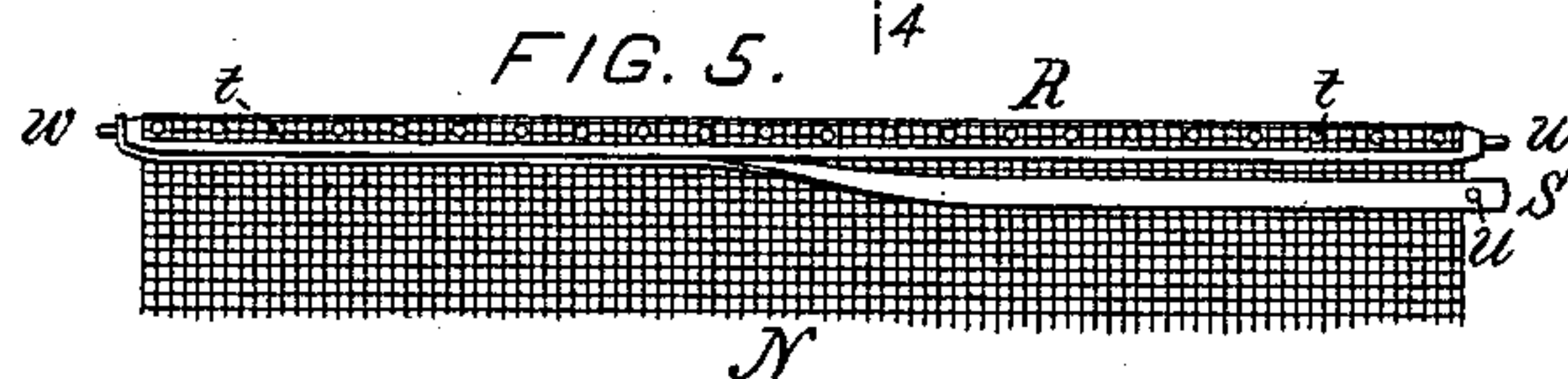
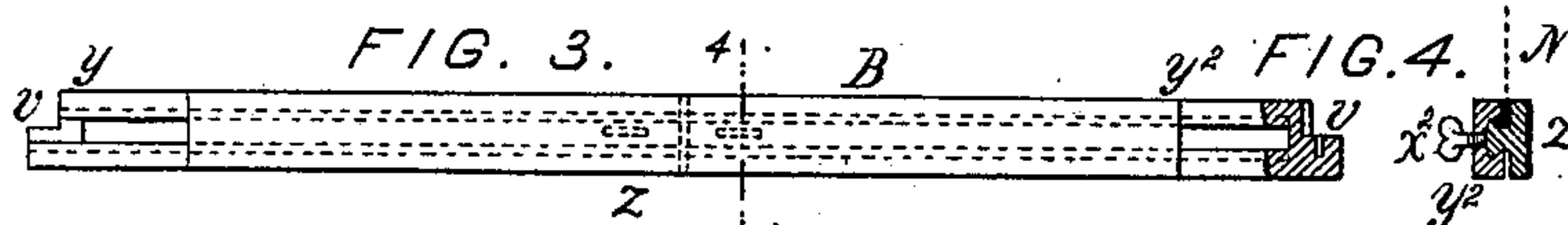
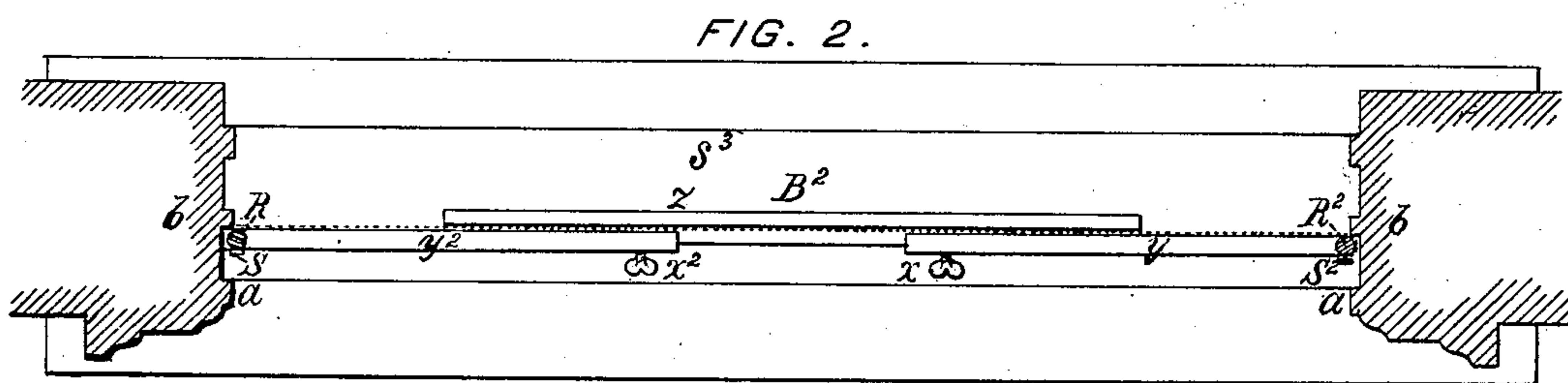
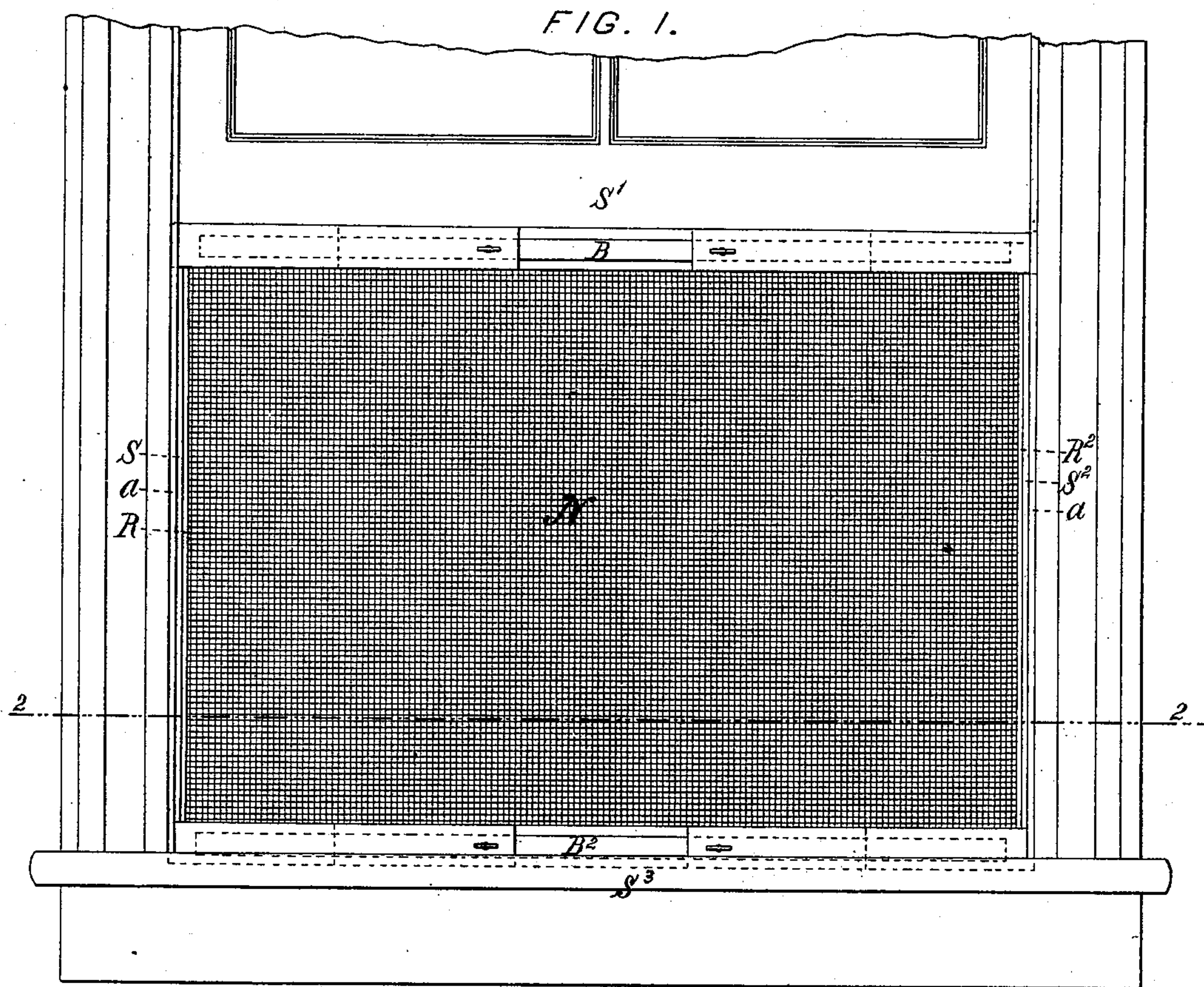


F. W. WOOD.  
Window-Screen.

No. 206,382.

Patented July 23, 1878.



WITNESSES:  
E. D. Mackintosh.  
Jas. L. Ewin

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# UNITED STATES PATENT OFFICE.

FREDERICK W. WOOD, OF NEW YORK, N. Y.

## IMPROVEMENT IN WINDOW-SCREENS.

Specification forming part of Letters Patent No. **206,382**, dated July 23, 1878; application filed July 2, 1878.

*To all whom it may concern:*

Be it known that I, FREDERICK W. WOOD, of the city and county of New York, in the State of New York, have invented a new and useful Improvement in Window-Screens, of which the following is a full, clear, and exact specification:

This invention relates to adjustable and portable screens for insertion beneath raised window-sashes in summer, to prevent the entrance of mosquitoes and other flying insects.

The object of the present invention is to furnish a neat and effective window-screen of the most simple character, adapted to securely clamp itself in place with the aid of the raised sash and the sash-guides and sill, and to be adjustable to an ample extent with the utmost facility.

This invention consists, first, in adjustable top and bottom bars of peculiar construction, and adapted to receive and clamp the edges of the netting; secondly, in vertical edge rollers, in combination with said top and bottom bars; and, thirdly, in holding-strips, in combination with the said edge rollers and top and bottom bars, and the netting, which is attached to said rollers, as hereinafter set forth.

Figure 1 of the accompanying drawing is an inside view of the lower part of a window provided with a screen, which illustrates this invention. Fig. 2 is a horizontal section on the line 2 2, Fig. 1. Fig. 3 is a back view of one of the adjustable bars. Fig. 4 is a transverse section of said bar on the line 4 4, Fig. 3. Fig. 5 is an elevation of one of the edge rollers, showing one of the holding-strips unfastened, and illustrating also the mode of attaching the netting to the rollers.

Like letters of reference indicate corresponding parts in all the figures.

This improved window-screen is intended to be applicable to any ordinary window having sliding sashes, as shown in Figs. 1 and 2, being placed upon the sill  $s^3$ , between the front and middle beads,  $a$   $b$ , and beneath the lower edge of the elevated, or partially elevated, lower sash,  $s^1$ . The frame of the said screen consists of top and bottom bars,  $B$   $B^2$ , and a pair of edge rollers,  $R$   $R^2$ , the latter pivoted in sockets at the respective ends of the two bars.

The bars  $B$   $B^2$  are each composed of a middle or back piece,  $z$ , and two end or front pieces,  $y$   $y^2$ , united by a dovetailed tongue on the former, occupying corresponding grooves in the latter, and by a pair of thumb-screws,  $x$   $x^2$ , tapped into said end pieces, so as to bear upon said tongue. A bar is thus readily made to be extensible from a length of twenty-four inches to a length of forty-two, or more, inches, and to be perfectly stiff and solid at all points.

The parts  $z$   $y$   $y^2$  are intended to be made of black walnut or other hard wood; the screws  $x$   $x^2$ , of iron or brass. Both bars are of one and the same pattern. They can, therefore, be very cheaply manufactured, and are interchangeable at will.

The rollers  $R$   $R^2$  are also alike and interchangeable. They are intended to be made of relatively soft wood, so as to receive tacks; and they are cylindrical, except at their ends, which are tapered, and provided with axial pivots  $w$ , which may be of iron wire. The roller-sockets  $v$  in the bars  $B$   $B^2$  are made to fit the tapered ends and the pivots  $w$  of the rollers  $R$   $R^2$ , with space around the former to accommodate several thicknesses of the netting as wound thereon; but the separate pivots may be dispensed with, and crown-ratchets or roughened disks, or any equivalent device, may be applied to the ends of the rollers, or to one end of each, and within the sockets  $v$  correspondingly, to prevent the accidental unwinding of the netting.

The device which has been attached to prevent accidental unwinding is a pair of holding-strips,  $S$   $S^2$ , having perforations  $u$  at their extremities to receive the pivots  $w$ . Said strips are thus applied directly to the rolls of netting, and operate to confine the same in an obvious manner. The ends of the rollers are tapered to accommodate these holding-strips. Said strips may be of rubber, leather, or any slightly-elastic fabric, and substitute strips may be of wood or metal, and attached by thumb-screws or otherwise to the top and bottom bars, said strips in this form to constitute frictional springs, pressing upon the netting on the rollers.

A piece of netting,  $N$ , of the requisite size and of any preferred description, is attached



at its ends to the rollers  $R R^2$  by carpet-tacks  $t$ , as illustrated in Fig. 5, and is rolled upon said rollers, and kept from unrolling by said holding-strips  $S S^2$  while not in use. The rollers will be made of such length as to accommodate a given width of netting between their ends, so as to utilize the selvages of the netting at top and bottom.

The top and bottom bars,  $B B^2$ , are first loosened up and placed in position beneath the sash. The rollers  $R R^2$ , with the netting between them, are then placed in position between said bars, with the holding-strips  $S S^2$  in place. The netting is tightened by turning the rollers by means of the fingers, and before the top and bottom bars are finally tightened the upper and lower edges of the netting are clamped therein, as illustrated in Figs. 1 and 4.

By locating the screws  $x x^2$  nearer the opposite edges of the respective bars, and providing a little play, the end piece,  $y y^2$ , can be made to turn sufficiently upon the tongues of the middle pieces,  $z$ , to clamp the edges of the netting tightly.

It will be seen that there are no unguarded entrances for insects in this screen, while only a single thickness of netting is used, as in those which are not adjustable, and that the provisions which render the improved frame adjustable in the peculiar manner above specified do not require skillful manipulation, and are of the most simple description. The improved screen can consequently be packed or unpacked in a few moments, and placed in position and removed as often as may be necessary by a lady or an unskilled servant, and when in position it is held in place by the window itself, and is neat and effective.

I am aware that it is not new to make a

window-screen with an adjustable frame; and I am aware of one such frame, which is hereby disclaimed, having a middle portion and two end portions united by thumb-screws, but with the top and bottom bars framed together, and not independently self-supporting, nor adapted to receive and clamp the edges of the netting in the manner hereinbefore specified.

The following is what I claim as new and of my own invention, and desire to secure by Letters Patent, namely:

1. A portable single-netting window-screen having adjustable top and bottom bars, independent of each other, and adapted to receive and clamp the upper and lower edges of the netting, each of said bars being composed of a middle piece having a dovetail tongue, two end pieces having matching grooves, and a pair of thumb-screws to unite the parts, substantially as herein specified.

2. The combination, in a window-screen, of adjustable top and bottom bars having pivotal sockets at their ends, and a pair of edge rollers pivoted in said sockets, with netting attached at its ends to said rollers and tightened thereby, as herein specified.

3. The combination, in a window-screen, of adjustable top and bottom bars having pivotal sockets at their ends, a pair of edge-rollers pivoted in said sockets, netting attached at its ends to said rollers, and holding-strips applied to said netting upon said rollers, substantially as herein shown and described, for the purpose set forth.

FRED. W. WOOD.

Witnesses:

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