

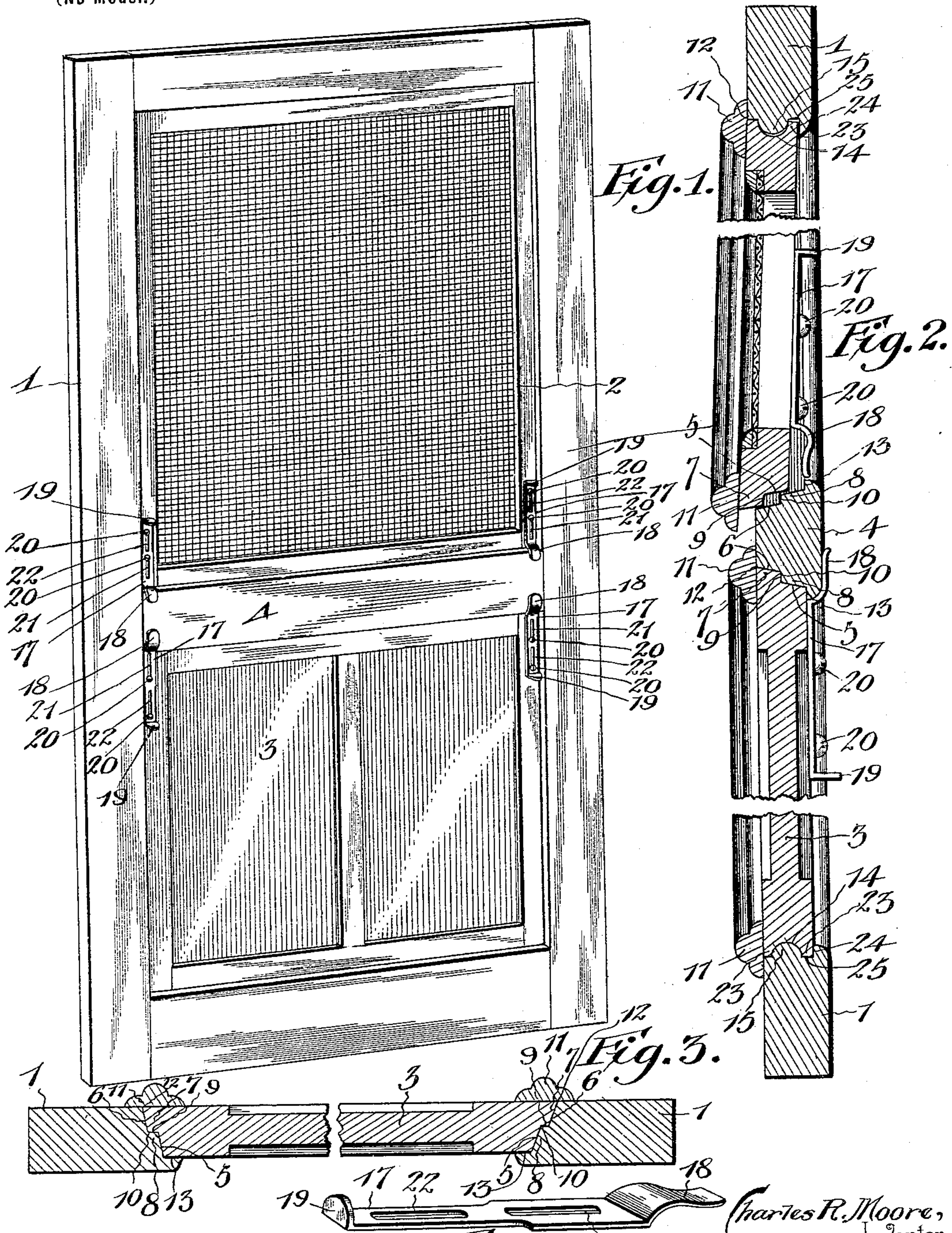
No. 620,604.

Patented Mar. 7, 1899.

C. R. MOORE.
SCREEN OR STORM DOOR.

(Application filed June 8, 1898.)

(No Model.)



Witnesses
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By this Attorneys.

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UNITED STATES PATENT OFFICE.

CHARLES R. MOORE, OF NEWPORT, VERMONT, ASSIGNOR OF ONE-HALF TO
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SCREEN OR STORM DOOR.

SPECIFICATION forming part of Letters Patent No. 620,604, dated March 7, 1899.

Application filed June 8, 1898. Serial No. 682,916. (No model.)

To all whom it may concern:

Be it known that I, CHARLES R. MOORE, a citizen of the United States, residing at Newport, in the county of Orleans and State of Vermont, have invented a new and useful Screen or Storm Door, of which the following is a specification.

This invention relates to doors which are provided with removable panels, whereby blind or storm doors may be converted into screen or glass doors.

The object of the present invention is to provide certain new and useful improvements in the manner of mounting and fitting the panels and also to provide simple and efficient means for holding the same in a substantial manner within the frame of the door.

With these objects in view my invention will be hereinafter more fully described, shown in the drawings, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a door-frame provided with my improved panels. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a transverse sectional view thereof. Fig. 4 is a detail perspective view of the sliding spring-lock for the panels.

Corresponding parts in the several figures are denoted by like characters of reference.

Referring to the drawings, 1 designates the frame of the door, having the usual panel-openings, with the panels 2 and 3, respectively, in place and secured to the intermediate transverse bar 4. I prefer to fasten the panels at this point, as it is in easy reach without stooping to the bottom of the door or stretching or getting upon a chair or other object to reach the top of the door. The side edges and the end edges of the panels coming against the intermediate transverse bar 4, as well as the corresponding edges of the panel-openings, are each rabbeted, as at 5 and 6, and provided with tongues 7 and 8, respectively. The meeting faces of the respective tongues and rabbets are beveled inwardly from the outside of the door, as shown, which facilitates the positioning and removal of the panels. The rabbet in the panel preferably extends in width one-half of the thickness

thereof, forming a stop-shoulder 9, and the door-frame being formed to receive the panel provides a similar shoulder 10, forming a transverse joint about midway of the thickness of the door. A molding 11 is provided all around the outside of the panel, projecting beyond the edges thereof and overlapping the joint 12, while the inner side of the door-frame being shouldered, as at 13, receives the inner face of the panel thereagainst. By this relative disposition of the molding 11 the shoulders 9 and 10 and the shoulder 13, arranged to break joints, effectually exclude all rain, wind, &c. The remaining edge of the panel is formed with a longitudinal groove 14, adapted to fit a longitudinal rib 15, formed upon the respective edge of the panel-opening. This groove and rib are perfectly segmental in cross-section, as shown, which provides a simple and convenient hinge connection for the panel. The groove 14 forms longitudinal ribs 23 at each side thereof, and the panel being thinner than the door a shoulder 24 is formed upon the inner edge of the panel-opening, forming a groove or recess 25, receiving the inner rib 23 of the panel, thus forming a tight joint, which effectually excludes wind, rain, &c. It will be noted that the rib-and-groove hinge connection also forms an interlocking connection for that edge of the panel, as the ribs 23 engage at opposite sides of the segmental rib 15, and the panel can only be removed by withdrawing the opposite edge thereof first, when the entire panel may be lifted out.

To lock the panels in a substantial manner, I provide a pair of sliding latches mounted upon the panel and engaging the intermediate transverse bar 4. Each of these latches comprises a shank 17, having a deflected spring-tongue 18 formed at one end and a handle or thumb-piece 19 at the other end thereof. The device is secured upon the panel by a pair of screws 20, engaging slots 21 and 22, respectively, whereby the latch is slidably mounted upon the panel. The plane of the panel not being flush with that of the intermediate transverse bar 4, the spring-tongue of the latch must be deflected or offset sufficient to engage over the edge of the bar 4. I have

shown the latch with two slots; but it is evident that one slot may be used, with the two screws 20 spaced apart so as to guide the latch in its operation and prevent wobbling or lateral movement thereof. This form of latch can be produced from a single piece of metal, thus providing a simple and inexpensive device.

The panels are designed to be either solid or provided with glass or wire screening, and they may be interchanged at will to suit the needs or conditions of circumstances.

It may be found useful to form a panel having a solid or blank section and an open section adapted to receive a second panel of glass or wire screen.

By the construction and arrangement as herein presented I have provided a removable panel which is easily placed in position by seating the groove 14 upon the rib 15 and by reason of their segmental or rounded shape afford an effective pivotal or hinged connection with the door-frame, while the beveled or inclined meeting edges permit of an easy removal of the panel if it should become swollen or stuck in the door. These features do away with hinging the panel across its face and forcing the same into the panel-opening, as in my former patent, No. 507,151, dated October 24, 1893, and thus presents a rigid panel having no hinges or bars extended across the glass or screen portion thereof.

The important features herein embodied combine to produce an exceedingly practical and inexpensive convertible screen and storm door.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination with a door having panel-openings, of removable panels, each panel having a longitudinal groove, segmental in cross-section formed in one of its edges, the remaining edges thereof being formed with a rabbet on their inner sides and a tongue on their outer sides, and the respective edges of the panel-openings being formed with reversely-arranged tongues and rabbets into which the panels are adapted to fit, one of

the edges thereof being provided with a longitudinal rib, segmental in cross-section, adapted to fit within the longitudinal groove in the panel, the panel-openings being provided with a shoulder extending around the inner face, and a molding provided upon the outer face of the panel and extending beyond the edges of the panel, thereby forming lap or covered joints, substantially as and for the purpose set forth.

2. The combination with a door having panel-openings, and removable panels having a hinge connection with one edge of the openings, of a locking device for the opposite edge of the panels, consisting of a sliding latch formed with a longitudinal slot or slots in the shank thereof, screws or othersuitable fastenings engaging the slot and slidably mounting the latch upon the panel, said latch being provided with a handle or thumb-piece at one end and formed into a deflected or offset spring-tongue at the other end, which is adapted to engage the intermediate transverse bar of the door, substantially as shown and described.

3. The combination with a door having panel-openings, of removable panels, each panel having a longitudinal groove, segmental in cross-section formed in one of its edges, the remaining edges thereof being formed with a rabbet on their inner sides and a tongue on their outer sides, and the respective edges of the panel-openings being formed with reversely-arranged tongues and rabbets into which the panels are adapted to fit, one of the edges thereof being provided with a longitudinal rib, segmental in cross-section, adapted to fit within the longitudinal groove in the panel and provide a hinge and interlocking connection therefor, substantially as and for the purpose set forth.

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

CHARLES R. MOORE.

Witnesses:

H. S. ROOT,
GEO. F. ROOT.