribs or seats b^2 , which correspond with the seats f of the hanging and lock stiles. The tongues b' of the muntins B are fitted loosely in the grooves g of the upper, lower, and lock rails, so that the muntins can be moved freely in the grooves longitudinally of the said rails, for a purpose presently described.

C designates the door-panels, and D the

screens, which are removable and interchangeable at will, the panels being shown on the left hand and the screens on the right hand side of each figure of the drawings; but it will be understood that either this arrangement can be employed or the door made air-tight with the panels C, or open for the admission of air to the room or apartment by the screens D. The panels and screens are made interchangeable to adapt the door to be air-tight in the winter-time or cold season, and open for the free admission of air and the exclusion of flies and other obnoxious insects in the summer season or warm weather.

When the panels are fitted in the door-frame, the upper and lower ends thereof are inserted into the grooves in the rails, and at their side edges they bear or rest against the ribs or seats f of the stiles $d e$ and the similar seats or ribs, b^2 , of the muntins B, the grooves g in the edges of the upper and middle rails being made quite deep to allow the panels to be forced into the same, so that one end can be withdrawn from the grooves in the lock-rail, after which the panel can be easily and readily removed from or be forced into engagement with the seats $f b^2$, as may be necessary.

The screens D are of the well-known material, wire cloth or gauze, and they are secured in frames D' , which are provided at their ends with tongues which correspond with the tongues b' of the muntins B, that are adapted to be fitted in the grooves g .

The manner of securing or removing the screens from the door-frame A is similar to that of the panels C above described, the operations being easily and quickly performed.

The operation of my invention will be readily understood.

I do not desire to limit myself to the precise details of construction and form and proportion of parts herein shown and described as an embodiment of my invention, as I am aware that many changes therein can be made without departing from the principle thereof.

The muntins are adjustable laterally of the door to permit the remaining screen or panel therein, after one panel or screen has been detached, to be more readily removed; and the invention can also be applied to window-shutters.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. In a door, the combination of the open frame having the grooves and rib-seats, the adjustable muntins, and the interchangeable screens and panels D C, substantially as described.

2. In a door, the combination of an open frame having the grooves and the ribs or seats, the adjustable muntins B, having the tongues b' and the ribs b^2 , and the interchangeable panels and screens C D, said screens having the

frames D', and the tongues that fit in the grooves in the door-frame, all arranged and combined, substantially as described, for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

EUGENE FERDINAND KELLER.

Witnesses:

E. K. HILL,

GE. RULAND.