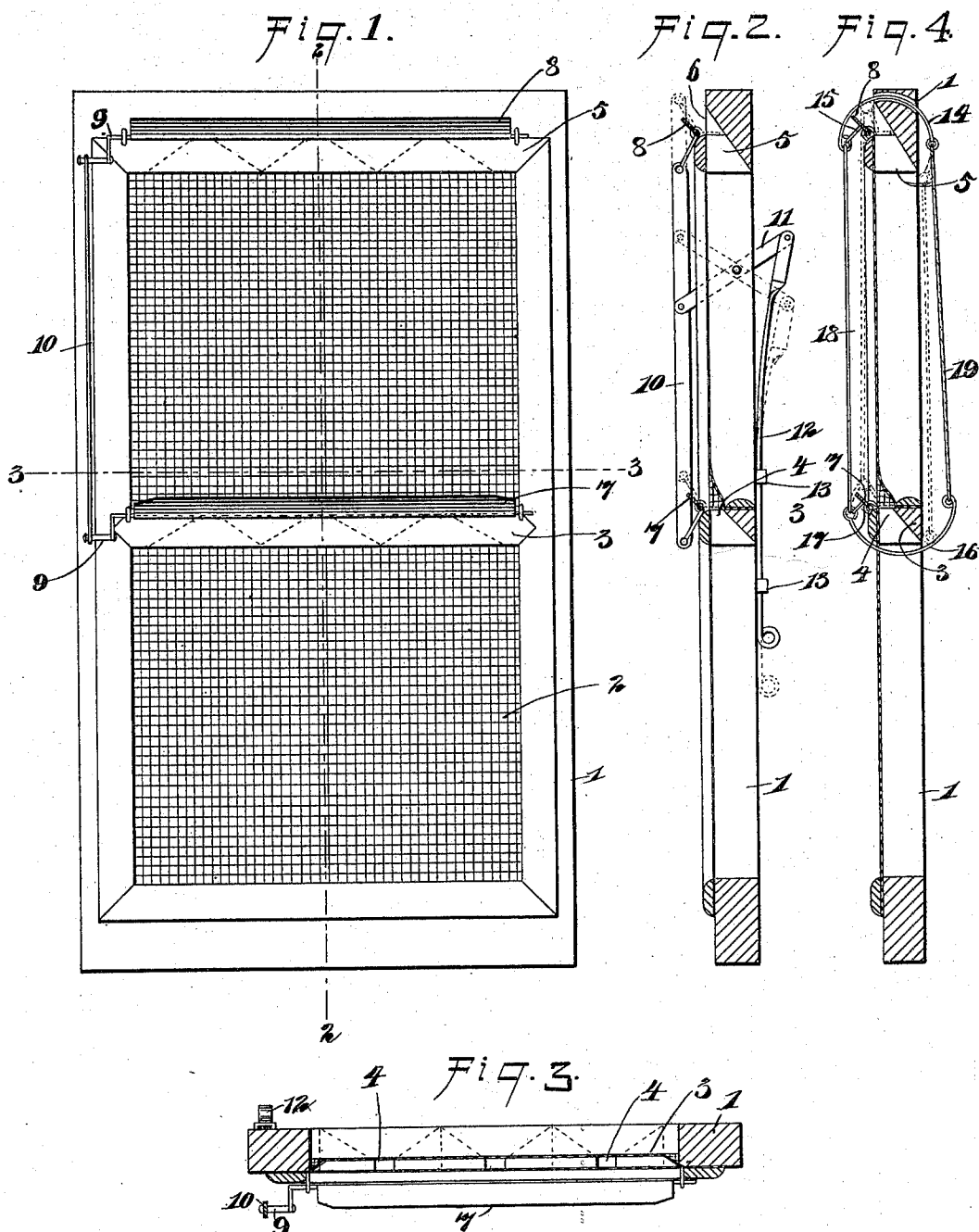


(No Model.)

J. A. STENEN.
WINDOW OR DOOR SCREEN.

No. 582,105.

Patented May 4, 1897.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN A. STENEN, OF HILLSBOROUGH, NORTH DAKOTA.

WINDOW OR DOOR SCREEN.

SPECIFICATION forming part of Letters Patent No. 582,105, dated May 4, 1897.

Application filed June 4, 1896. Serial No. 594,300. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. STENEN, of Hillsborough, in the county of Traill and State of North Dakota, have invented new and useful Improvements in Window or Door Screens, of which the following is a full, clear, and exact description.

This invention relates to screens designed to be placed in door or window casings to prevent the entrance of insects—such as flies, mosquitoes, and the like; and the object is principally to provide a means for the escape of insects from the interior of a room to the outer atmosphere.

It is well known that the habit of insects, and particularly flies, is to go upward—that is, a fly on a screen that may be in a window will generally move upward on the screen, and if the outer air be more agreeable than that inside a room the fly will naturally seek for an escape. My invention, therefore, is particularly adapted to take advantage of this habit of the flies, and therefore I provide openings through which the flies may readily pass outward, but so constructed that the flies cannot easily pass inward or into a room.

I will describe a window and door screen embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is an outside elevation of a screen embodying my invention. Fig. 2 is a section through the line 2 2 of Fig. 1. Fig. 3 is a section through the line 3 3 of Fig. 1, and Fig. 4 is a vertical section showing a modification.

Referring to the drawings, 1 designates a frame designed to fit within a window or door casing outside of the window or door, and on this frame 1 is secured a wire or similar netting 2 of suitable mesh. As here shown, the frame is divided into two parts by means of a transverse central bar 3. This central bar is provided with a series of openings 4, which provide communication from the inner side of a room to the outer atmosphere. The outer portions of these openings 4 are quite small or contracted, but as they extend inward the walls diverge or incline, as indicated

in the drawings, thus making the openings at the side within the room quite large. I have here shown the upper transverse bar 5 as provided with a series of similar openings 6.

As a means for regulating the outer openings or to entirely close the same I employ trap-plates 7 and 8, adapted to close over said openings. The trap-plate 7 has journal-bearings in eyes or lugs attached to the bar 3 or, as shown, to a supplemental bar placed on the outer side thereof, and the trap-plate 8 has journal-bearings in eyes or lugs secured to the outer side of the transverse bar 5 or to a supplemental bar secured on the outer side thereof. The journals of the plates 7 and 8 at one end have a crank portion 9, and these crank portions are connected by a link 10, which has pivotally connected to it an arm 11, extended through a transverse opening in one of the side rails of the frame 1 and pivoted therein. An operating-rod 12 has pivotal connection at its upper end with the inner end of the arm 11, and the body portion of this operating-rod 12 extends down to keepers 13, secured to the inner side of the frame. By moving this operating-rod 12 upward the arm 11 will be rocked on its pivot in a direction to move the link 10 downward, and this downward movement of the link 10 will throw the trap-plates 7 and 8 to an open position, as indicated in full lines in Fig. 2. Of course these plates may be moved more or less open to regulate the openings 4 and 6, or they may be entirely closed upon said openings by an extreme downward movement of the operating-rod.

In the modification shown in Fig. 4 I dispense with the operating means above described or with the cranks 9, and in lieu thereof I employ a curved rod 14, which passes through a transverse opening in the upper portion of the frame 1 and connects pivotally at its outer end with an arm 15, extended outward from the center of the trap-plate 8. A similar curved bar 16 extends through the screen material 2 below the bar 3 and engages at its outer end with an arm 17, extended outward from the center of the trap-plate 7.

It will be observed that the ends of the bar 14 curve downward and that the ends of

the bar 16 curve upward. The outer ends of the respective bars are connected by a link 18, which may be of wire, and the inner ends of said bars are connected by a wire or cord 19.

5 By drawing upward on the wire or cord 19 the rods 14 and 16 will be moved longitudinally and cause the trap-plates 7 and 8 to move to an open position. By drawing said wire or
10 cord 19 downward the said rods 14 and 16 will be moved longitudinally in the opposite direction, and consequently move the trap-plates 7 and 8 to a closed position. It is obvious that as the trap-plates lie in a horizontal plane when closed they will retain such
15 closed position by their own weight, so that the operating-rods need not be fastened.

I have described and shown two bars provided with exits for insects; but it is to be understood that I do not limit my invention
20 to any particular number of bars, as it is obvious that a single one, particularly at the upper portion of the frame, will answer the requirements, and, further, a greater or less number of exit-openings may be provided in
25 a single bar without departing from the spirit of my invention. It is also obvious that my invention may be applied to other than screen-closed openings, that the shutters may be operated jointly or separately, that they may
30 be operated with weights or springs, and that the outlets for insects may be differently shaped.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

1. A window or door closure, comprising a frame, a covering material secured thereto, a transverse bar on said frame having upward and outward openings, the outer portions of said openings being restricted, a trap-plate
40 mounted to swing on the outer side of the frame and adapted to extend transversely in a horizontal plane when closing said opening, a bar or rod extended through the frame, and a connection between the said bar or rod and
45 a trap-plate, substantially as specified.

2. A window or door screen, comprising a frame, a screen material thereon, an intermediate transverse bar having upward and outward exit-openings, a top transverse bar
50 having upward and outward exit-openings, a trap-plate for the openings of the intermediate transverse bar, a trap-plate for the openings of the top transverse bar, cranks on the spindles or journals of said plates, a
55 link connection between the cranks, an arm extended through the screen-frame and pivoted therein and having pivotal connection with the link, and an operating-bar having pivotal connection with the inner end of said
60 arm, substantially as specified.

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Witnesses:

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