

STORM DOOR.

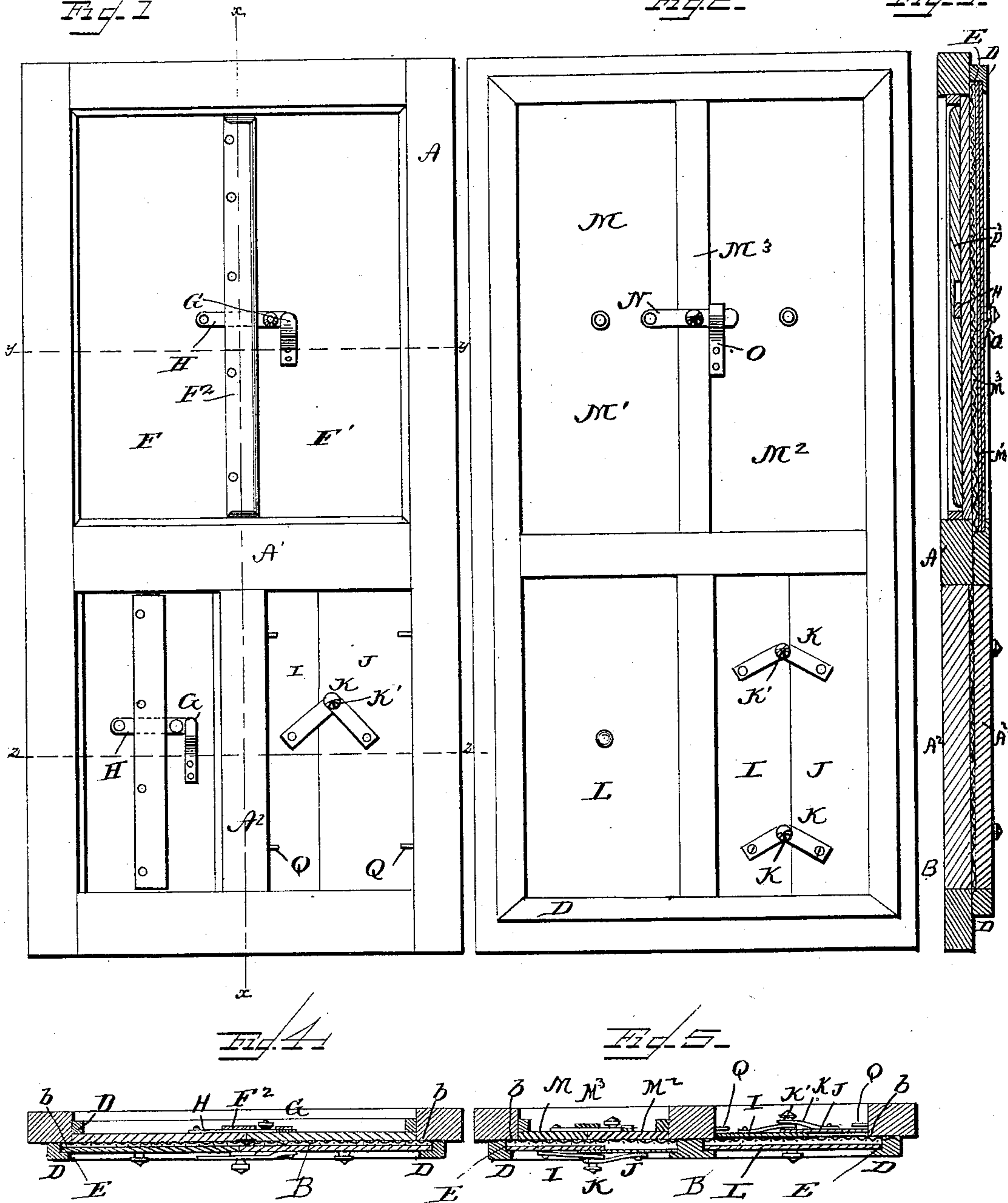
No. 366,489.

Patented July 12, 1887.

~~Hz 1~~

Fig. 2.

Fig 3.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM R. LYLE, OF RIPON, WISCONSIN.

STORM-DOOR.

SPECIFICATION forming part of Letters Patent No. 366,489, dated July 12, 1887.

Application filed March 28, 1887. Serial No. 232,727. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. LYLE, a citizen of the United States, and a resident of Ripon, in the county of Fond du Lac and State of Wisconsin, have invented certain new and useful Improvements in Storm-Doors; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is an elevation of the inside of a screen-door which is provided with three forms of my improved storm-door panels. Fig. 2 is an elevation of the outside of the same door, which is provided with two forms of my improved panels. Fig. 3 is a longitudinal vertical sectional view taken on line *x x*, Fig. 1. Fig. 4 is a transverse sectional view taken on line *y y*, Fig. 1; and Fig. 5 is a similar view taken on line *z z*, Fig. 1.

The same letters of reference indicate corresponding parts in all the figures.

My invention consists in certain new and useful improvements on the invention for which Letters Patent of the United States No. 339,567, dated April 6, 1886, were granted to me, and my present invention will be hereinafter fully described and claimed.

Referring to the several parts by letter, A indicates the frame of a screen-door, and B indicates the wire covering-screen which covers the spaces into which the said frame is divided, as shown, by its middle rail *A'* and mullion *A''*. Both sides of the middle rail and the mullion *A''* may be formed or provided with grooves on their under edges, as also the inner sides of the side rails of the frame, to permit of my improved storm-panels being placed upon that side of the frame, as fully set forth in my former patent. Secured upon the other side of the rails and mullions of the frame are the strips of molding *D*, the strips upon the outer rails being formed with a groove, *E*, upon the underside of their inner edges, while those upon the middle rail and mullion are provided with a similar groove upon both edges. These strips of molding thus form a frame upon the screen-door frame, as shown

in Fig. 2, by means of which storm-panels can be secured upon that side of the screen-door frame as well as upon the other side. The molding can be placed at a little distance (one-quarter of an inch or more) from the edges of the frame bordering the spaces, so as to form the jamb *b*, against which the storm-panels will rest when the grooves upon the under side of the molding will form the jamb, as shown in Figs. 4 and 5. These storm-panels may be constructed in either of the three forms here shown, and which were shown and described in my Patent No. 339,567—that is, the panel may be formed in two longitudinal sections, *F F'*, which are hinged together at their inner edges, and one of the said sections being provided at its inner edge, on the outer side thereof, with a strip, *F''*, which will extend over the joint at the said inner edges when the panel is in its operative position, and thus render the panel perfectly water and storm proof, one of the sections having a catch, *G*, and the other a latch, *H*, by means of which the panel is locked or held in its flat operative position, as shown in Figs. 1 and 4; or the panel may be constructed of two sections, which are a little wider when placed side by side than the inside width of the frame-space in which they are inserted, so that the inner edges of the two sections *I J* will overlap to render them storm-tight; and these two sections are connected by a toggle-joint, *K*, or by two or more of the said joints, which secures the panels adjustably together, and also provides a means whereby they can be conveniently and readily spread apart; and a thumb-nut at the center of each toggle-joint furnishes a means by which they can be held in position after being spread apart, as the thumb-nut can be tightened to bind the toggle-arms in their adjusted position; or the panel can be formed in a single piece, *L*, of sufficient thinness to admit of its ends or edges being sprung into the grooves of the molding.

Another form of panel (shown at *M*) may also be employed, which consists merely of the two sections *M' M''*, the inner edge of one of which is provided with a strip, *M'''*, which overlaps the joint, and thus makes the panel perfectly storm-tight, one of the parts being provided with a latch, *N*, and the other with a

catch, O, by means of which the panel is locked or held in its flat operative position. These panel-sections are preferably made a little longer than the inside length of the frame-space in which they fit, and are then constructed of thin material, so that they can be sprung into their end positions, as will be readily understood.

It will be seen that the grooves are formed on both sides of the wire screens in the frame-spaces, and the storm-panels are placed in position with their edges in these grooves on both sides of the said screens, thus rendering the screen-door perfectly storm-tight on both sides and perfectly protecting the screens.

The edges of the panels may be secured beneath nails or screws Q, if desired, thus dispensing with the grooves; but I prefer to form the door with the grooves, as when the edges of the storm-doors have been sprung or fitted into the said grooves a perfectly water-tight joint is formed by the said edges and the grooved moldings in which they fit, which is far more effective than merely engaging the edges of the panels under nails or screws, as shown at Q.

From the foregoing description, taken in connection with the accompanying drawings,

the construction and advantages of my invention will be readily understood. It will be seen that the storm-panels can be placed and secured in their operative positions in the grooves of the moldings in a few moments, and that when thus placed they will transform the screen-door into an exceedingly effective storm-door, protected on both its outside and inside by the storm-panels, the wire screens being thus effectively protected.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

The combination, with a screen-door frame adapted to receive storm-panels upon one side, of strips of grooved molding secured upon the other side of said frame corresponding with the rails and mullions of said frame, and storm-door panels secured within said grooves, substantially as and for the purpose shown and set forth.

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

WILLIAM R. LYLE.

Witnesses:

G. F. HORNER,
FLORENCE MASON.