

No. 700,362.

Patented May 20, 1902.

O. NIEHAUS.  
ADJUSTABLE WINDOW SCREEN.

(Application filed Jan. 16, 1902.)

(No Model.)

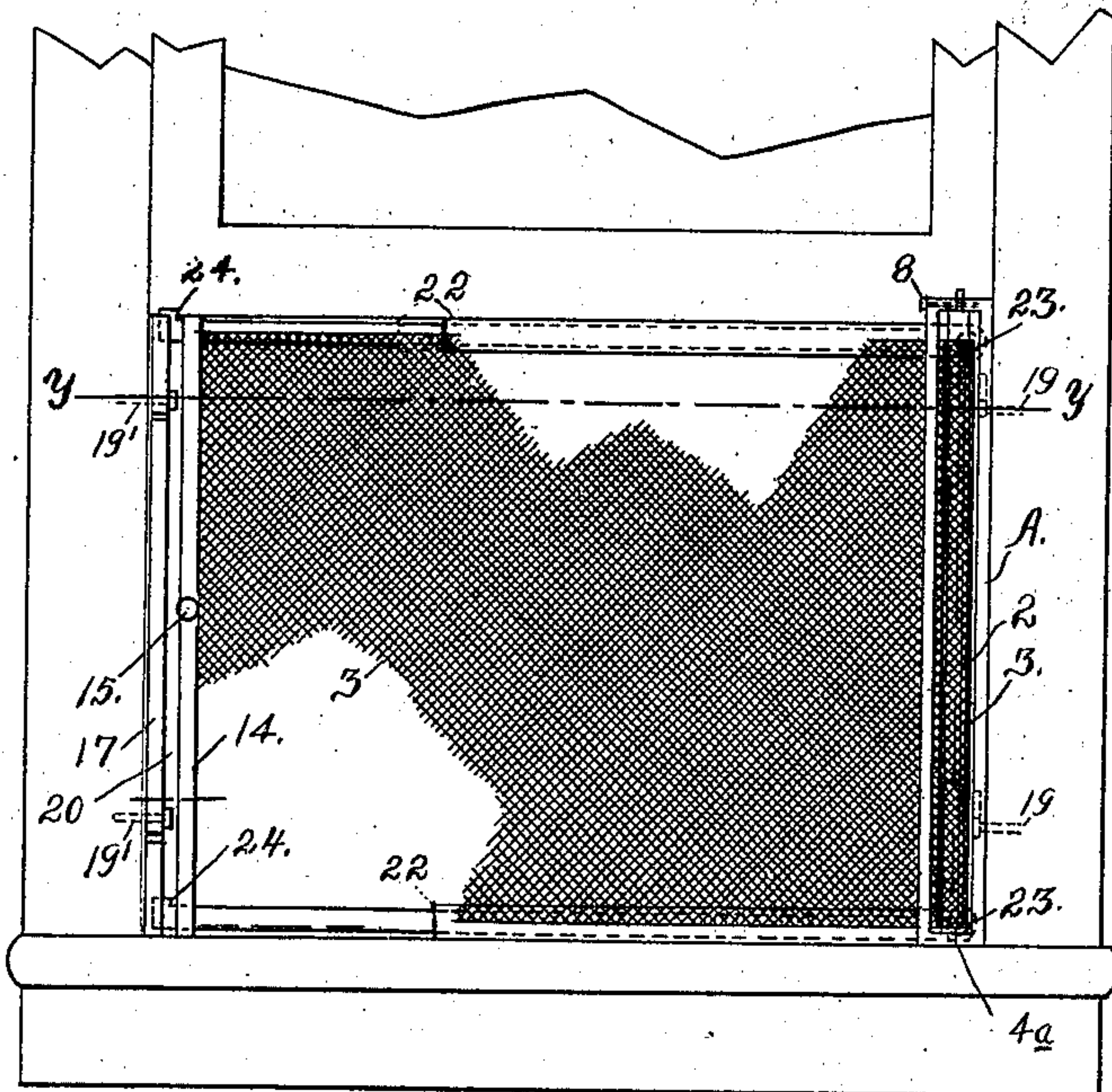


Fig. 1.

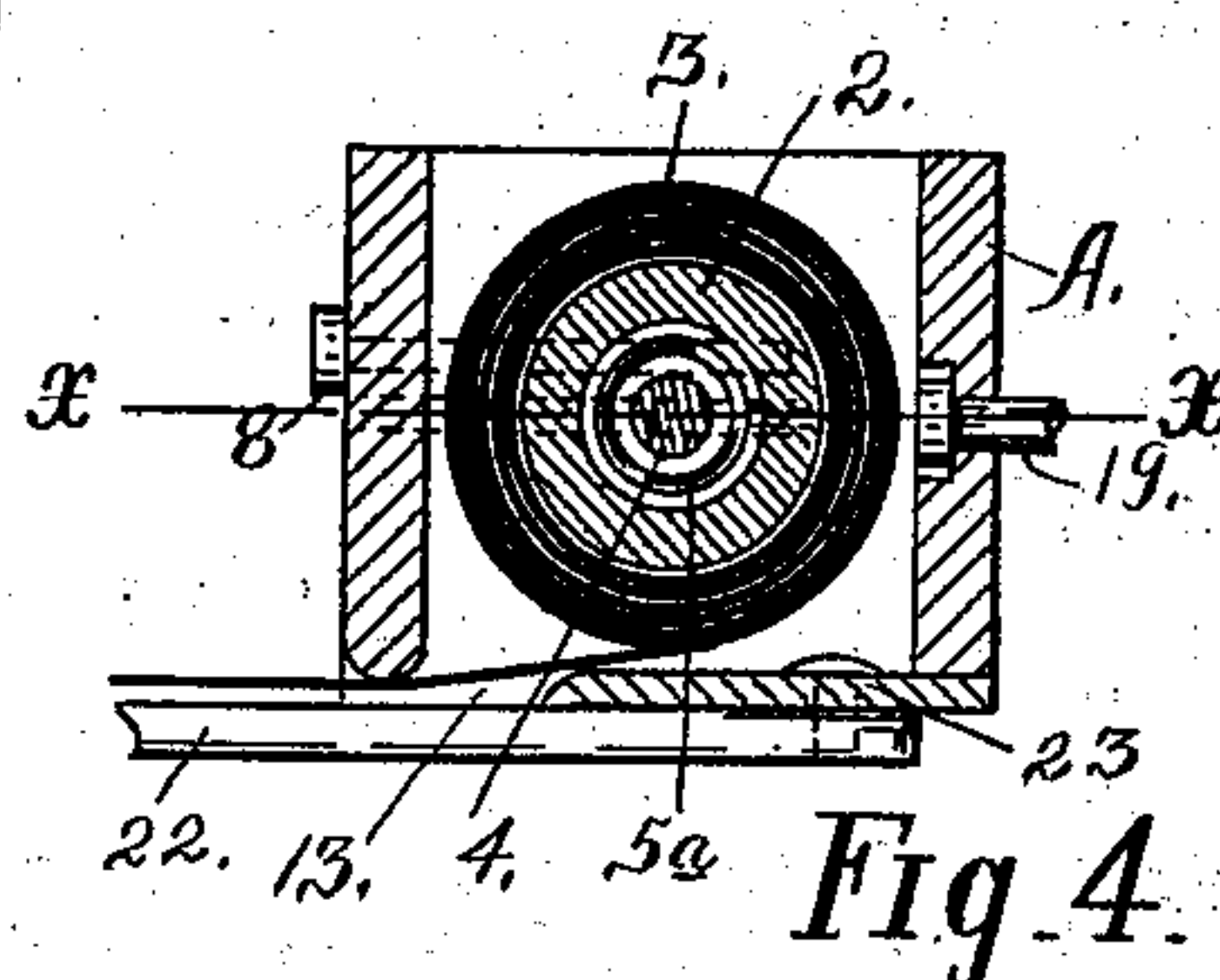


Fig. 4.

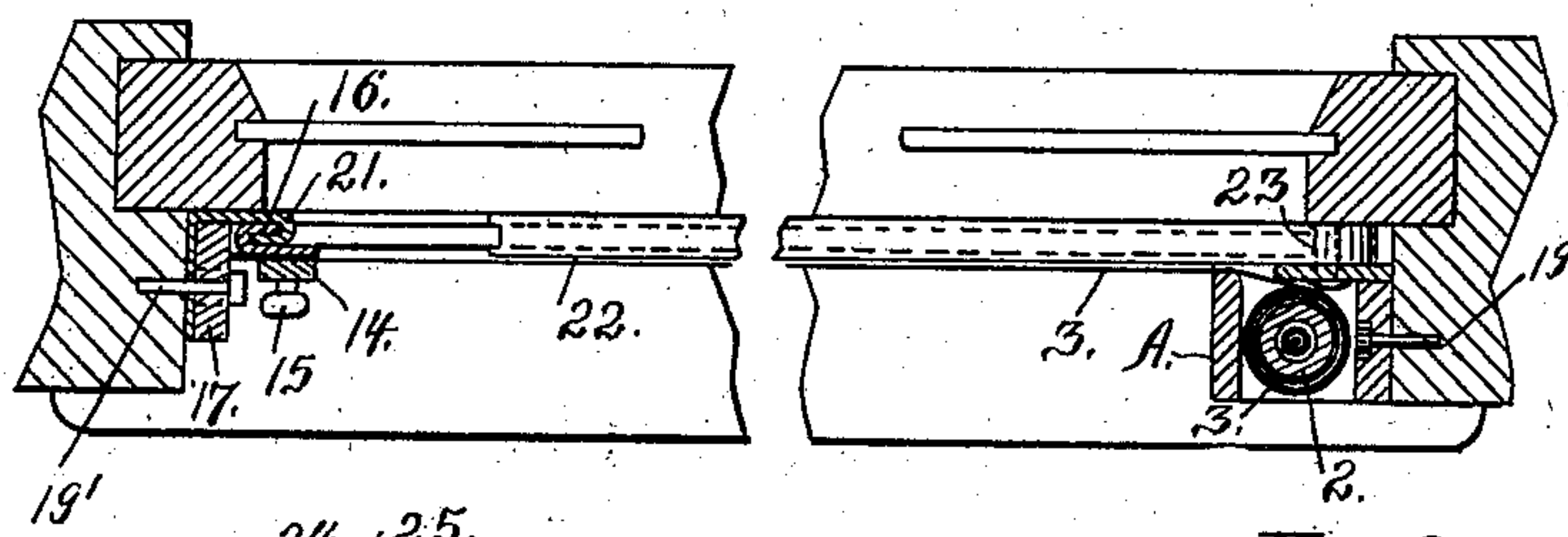


Fig. 2.

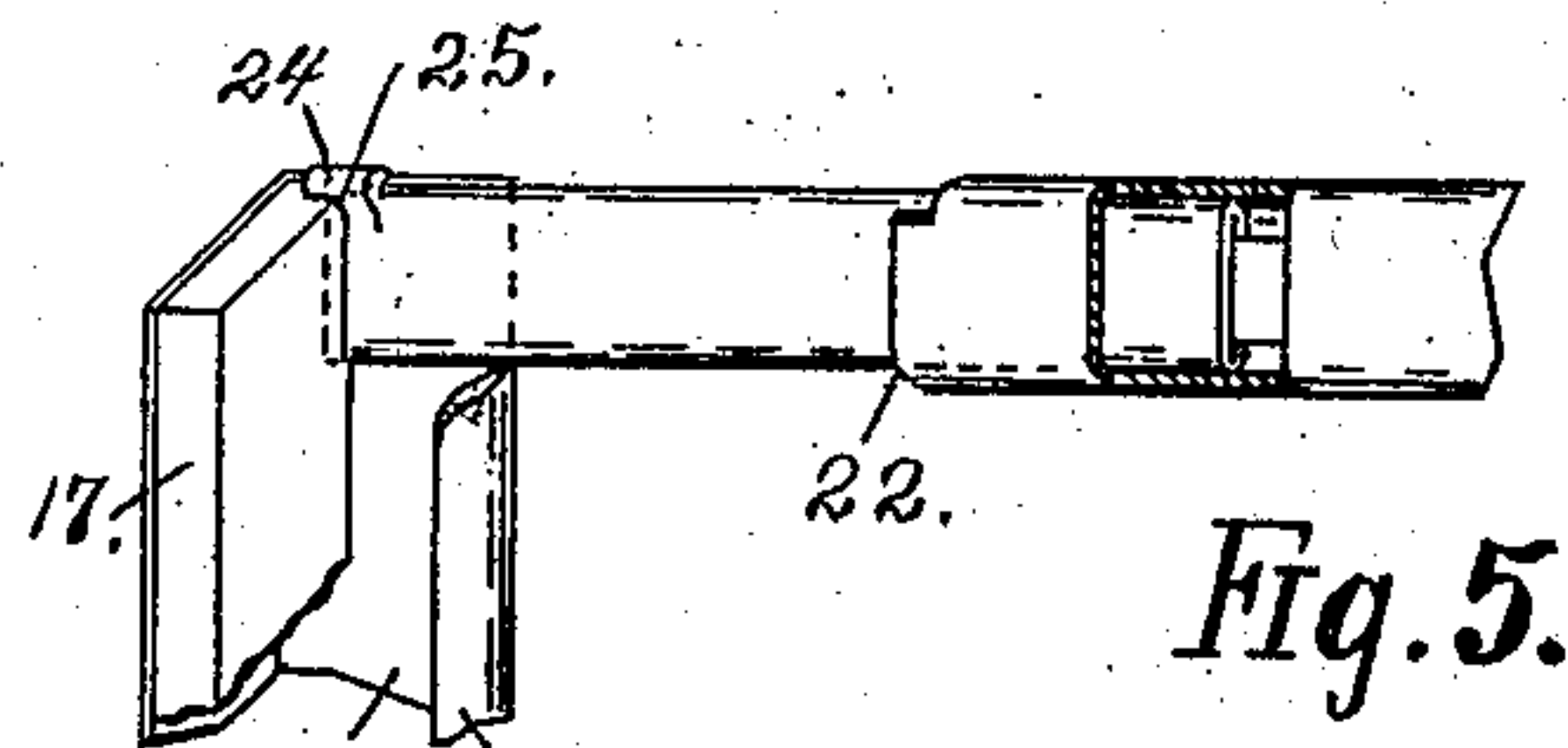


Fig. 5.

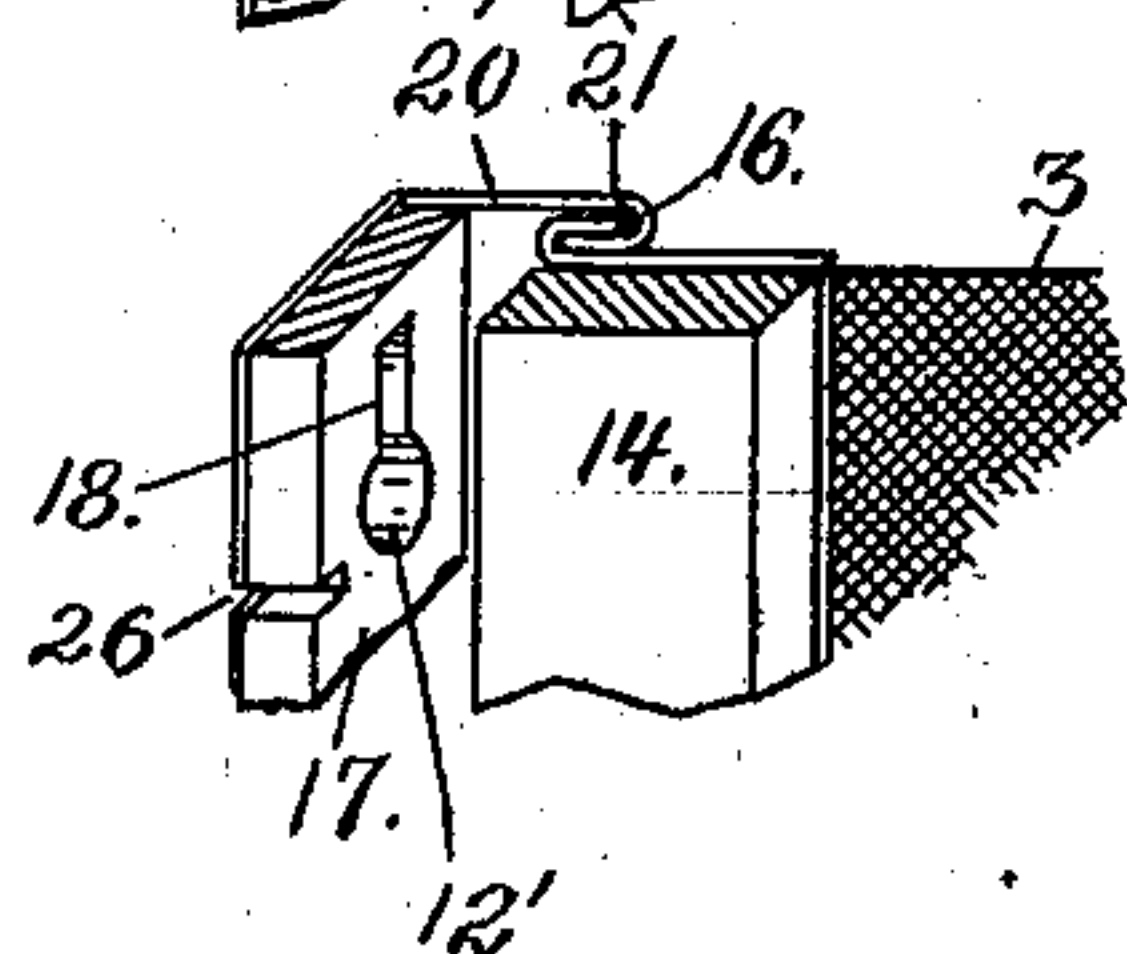


Fig. 6.

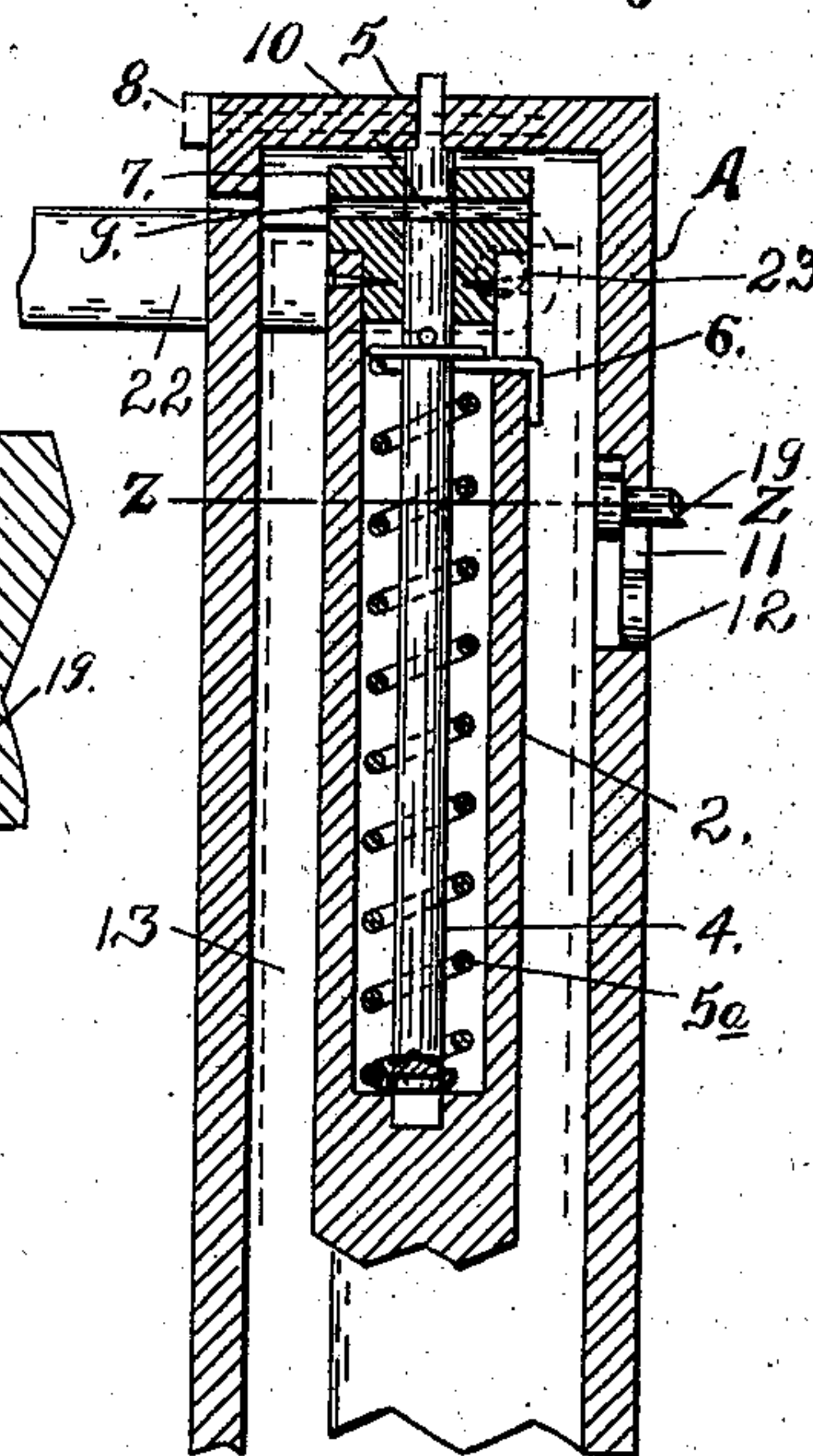


Fig. 3.

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# UNITED STATES PATENT OFFICE.

OTTO NIEHAUS, OF WEST BERKELEY, CALIFORNIA.

## ADJUSTABLE WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 700,362, dated May 20, 1902.

Application filed January 16, 1902. Serial No. 90,010. (No model.)

*To all whom it may concern:*

Be it known that I, OTTO NIEHAUS, a citizen of the United States, residing at West Berkeley, county of Alameda, State of California, have invented an Improvement in Adjustable Window-Screens; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in screens for windows and similar light-apertures.

It consists of a flexible screening carried upon a spring-roller, a casing in which the roller is supported, means for attaching the casing in position on the window-frame, a slot in the casing through which the screening is drawn, means upon the opposite side of the frame by which the screening is engaged, adjustable lateral guides for said screening, means for adjusting the tension of the spring in the roller, and includes details which will be more fully set forth hereinafter, having reference to the accompanying drawings, in which—

Figure 1 is a front view of my screen attached to window-frame. Fig. 2 is a horizontal section taken on the line  $y\ y$  of Fig. 1. Fig. 3 is a central section of case, taken on the line  $x\ x$  of Fig. 4. Fig. 4 is a cross-section on the line  $z\ z$  of Fig. 3. Fig. 5 is a perspective view showing one way of supporting telescopic guides. Fig. 6 is a perspective view showing manner of holding screening.

A represents a suitable casing in which the screen-roller 2, carrying the screening 3, is contained. The roller is freely turnable about a central shaft 4. One end of the latter projects beyond the roller and is flattened and adapted to fit in a slot 5 in the end of the casing, whereby the shaft is prevented from turning. The other end of the roller is provided with a trunnion 4<sup>a</sup>, turnable in a recess in the end of the casing. A spring 5<sup>a</sup> is attached at one end to the shaft within the roller-tube, and the other end of the spring is secured in a slot 6 in the tube. Access is had to the interior of the tube by removing the cap 7. It is to be noted that the usual pawl-and-ratchet mechanism is omitted in this device, so that the screening is freely wound upon or unwound from the roller. The roll is prevented from falling out of the casing by means of a

pin 8, which retains the flattened end of the shaft in the slot 5. The cap 7 is radially perforated, as at 9, and a perforation 10 in the shaft 4 is adapted to register with the perforation 9 when the tube is turned about the shaft. When it is desired to remove the roll from the casing, the pin 8 is withdrawn from its place across the slot 5 and inserted in the perforations 9 and 10, which are brought into line for the purpose, to lock the tube and shaft together and prevent the unwinding of the spring.

The casing A has the longitudinal slots 11 formed in one side. The lower end of these slots is enlarged, as at 12, through which the head of a nail or screw 19 may pass. The upper portion of the slots is narrowed, so that the head may not be withdrawn after the shank of the nail has slipped up into the slot. This casing is ordinarily hung on the side of the frame and adjacent to the window-sash. The end of the screening passes through a longitudinal slot 13 in the casing and attached to a bar 14, having a knob or handle 15, by which the bar may be engaged and moved across the window-opening. On the under side of the bar is a curved flange or hook 16, which is adapted to engage some means upon the frame on the opposite side of the window and hold the screen when the latter is stretched thereacross. This means consists of a bar 17, having slots 18, similar to the slots 11, by which the bar is removably secured to the screws or nails 19'. A metal flange 20 is secured to one edge of the bar 17 and is provided with a turned-over hook portion 21, with which the hook 16 of the screen-bar 14 engages.

In order to support the edges of the screening when it is stretched across the window, I provide the telescoping lateral guides 22, which readily adjust themselves to different widths of windows. These guides are pivoted to the casing at 23 and when closed up are approximately of a length equal to the casing, so that the device may be knocked down and folded into a small compact package for purposes of transportation. The slidable part of each guide has a lug 24, by which it may be drawn in or out of the pivoted sheath portion of the guide. The bar 17 is suitably recessed at its ends and on its edge



adjacent to the flange 20, as at 25, in order to admit and hold the ends of the guides.

It is necessary that both the casing and bar 17 be hung properly in relation to each other.

5 To assist in the proper location of the nails 19 19', I have formed certain guide-notches 26 in the edge of the bar 17. This bar is first placed against the vertical portions of the window-frame to which the two parts of the  
10 device are to attach with the enlargement 12' of the slots 11<sup>a</sup> uppermost and the end of the bar resting on the window-sill. The position of the notches 26 indicate the exact point at which the nails should be driven. Having  
15 located the position for the nails, the guide is removed and the nails then driven in, after which the casing and bar may be hung thereon in proper position, as before described, with the enlarged portions 12 12' of the slots lower-  
20 most.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An adjustable window-screen consisting  
25 of a spring-actuated screen-roll, means for attaching it on one side of a window-frame, means upon the opposite side of the frame by which the screening may be engaged and held in opposition to the spring, and laterally-ad-  
30 justable bars connecting the bar at one side of the window-opening with the roller-support at the opposite side.

2. An adjustable window-screen, consisting  
35 of a casing a spring-actuated screen-roll journaled therein, said casing adapted to be secured upon one side of the window-frame, means upon the opposite side of the frame by which the end of the screening may be engaged and held in opposition to the spring,  
40 and upper and lower folding bars connecting the bar at one side of the opening with the roller-casing at the opposite side.

3. In an adjustable window-screen the combination of a casing, a hollow roller having a  
45 central shaft projecting from one end and about which said roller is turnable, a slot in

said roller a spring secured at one end to the shaft and the other end fixed in said slot, a cap through which the shaft passes, said cap fixed to and turnable in unison with the roller, 50 perforations in the cap and shaft, a pin adapted to be passed through said perforations whereby the tube and shaft may be locked together, and the former prevented from turning, a flexible screening wound upon said 55 roller, and bars pivotally connected to the casing and adapted to extend transversely across the window-opening, and a bar attached to the screening and with which the transverse bars are adapted to connect. 60

4. The combination in an adjustable window-screen of a casing, a spring-actuated screen-roller therein, means for attaching said casing to the side of a window-frame, a slot in said casing through which the screen- 65 ing is drawn, a bar exterior to the casing and to which the end of said screen is attached, means upon the opposite side of the window-frame by which said bar may be engaged and the screen held in opposition to the tension 70 of the spring, and pivotally-mounted longitudinally-extensible bars adapted to connect the bar at one side of the window-opening with the roller-casing at the opposite side.

5. The combination of a flexible screening, 75 a spring-actuated roller upon which said screening is carried, a movable support for said roller, said support adapted to be detachably secured to a window-frame, means upon the opposite side of said frame with 80 which the end of said screening may be engaged, said means consisting of a bar having a flange projection thereon, and adjustable lateral guides connecting said bar and roller-support. 85

In witness whereof I have hereunto set my hand.

OTTO NIEHAUS.

Witnesses:

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H. F. ASCHECK.