

(No Model.)

J. KOCH.
WINDOW SCREEN.

No. 246,153.

Patented Aug. 23, 1881.

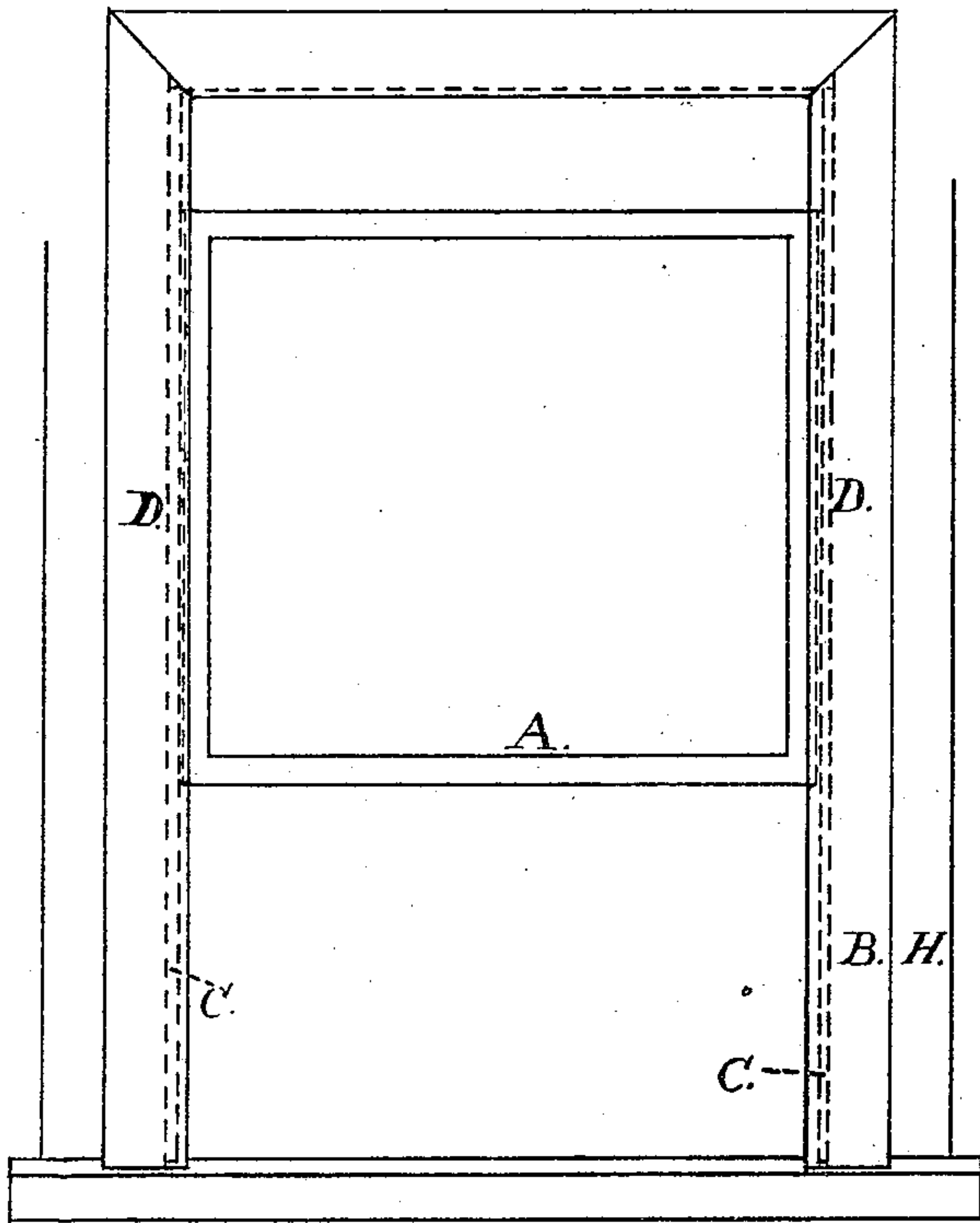


Fig. 1.

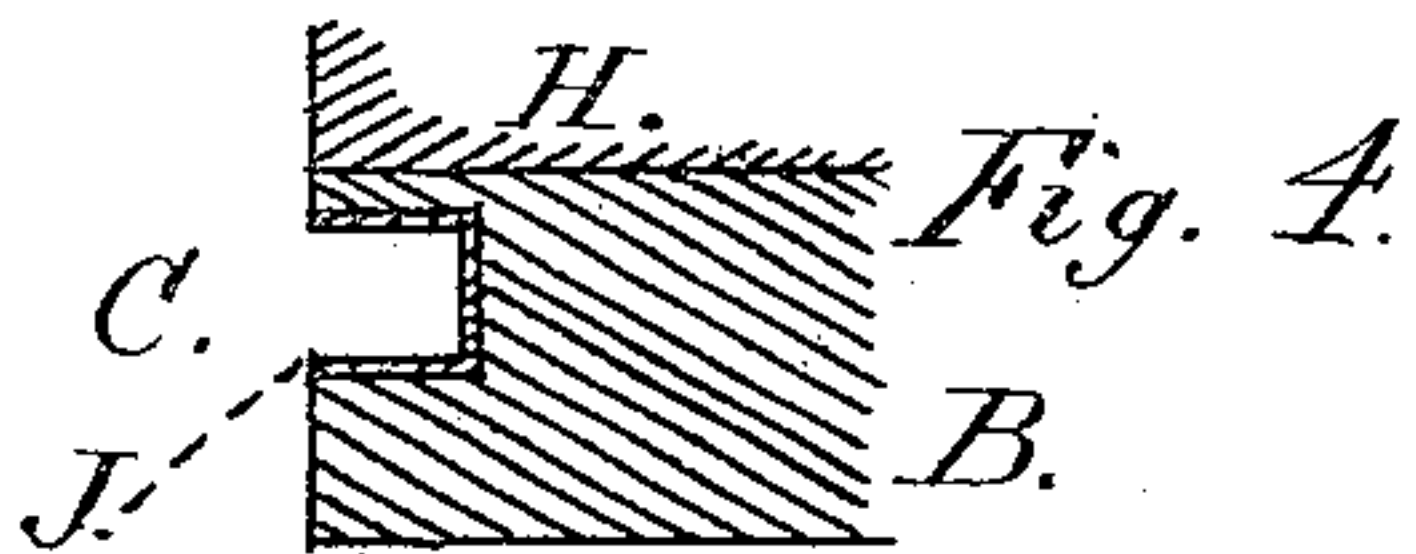


Fig. 4.

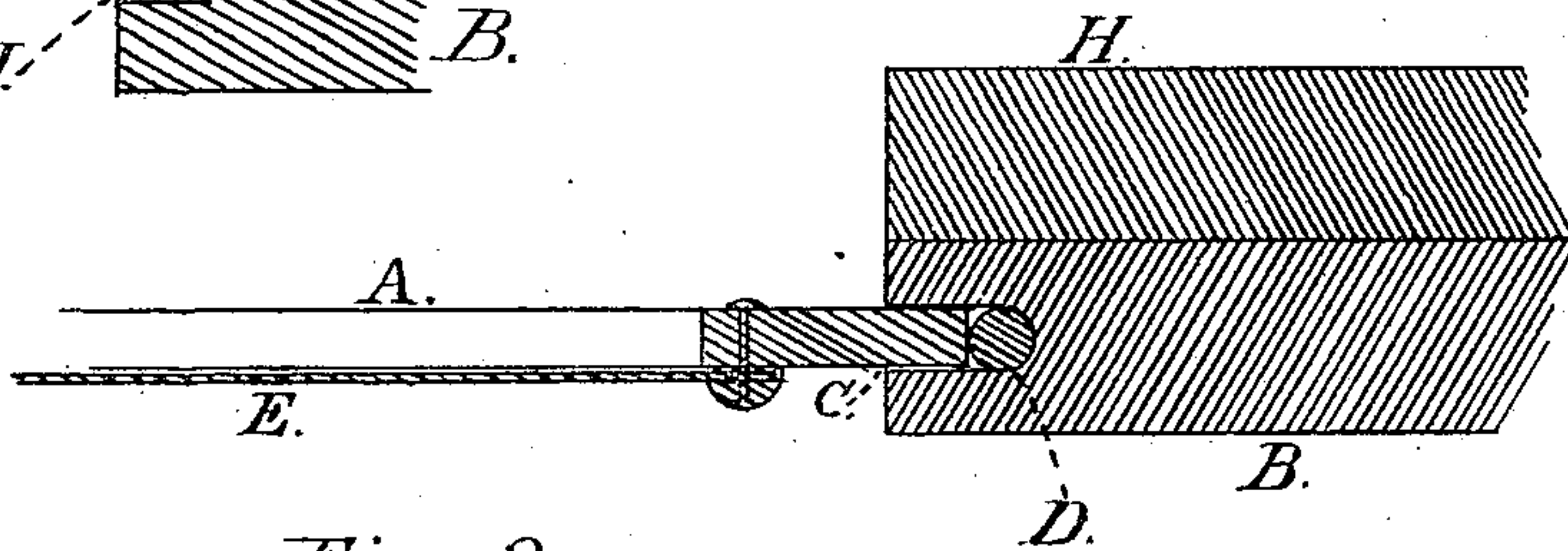


Fig. 2.



Fig. 5.

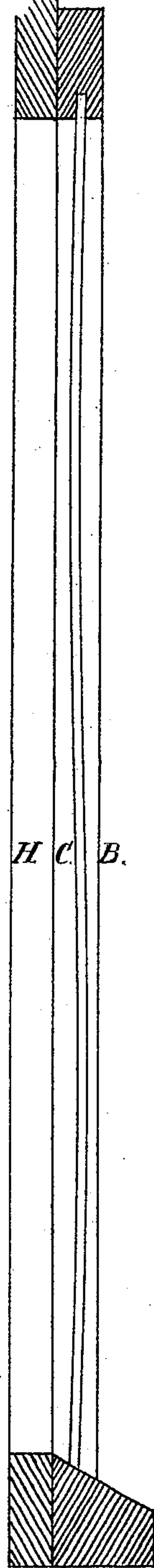


Fig. 3.

Witnesses;

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UNITED STATES PATENT OFFICE.

JOHN KOCH, OF BROOKLINE, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO
JOHN KOCH, JR., OF SAME PLACE.

WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 246,153, dated August 23, 1881.

Application filed July 7, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN KOCH, of Brookline, in the county of Norfolk and State of Massachusetts, have invented new and useful improvements in mosquito bars or guards and appliances forming parts of same, which improvements are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

10 Figure 1 is a front elevation, Fig. 2 a horizontal section, Fig. 3 a vertical transverse section, and Figs. 4 and 5 modified details, of my device.

The object of my invention is to make a mosquito-guard with its adjunctive devices, (applicable to either the exterior or the interior of the window-casing,) the sliding frame of which may by the principles of its own construction, in connection with devices herein-
20 after described, be firmly retained in any position to which it may be raised or lowered, said frame being so constructed and of such materials as to be easily placed in or removed from its position for use, the whole to present
25 the least possible unsightliness or obstruction to blinds, curtains, or other appliances, and to be of moderate cost.

To accomplish this I construct the sliding-frame, as above, of tempered steel or other
30 suitable elastic material, making the horizontal bars of such thickness in proportion to their length, regard being also had to the nature of the material employed, as will afford just that degree of flexibility which will permit of its
35 easy insertion into grooves in the guides, by bending it from a true plane to such a degree of curvature, as will allow of its being sprung into its position for use and yet be suitably rigid when in place; also, making the vertical
40 bars of such thickness in proportion to their length, regard being also had to the nature of the material employed, as will afford a sinuous flexibility sufficient for its adaptation to grooves of waved or other curving lines, to be
45 hereinafter set forth, and yet be sufficiently rigid to create, by the elasticity of the material, the necessary friction upon the faces or walls of the guiding-grooves to hold the sliding frame firmly at any desired position. Upon
50 this frame the netting is mounted, by riveting or otherwise, with the usual closing-bead. The

sliding frame, when in place, has the edges of its vertical frame-bars inserted in guiding grooves or channels formed in the strips or guides attached to the outer or inner faces of the window-casings. The channeled grooves
55 are formed in the inner edges of these strips, and are sufficiently deep to receive and retain the sliding frames, and, also, if the guiding-strips are of wood, to receive, each, and sustain, a vertical wire of iron or other suitable
60 metal, recessed into and the whole length of the groove, against which wire the edge of the metal sliding frame will be made to travel, for the purpose of preventing the frame from plow-
65 ing out the wood, thereby deepening the grooves and preventing the perfect working of and even the retaining the frame in the guides, the grooves channeled in the guide-strips being
70 formed in their alignment on such single or compound curves or wave-lines as will produce by the bending therein corresponding deflection or deflections in the elastic bars forming the sides of the sliding frame of the mosquito-guard, the compression or friction of
75 surfaces so caused being sufficient to retain the frame at any desired position.

As an equivalent to the wire, and for the purpose of guarding the grooves from enlargement by the plowing process, to which there
80 is liability in the use of elastic metallic frames, I either line the entire inner surfaces of the grooves with metal, bent or cast in the form of said grooves, as represented in Fig. 4, or
85 else by rabbeting the guiding-strip, as represented in Fig. 5, and securing to said rabbeted recess a bar of cast metal in which the curved groove is cast or channeled, as exhibited.

By the use of the above methods I attain desirable facility in inserting and adjusting the
90 mosquito-guard, and more perfect results from their use.

By the use of the device of an elastic sliding frame the whole appliances may be made so thin and compact as to present the least
95 possible projection from the window-casing, affording a neatness of finish and a degree of freedom from obstruction in the use of blinds, curtains, or other appliances not afforded by other adjustable guards.

The nature of the materials used, together with the forms of the devices, admits of the

use of special tools in the construction of the frames, mounting the netting, and forming the grooves or channels, to secure desirable economy, the cost of manufacture being less than
5 for other desirable frames.

The devices are illustrated more perfectly and in detail in the vertical section, Fig. 3, showing curved alignment of groove C; in the horizontal section, Fig. 2, exhibiting the groove
10 C with the wire D recessed into same; in horizontal section, Fig. 4, exhibiting groove lined with metal form; and in horizontal section, Fig. 5, exhibiting rabbeted guiding-strip and
15 cast-metal guide attached, with curved groove in same, A being the sliding frame, on which the netting E is mounted; B, the side or guiding strip, in the edge of which the curved groove is channeled; C, the curved groove; D,
20 the wire, recessed in curved groove; H, the window-casing, to which the grooved guides are attached; J, the metal form, inserted in groove C; K, the cast-metal guide, with groove in same, attached to rabbeted wooden side strip.

25 I claim—

1. A mosquito-guard constructed with improved members, substantially as exhibited and described, consisting of an elastic sliding frame, A, running in curved grooves C channeled in guides B, in which grooves are wires
30 D, or inequivalent channeled cast-metal guides

K, or lined guides J, all of the materials, as generally set forth, for the purposes and by the methods set forth or described.

2. An elastic sliding frame, A, of a mosquito-guard, elastic in the manner and for the purposes set forth. 35

3. A curved groove, C, to guide a sliding frame, A, the groove kept intact by the use of the recessed wire D, the metal lining J, or the
40 cast-metal guide (rabbeted to side strip) K, each and all substantially as exhibited or described, and for the purposes set forth.

4. The combination of the elastic sliding frame A with the curved groove C, as and for
45 the purposes described, exhibited, or set forth.

5. The combination of the wire D or its equivalent metal form J, as set forth, with the groove C, into which it is recessed and by which it is sustained, as described, exhibited,
50 or set forth.

6. The combination of an elastic sliding frame, A, carrying the netting, the curved groove C, and the wire D or its equivalent J, recessed into and sustained by the same, all substantially as, in the manner, and for the purposes exhibited, described, or set forth. 55

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Witnesses:

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