J. W. CRAW & A. S. RANDOLPH.

MOSQUITO AND FLY NET.

No. 67,729. Patented Aug. 13, 1867.

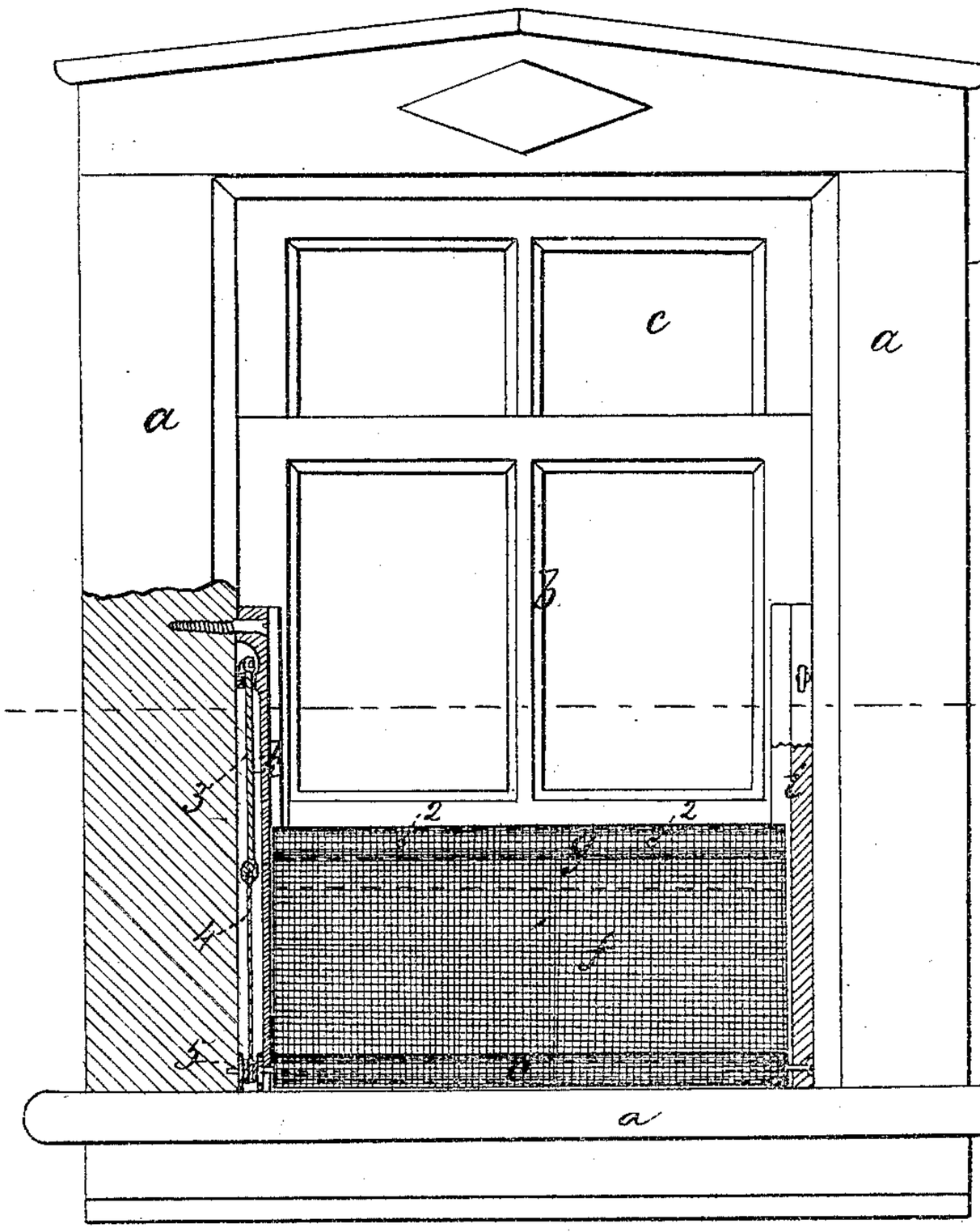
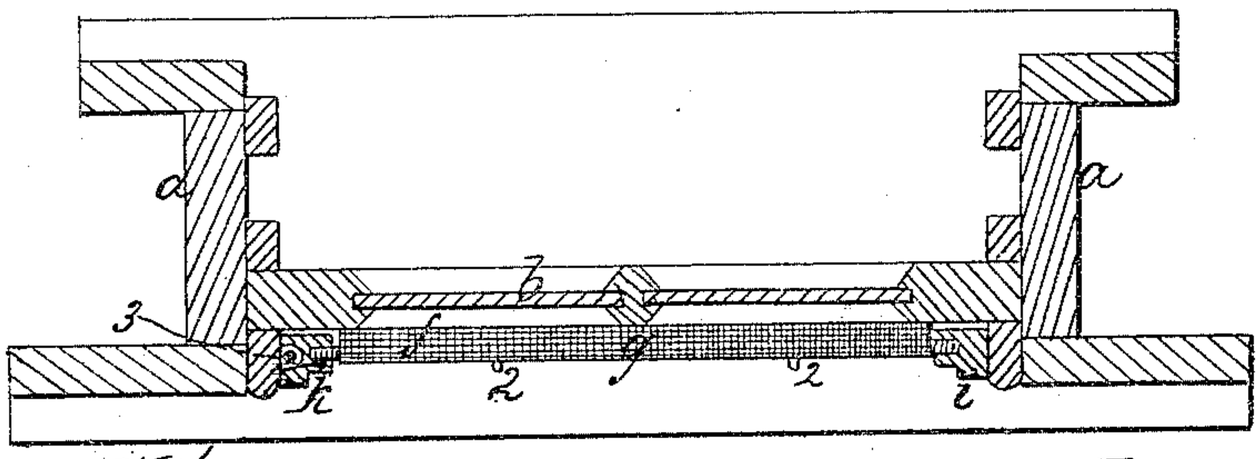


Fig. 1.

Fig. 3.

Fig. 2.



Witnesses;
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JOHN W. CRAW, OF NORWALK, CONNECTICUT, AND ABEL S. RANDOLPH, OF PLAINFIELD, NEW JERSEY, ASSIGNORS TO THEMSELVES AND E. R. POPE, OF PLAINFIELD, NEW JERSEY.

Letters Patent No. 67,729, *dated August* 13, 1867.

IMPROVED MOSQUITO AND FLY-NET.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, JOHN W. CRAW, of Norwalk, in the State of Connecticut, and ABEL S. RANDOLPH, of Plainfield, in the State of New Jersey, have invented, made, and applied to use a certain new and useful improvement in Mosquito and Fly-Nets; and we do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is an elevation of a window with our mosquito-net fitted thereto, the side slides being partially in section.

Figure 2 is a sectional plan of the same at the line *x x;* and

Figure 3 is a separate elevation of one of the side bars receiving the net.

The object of our said invention is to allow easy access to the blinds outside the window, to allow the window to be opened or shut at pleasure, and the netting always to be in place for use, and not in the way or liable to injury.

We make use of a roller, upon which the netting is wound by a spring, a head-bar, to which the moving edge of the netting is attached, and slides fixed to the edges of the window-casing, and receiving the ends of the head-bar; and said head-bar is fitted so as to be connected, removably, to the bottom rail of the sash. By this construction the spring-roller keeps the netting under tension, taking up the slack as the sash is closed, the side slides keep the head-bar and edges of the netting in place, and when the head-bar is disconnected from the sash the window can be opened without spreading the netting, said netting remaining in position, but in a small compass, so as not to be in the way.

In the drawing, *a* represents a window-frame of any desired character; *b* and *c* are the sashes, fitted to slide as usual; *i k* are our grooved side slides, attached to the stop-bead of the window-frame; *e* is the roller for the netting *f;* and *g* is the head-bar, perforated with holes, so as to set over pins 2 that are introduced in the lower rail of the sash. The ends of the head-bar *g* pass within grooves in the faces of the vertical slides *i k*, that are attached to the stop-beads or frames *a;* but at the lower part of said slides *i k* the rib on the side of the groove is removed, as seen in fig. 3, so that the head-bar *g* can be drawn off or put upon the pins 2 in the sash-rail *b*. The slide *k* is made hollow, so as to receive a contractile India-rubber cord, 3, or other spring, from which a cord, 4, passes to the spool 5, on the axis of the roller *e*, so as to rotate said roller, and wind up the netting as the sash *b* is closed. The act of opening said sash *b* draws up the head-bar *g*, and spreads the netting; and the cord 4 is wound upon the spool 5 by this movement, and the spring 3 distended. The edges of the netting, remaining in the groove of the slides *i k*, and under tension, are sufficiently tight to keep out flies, mosquitoes, &c.

This netting can be applied to the top or bottom sash, or to a sliding door or sash, and allows access with facility to the blinds outside the window, and does not obstruct the light when the window is closed.

If desired, small ribs of whalebone or skirt-spring may be introduced horizontally in the netting, at suitable distances apart, to keep the edges of the netting into the grooved bars *i* and *k*.

We do not claim a spring-roller and a bar connected to the sash and receiving the moving end of the netting, as these have been used.

What we claim, and desire to secure by Letters Patent, is—

The bar *g*, in combination with the slides *i k* and spring-roller *e*, when the ends of the bar *g* are formed to enter and slide in the slides *i k*, and said slides *i k* are partially removed at their lower ends to allow the bar *g* to be removed from the pins 2, for the purposes and as set forth.

In witness whereof I have hereunto set my signature this twenty-sixth day of April, A. D. 1867.

JOHN W. CRAW,
ABEL S. RANDOLPH.

Witnesses:
PETER MOORE,
WILLIAM N. DRAKE.