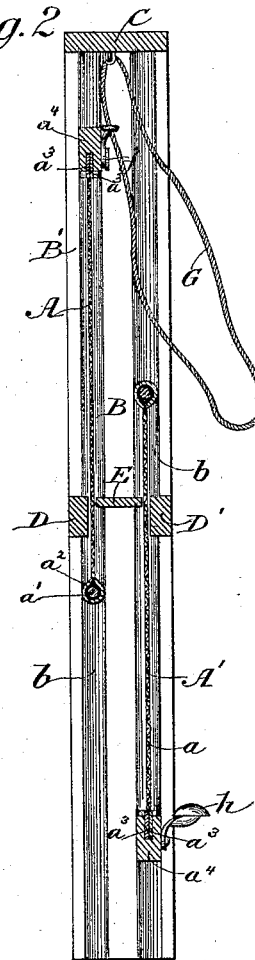


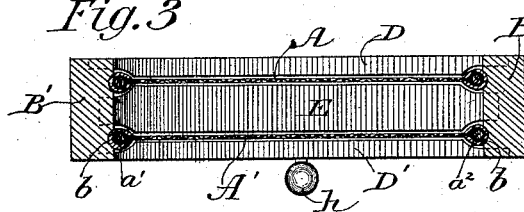
0. ROHLEN.  
WINDOW SCREEN.

Patented Dec. 24, 1889.

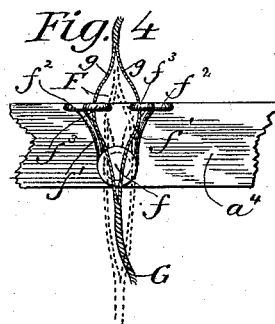
*Fig. 2*



*Fig. 3*



*Fig. 4*



Witnesses:-  
G. R. Richards.  
Chas. A. Rowe

*Inventor:*  
*Olof Rohlen,*  
*By W. D. Richards,*  
*Attorney.*

# UNITED STATES PATENT OFFICE.

OLOF ROHLEN, OF GALESBURG, ILLINOIS.

## WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 417,945, dated December 24, 1889.

Application filed January 26, 1886. Serial No. 189,845. (No model.)

*To all whom it may concern:*

Be it known that I, OLOF ROHLEN, a citizen of the United States, residing at Galesburg, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in Window-Screens, of which the following is a specification.

My invention relates to a window-screen supported in a guide-frame which can be set in the window-frame, the screen made in two independently-movable sections provided with a contact-strip fixed to the guide-frame and arranged between the screens to exclude the passage of insects when the screens are raised or lowered; in screen-sections formed of woven wire or other suitable material stretched between sheet-metal frames of novel construction, and in a cord and latch applied to the upper screen-section, which is operated to release the latch by pulling the cord in either direction to raise or lower the screen-sections; and it consists of constructions and combinations, all as will hereinafter more fully appear.

In the accompanying drawings, Figure 1 is a front elevation of my window-screen with the lower screen-section partly raised and with the upper screen-section partly lowered; Fig. 2, a vertical sectional elevation in the line *xx* in Fig. 1; Fig. 3, a sectional plan in the line *yy* of Fig. 1; Fig. 4, an enlarged side elevation in detail of the spring-catch and a cord for actuating it, shown by full lines in position to engage with the locking-staples and by dotted lines in position free from such engagement.

The screens *A A'* are supported in a guide-frame *B*, formed of grooved side rails *B'*, secured together by a top cross-piece *C* and intermediate cross-pieces *D D'*, arranged opposite each other outside of the screens, and by an intermediate contact-strip *E*, located between the screens, which latter serves to shut off or bar the passage of dust or insects through the space necessarily formed by the sunken faces or panels of the screen-sections, as will hereinafter appear.

Two parallel guide channels or grooves *b* are formed upon the inner faces of the guide-rails *B'* to extend the entire length of the rails, into which the screen-sections are fitted to slide freely and independently of each

other and admit of either or both of the said sections being placed at either the upper or lower ends of the guide-frame. The guide-frame is made to fit snugly into the window frame or casing, and the outer face of said frame is preferably held in contact with the inner face of the window-sash. When thus applied to a window, the lower sash may be raised to admit air into the room, while the lower screen is closed to exclude insects, and the upper sash may be opened while the upper screen is closed for the same purposes. In whatever position the screens may be placed relatively to each other the contact-strip *E* will completely close the space between the screens, which is ordinarily exposed because of the very considerable difference in thickness between the inner netting and the frame of the screen. The edges of the ends of this strip are recessed, so that the sections *A* and *A'* can be brought closer together and allow the strip to project into the space between the stiles of each section, and thus bring the wire part of the screen close to said strip *E*, which also overlaps the lower rail of the upper screen and the upper rail of the lower screen.

The screen-frames are made of sheet metal folded to receive the edges of the wire-netting *a* and wire rods *a'*, over or around which the edge of the wire-netting is first folded. The edges of the sheet-metal frame are then turned down to completely envelop the wire rods and folded edges of the netting and tightly compressed around them to form a tight joint or seam. The sheet-metal frame will project where it partly encircles the wire rod *a'*, and thus form a fluting lengthwise of the screen-frame, which will strengthen said frame. By means of this construction the frame will not only be greatly strengthened to permit the use of lighter material, but the frame will hold the wire netting or cloth in place without rivets or any additional fastening.

The sheet-metal frame is preferably made of a single piece of metal *a<sup>2</sup>* to form the two sides and one of the cross-pieces, and the other cross-piece is made of strips of metal *a<sup>3</sup>*, placed upon opposite sides of the lower edge of the netting, and thin strips of wood *a<sup>4</sup>* are grooved to receive the edge of the wire and

the strips  $a^3$  and are secured by rivets  $a^5$ , which also secure the metal strips together, and thus provide a neatly-finished frame which is both light and strong and will not  
5 warp or become twisted.

The upper screen-section is conveniently raised and lowered and fastened in its raised position by the following-described means: A spring-latch F is secured by a screw-stud  $f$   
10 to the upper cross-bar of the upper screen-frame A, and consists of a wire spring  $f'$ , coiled around the shank of the stud and bent at its ends to form locking-spurs  $f^2$ , and also to form corresponding loops  $f^3$ , through which  
15 the strands  $g$  of a cord G are passed to provide means both for attaching the cord to the screen-frame and for drawing the spurs together to release them from locking-staples  $g^4$ , secured to the upper cross-piece C of the  
20 guide-frame. The cord G is separated into strands  $g$  for a short distance of its length to pass through the loops  $f^3$  of the latch, and will draw the ends of the spring-latch together by pulling the cord G from either direction.  
25 The cord G passes through a staple  $g'$ , secured to the under side of the cross-piece C of the guide-frame, and is located between the staples  $g^4$ . The locking-spurs  $f^2$  are thus drawn together and raised until they come directly  
30 opposite the staples  $g^4$ , when the screen-frame A has been lifted to its full height, at which point the cord G is released sufficiently to allow the spring  $f'$  to exert itself and force the spurs  $f^2$  outwardly to engage with the staples  
35  $g^4$ , and thus support the sash in its raised

position. To release the screen, the cord G is pulled in the opposite direction and the strands  $g$  will exert themselves to draw the spurs  $f^2$  together and release them from the staples  $g^4$ , which will allow the screen to be  
40 lowered. The lower section of the screen has an ordinary button  $h$ , by which it may be raised and lowered.

I claim as my invention and desire to secure by Letters Patent—

1. In a window-screen, the combination of a guide-frame, the strip E, secured to the guide-frame and having its sides at each end recessed, and the upper and lower sections having  
50 their stiles in said recesses, and the upper sill of the lower section and the lower sill of the upper section overlapping the strip E, substantially as described, so that the netting of the sections will abut against the strip E,  
55 for the purpose set forth.

2. In a window-screen, the combination of the frame having staples  $g'$  and  $g^4$ , a sliding frame having a stud, a wire spring secured to said stud and having loops  $f^3$  and locking-spurs  $f^2$ , and a cord passing through the staple  $g'$  and having a split or separated portion,  
60 which passes through and is connected above and below the loops  $f^3$ , substantially as described.

In testimony whereof I affix my signature 65 in presence of two witnesses.

OLOF ROHLEN.

Witnesses:

H. M. RICHARDS,  
WM. THOMSON.