

C. W. KOHL.
 COMBINED SCREEN AND STORM DOOR.
 APPLICATION FILED MAR. 1, 1909.

964,111.

Patented July 12, 1910.

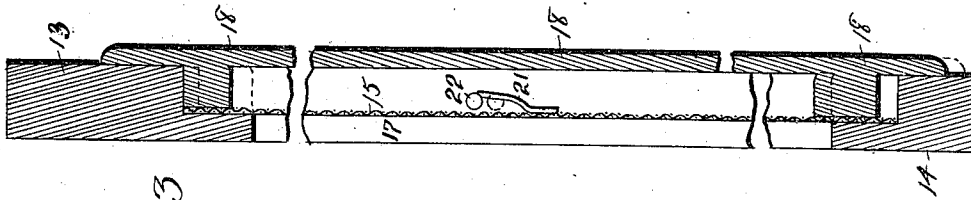


Fig. 3

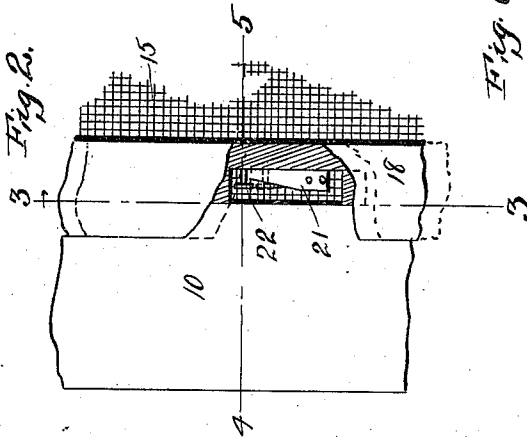


Fig. 2.

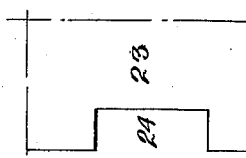


Fig. 6.

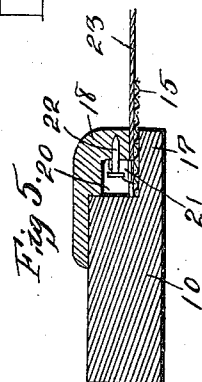


Fig. 5.

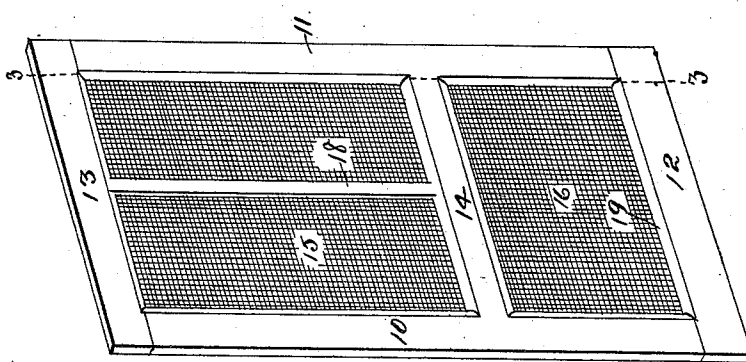


Fig. 1.

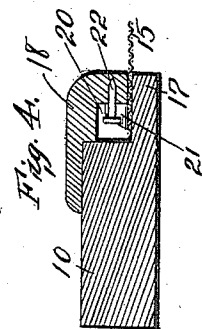


Fig. 4.

Attest:
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UNITED STATES PATENT OFFICE.

CHRISTIAN W. KOHL, OF CEDAR RAPIDS, IOWA, ASSIGNOR OF NINE-TWENTIETHS TO
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COMBINED SCREEN AND STORM DOOR.

964,111.

Specification of Letters Patent.

Patented July 12, 1910.

Application filed March 1, 1909. Serial No. 480,683.

To all whom it may concern:

Be it known that I, CHRISTIAN W. KOHL, a citizen of the United States of America, and resident of Cedar Rapids, Linn county, Iowa, have invented a new and useful Combined Screen and Storm Door, of which the following is a specification.

The object of this invention is to provide an improved construction for screen doors.

A further object of this invention is to provide improved means for transforming a door for screen or storm purposes.

My invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in my claims and illustrated by the accompanying drawing, in which—

Figure 1 is an outside perspective of my improved door. Fig. 2 is an outside elevation, partly in section, of a portion of the door. Fig. 3 is a vertical section of a portion of the door on the indicated line 3—3 of Fig. 1. Fig. 4 is a cross-section on the indicated line 4—5 of Fig. 2. Fig. 5 is a cross-section on the indicated line 4—5 of Fig. 2, a storm plate mounted therein. Fig. 6 is a face view of a portion of the storm plate.

In the construction of the device as shown the door is constructed with stiles 10, 11, a base 12, a header 13 and a cross-bar 14 connected in any suitable manner, such as by mortising. Each of the door members is rabbeted on its inner margin, the rabbets opening outward. Screens 15, 16 are mounted on and secured to the inner flanges 17 of the door members, the margins of the screens lying within the rabbets. Molding frames 18, 19 are provided and are formed with notches 20 in their inner faces and in the centers of their opposite vertical members. Leaf springs 21 are mounted on the central portions of the side flanges 17 of the stiles 10, 11 and extend outward and upward within the rabbets of said stiles. The leaf springs 21 overlie the screens and project outward from or are offset in inclined planes relative thereto. The leaf springs 21 are so located as to enter the notches 20 of the mold frames at times and nails 22 are mounted in said frames, with the headed portions of said nails crossing said notches.

The mold frames 18, 19 are rabbeted in their outer margins and the dimensions of said frames between the bottoms of their upper rabbets and the tops of their lower

rabbets are somewhat less than the vertical dimensions of the openings adapted to receive them. Hence, when constructed as shown and described, the frames 18, 19 may be inserted by lateral movement into their openings, with the nails passing across the upper ends of the leaf springs, and then said frames may be moved downward in such manner that the nails pass between the leaf springs and the adjacent face of the screens and wedge therein. When thus positioned the interengagement of the nails and leaf springs holds the frames in place in the rabbets of the door members. The frames 18, 19 may be lifted out of the rabbets and storm plates be mounted therein, said storm plates preferably made of sheet metal and formed with notches 24 in the centers of their side margins to accommodate the leaf springs 21, and then the mold frames may be replaced with their nails 22 in engagement with said springs and serve to hold the storm plates in contact with and covering the screens. The storm plates may be made of glass, if preferred for light purposes.

It will be observed that when the mold frames are in normal operative positions the inner margins thereof are flush with the inner margins of the flanges 17 both at top and bottom.

It will be seen from the foregoing that the expansion and contraction which is always greater at the bottom of the storm plates, caused by freezing and thawing together with more or less moisture, will be allowed by the springs giving and taking, thus holding the storm plates firmly without warping the molding or pulling the fastenings loose.

I claim as my invention—

1. The combination of a frame door rabbeted on the inner margins of its stiles and rails; screens mounted on said inner margins; molding frames rabbeted on their outer margins; having their vertical dimensions materially less than the corresponding vertical dimensions of the frame, substantially as shown and for the purpose stated.

2. The combination of a frame door rabbeted on the inner margins of its stiles and rails; screens mounted on said inner margins and also, springs mounted thereon overlying the screens; moldings rabbeted on their outer margins and notched to receive said springs; pins in said notches adapted

to be received behind said springs, substantially as shown and for the purpose stated.

3. The combination of a frame door rabbeted on the inner margins of its stiles and
5 rails; screens mounted on said inner margins and also, springs mounted thereon overlying the screens; storm plates notched to receive said springs and pins in the moldings adapted to be received behind said
10 springs; and molding frames rabbeted on their outer margins and also, notched to receive said springs, substantially as shown and for the purpose stated.

4. The combination of a frame; screens mounted thereon overlying the openings 15 therein; removable storm plates and moldings overlying the screens; springs mounted on the frame and pins adapted to be received behind said springs substantially as shown and for the purpose stated. 20

Signed by me at Cedar Rapids, Iowa, this 17th day of February, 1909.

CHRISTIAN W. KOHL.

Witnesses:

W. L. KENDALL,
EUGENE SEITSINGER.