

(No Model.)

J. A. DURNBAUGH.
WINDOW SCREEN.

No. 546,643.

Patented Sept. 17, 1895.

Fig. 1.

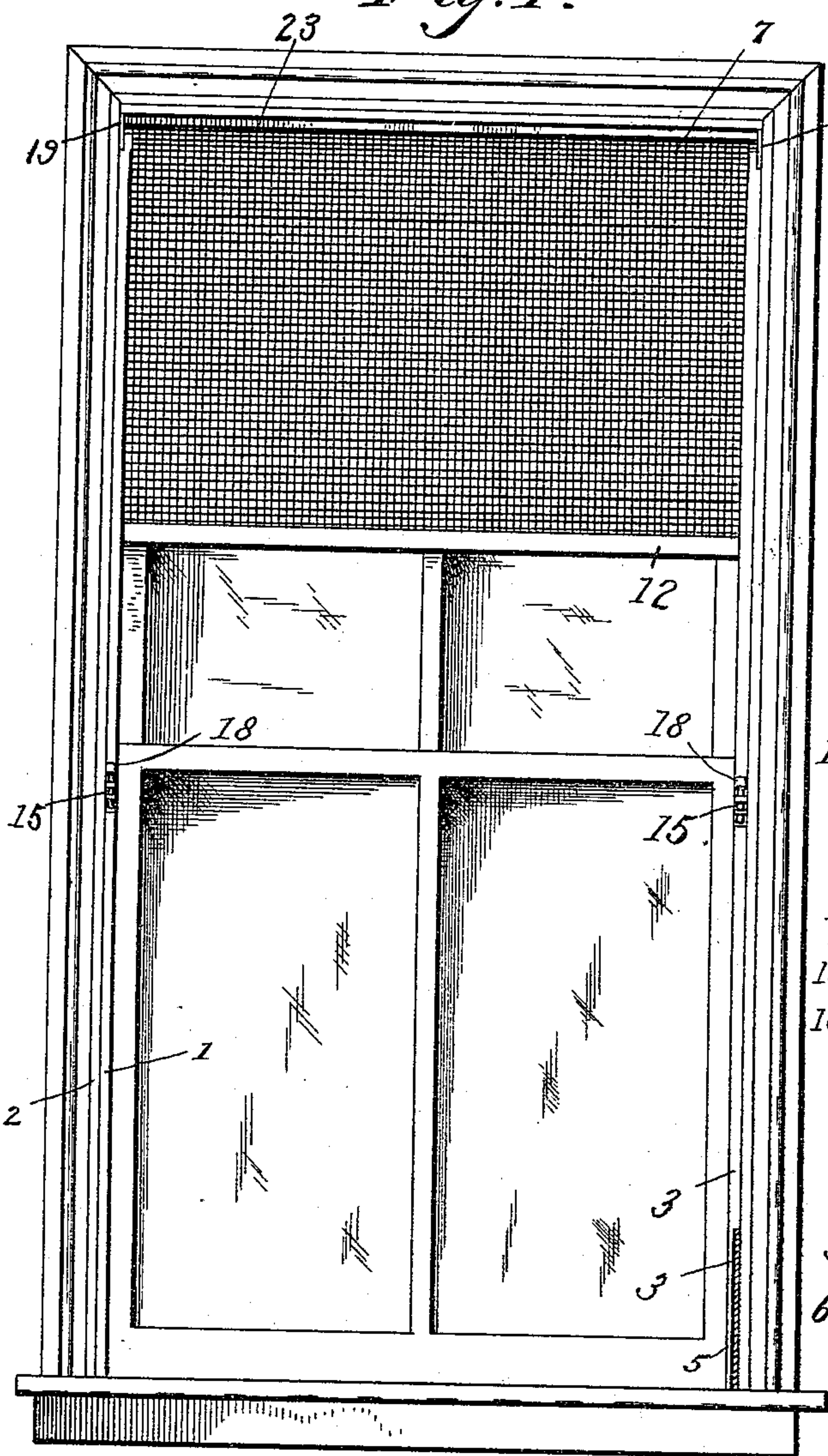


Fig. 2

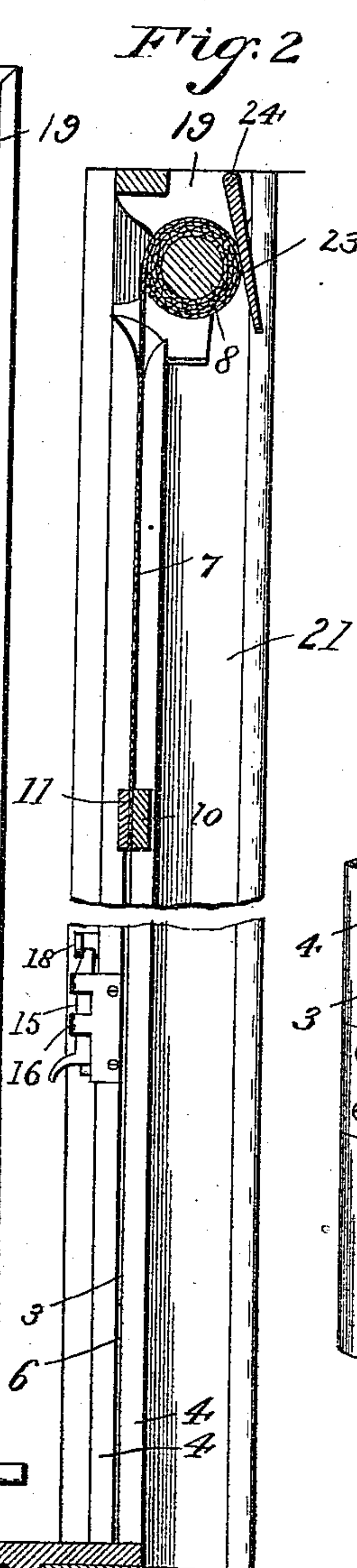


Fig. 3

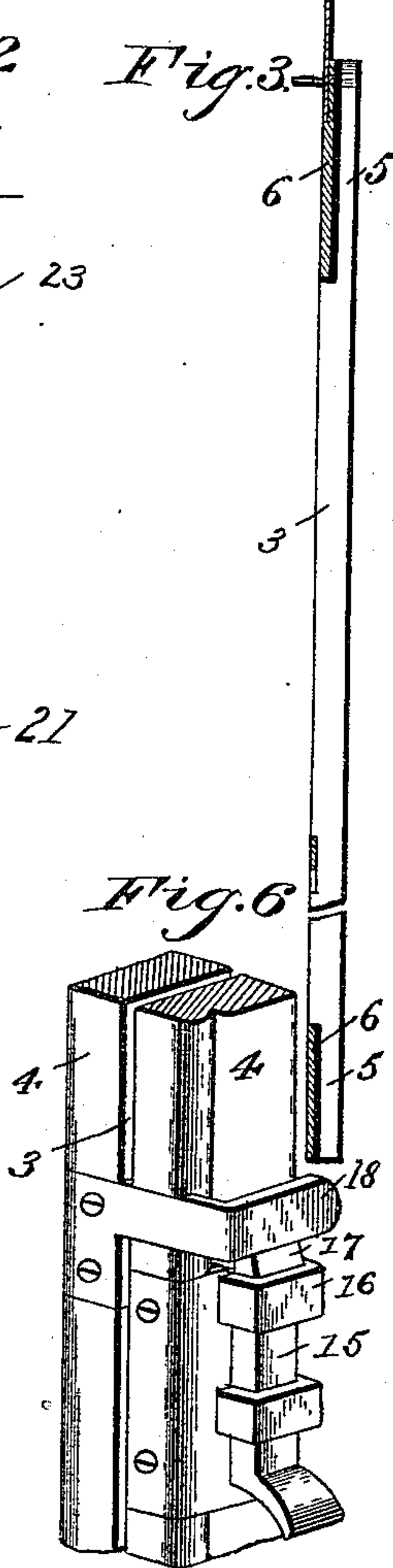


Fig. 6

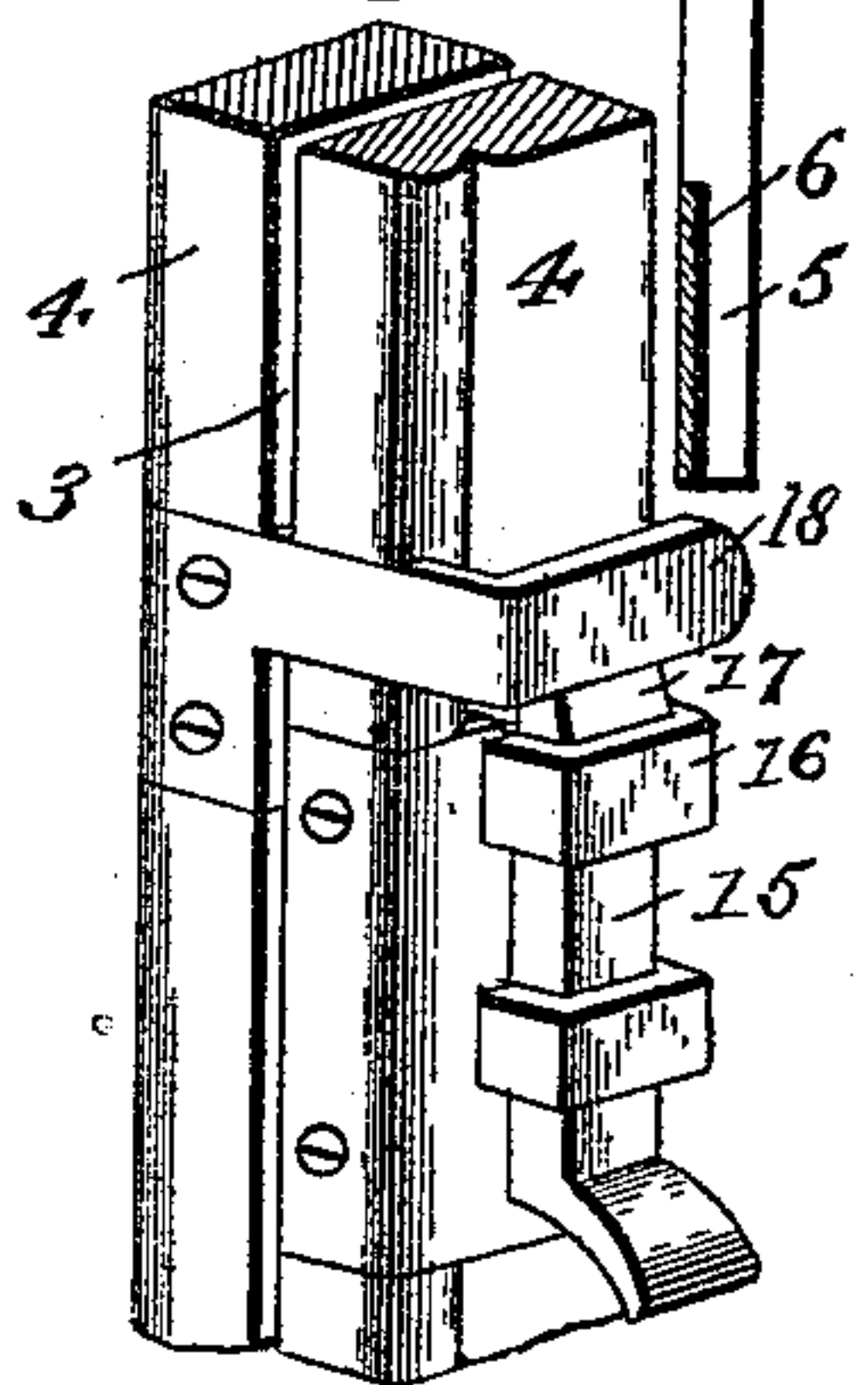


Fig. 5

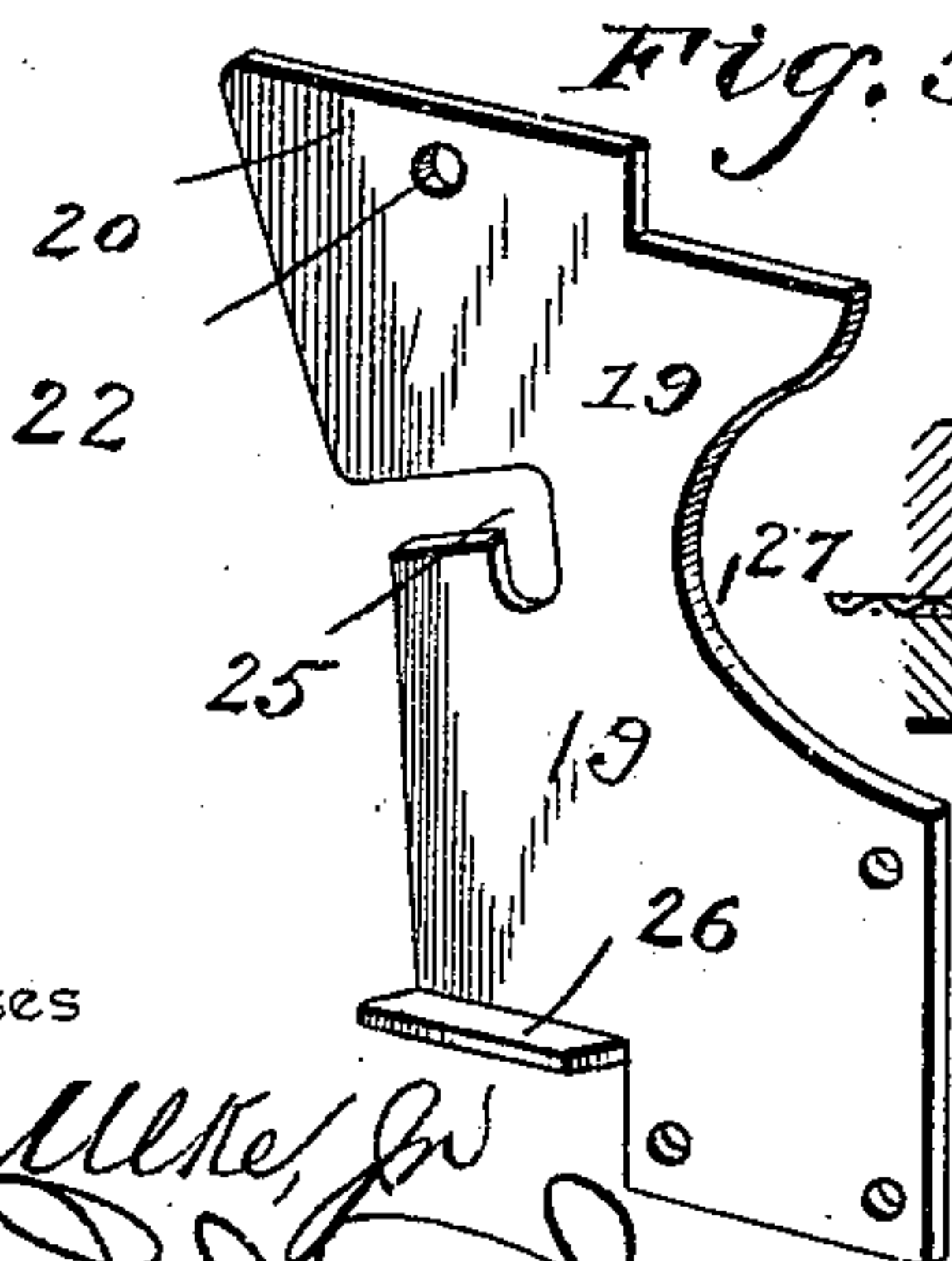
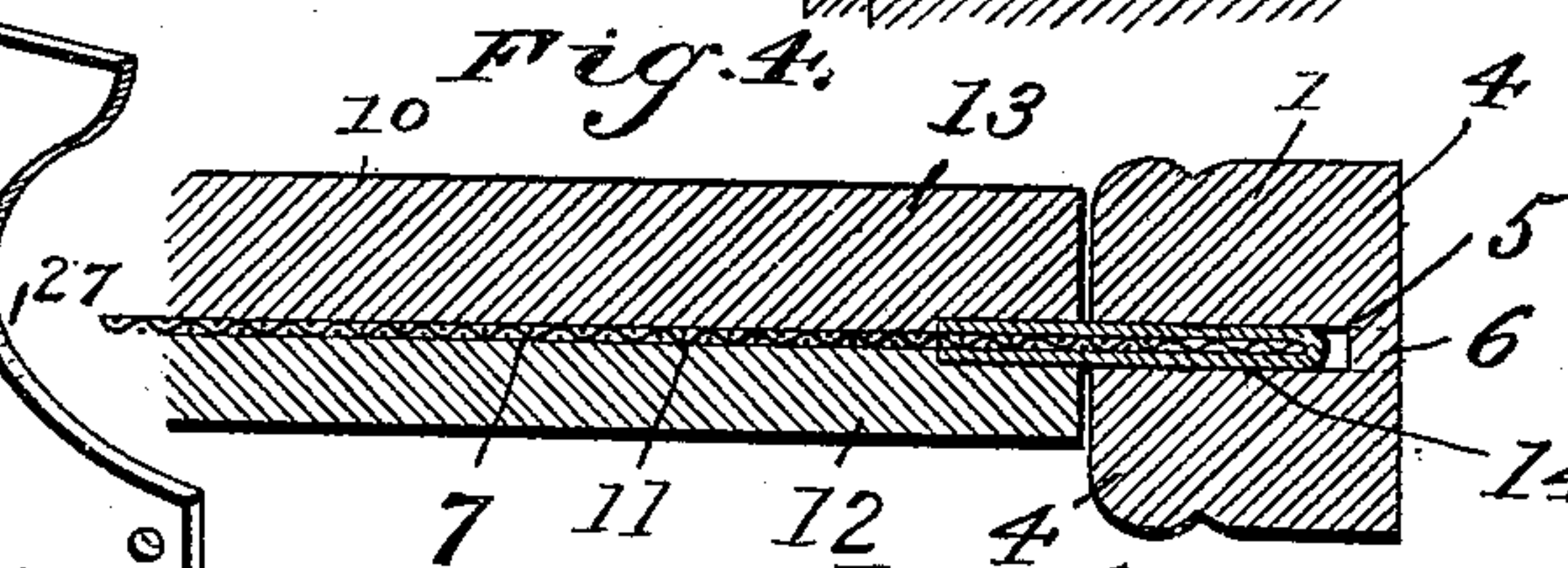


Fig. 4



Witnesses

Julius M. Keefe, Jr.
[Signature]

By his Attorneys.

Inventor
Joseph A. Durnbaugh

Chas. Snow & Co.

UNITED STATES PATENT OFFICE.

JOSEPH A. DURNBAUGH, OF WASHINGTON, DISTRICT OF COLUMBIA, AS-
SIGNOR OF THREE-FOURTHS TO LOUIS F. STUTZ, OF SAME PLACE.

WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 546,643, dated September 17, 1895.

Application filed June 29, 1894. Serial No. 516,116. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. DURNBAUGH, a citizen of the United States, residing at Washington, in the District of Columbia, have
5 invented a new and useful Window-Screen, of which the following is a specification.

My invention relates to window-screens, and particularly to that class in which the screen proper is adapted to be extended to cover the
10 entire window space or opening, said screen proper being carried by a spring-actuated roller.

The objects of my invention are to provide means whereby the upper portion of the win-
15 dow space or opening—namely, the space above the lower sash—may be covered to exclude flies without extending the screen to cover the entire opening, in order that both sashes may be lowered to permit ventilation
20 through the upper portion of the window-opening; to provide means whereby the finishing-strip at the lower end of the screen closes the interval between said end of the screen and the meeting-rail of the lower sash; to provide im-
25 proved means for closing the interval between the roll at the top of the window-opening and the adjacent portion of the window frame or casement, whereby as the screen is rolled or un-
30 rolled said closing means will follow the same, and thus exclude flies, irrespective of the amount of extension of the screen; to provide improved means for securing the screen at the desired extension; to provide improved means for supporting the screen and roller in a win-
35 dow-frame, whereby the removal of said supporting means involves the removal of the screen and all of its attachments; to provide means for supporting the screen and roller, which may be substituted for the usual bead
40 arranged to guide the lower sash; to provide means for mounting the screen-roller in the path and above the upper end of the lower sash, whereby the screen descends parallel with and adjacent to the plane of the lower
45 sash, and whereby a shade-roller may be arranged inside of the plane of the screen without preventing the use of inside blinds, and, finally, to provide an improved bracket adapted to engage the lower sash guideways at the
50 top of the window-frame to prevent acciden-

tal displacement, and to secure a compact arrangement of parts.

Further objects and advantages of the invention will appear in the following description, and the novel features thereof will be
55 particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side elevation of a window-screen constructed in accordance with my invention and applied in
60 the operative position to a window-frame. Fig. 2 is a vertical central section of the same. Fig. 3 is a detail vertical section of one of the guide-bars. Fig. 4 is a detail horizontal section of the guide-bar at the lower end of the
65 screen and the contiguous portion of the guiding-strip. Fig. 5 is a detail view in perspective of one of the brackets. Fig. 6 is a similar view of a device for drawing the members of the guiding-strip together to clamp the
70 guide-bar at any desired extension of the screen.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates the vertical guiding-strips arranged, respectively, at the opposite sides of the window-frame, and either upon the ordinary bead 2, as shown in Fig. 1, or in place
75 of such bead, said guiding-strips being slotted longitudinally, as shown at 3, to form the opposite contiguous members 4. The slot 3 extends entirely through the guiding-strips at all points, with the exception of the upper and lower extremities, where it is simply grooved,
80 as shown at 5, thus forming webs 6, by which said members of the strip are connected at their upper and lower extremities. These slots or kerfs in the guiding-strip are designed to receive and guide the lateral edges
85 of the flexible screen 7, which is attached at its upper end to a spring-roller 8, supported by brackets 19, held in place by the guiding-strip. The screen proper 7 is provided at its lower end with a guide-bar 10, which is ap-
90 proximately equal in length to the interval between the inner or facing sides of the guiding-strips 1, said guiding-bar being split longitudinally, as shown at 11, to receive the lower extremity of the screen. This division
100

of the guide-bar forms inner and outer members 12 and 13, of which the latter is approximately equal in width to the outer member of the guiding-strip 1, whereby when the guide-bar is arranged opposite the horizontal meeting-rail or other bar of a window-sash the interval between the planes of the screen and the sash is closed to prevent the entrance of flies or other insects. The guide-bar 10 is provided at its extremities with flat guiding-ears 14, which fit slidably in the slots or kerfs of the guiding-strips 1 and extend approximately through said slots.

It will be understood from the foregoing description that the intermediate portions of the members of the guiding-strip are adapted to be sprung inward or toward each other to clamp the guiding-ears 14 at any desired extension of the screen to hold the latter at such extension, and in order to accomplish this contraction of the members of the guiding-strips I employ a clamp or locking device, which, in the construction illustrated in the drawings, consists of a sliding bolt 15, mounted in keepers 16, and provided with a beveled extremity 17 to engage a finger 18, said finger being secured to one of the members of the guiding-strip and overlapping the other member upon which the bolt is mounted. It will be understood that I do not limit myself to this specific form of locking or clamping device, as it may be varied in construction without departing from the spirit of the invention. I have shown the particular form of locking device or clamp illustrated in the drawings to show the manner of operating and the general features of construction, which are necessary or desirable to accomplish the contraction of the parts of the guiding-strips.

The brackets 19, which are attached firmly to the upper ends of the guiding-strips and which extend outward to lie in the path of the lower sash as the latter is raised, are provided with offset ears 20, which fit in the top of the guideway 21 of said lower sash and thus lock the guiding-strip from outward and inward deflection. This offset portion 20 of each of the brackets is drilled to form a bearing 22, in which is mounted the adjacent trunnion or pivot of a leaf 23. This leaf extends transversely across the window-frame at the top and above the plane of the screen-roller and bears at its inner side against the outer side of said roller or the screen which is wound thereon. Gravity causes the leaf 23 to follow the roller and screen in their movements, and thus to close the interval between the roller and the top of the window-frame at all times. Furthermore, said leaf extends downward beyond the lower side of the roller, and thus conceals the same from the outside of the window. The upper edge of the leaf is preferably rounded, as shown at 24, to fit close to the surface of the frame at the top of the window. The brackets 19 are further provided with sockets 25 for the reception of the trunnions of the screen-roller, and below said sockets

with inwardly-deflected stops or shoulders 26, which are arranged horizontally in the guideways 21 of the frame to limit the upward movement of the lower sash. In order to provide for the use of a shade-roller in connection with the screen, I cut away or recess the brackets at their inner edges, as shown at 27, whereby when shade-rollers are used they may be arranged sufficiently near the plane of the sash to permit of the closing of inside blinds. This being the construction of the improved screen it will be understood that in operation the guide-bar is grasped and the screen is extended to the desired point, when the locking or clamping devices are operated to contract the guiding-strips, and thus cause the members thereof to impinge against opposite sides of the guiding-ear 14. The fact that the outer surface of the guide-bar 10 is approximately flush with the corresponding surface of the guiding-strip, and hence contiguous to the plane of the inner surface of the lower sash, provides for any desired extension of the screen to secure the necessary ventilation through the upper portion of the window without giving access to insects, and the arrangement of the pivotal leaf 23 with its pivoted edge above the plane of the screen-roller and its lower or movable portion bearing against the surface of the roller or against the surface of the screen which is reeled thereon, provides for an automatic adjustment of said leaf, and hence the exclusion of insects at this point.

Having described my invention, what I claim is—

1. The combination with a spring roller, and a flexible screen secured at its upper end to said roller and provided at its lower end with a transverse guide-bar having terminal extensions or ears, of parallel guiding strips arranged contiguous to the lateral edges of the screen and provided with vertical slots or kerfs to receive said lateral edges of the screen, and the terminal extensions or ears of the guide-bar, and means for contracting the guiding-strips to engage said terminal extensions or ears and secure the screen at the desired adjustment, consisting of the finger 18 secured to one of the strips, and a sliding bolt 15 mounted on the other strip and engaging the finger, substantially as specified.

2. The combination with a spring roller, and a flexible screen having its upper end secured to said roller, of guiding-strips arranged at opposite sides of a window-frame and each consisting of a single bar provided with a longitudinal slot or kerf extending partly through the bar at its terminals and entirely through the same at intermediate points to allow contraction of said intermediate points, guiding ears carried by the lower end of the screen to fit slidably in said slots or kerfs, and means for contracting the guiding-strip to lock said guiding ears at the desired adjustment, substantially as specified.

3. The combination of the guide strips hav-

ing secured firmly to their upper ends and carried thereby the brackets provided with offset portions to engage the guide-way of a lower window-sash and hold the guide strips from outward or inward deflection, and stops or shoulders 26 arranged in the path of said sash to limit the upward movement thereof, a spring-roller having its trunnions mounted in sockets in said brackets directly above said sash, a flexible screen secured at its upper end to the roller, and means for holding the screen at the desired extension, substantially as specified.

4. The guide strips arranged at opposite sides of the window frame, brackets 19 secured firmly to the upper ends of the guide strips and carried thereby and extending outward so as to lie in the path of the lower sash when the latter is raised, and provided with offset ears 20 which fit in the top of the guide-way of said sash and thus lock the guide strips from outward and inward deflection, said brackets being provided with bearings 22 and sockets 25, a leaf 23 journaled in the bearings, a screen roller journaled in the sockets in a line directly above the lower sash, and stops or shoulders 26 on the brackets to limit the upward movement of the lower sash, substantially as specified.

5. The combination with a spring roller,

and a flexible screen having its upper end secured to said roller, of guiding strips arranged at opposite sides of a window frame and each consisting of a single bar provided with a longitudinal slot or kerf extending partly through the bar at its terminals and entirely through the same at intermediate points to allow for contraction of said intermediate points, guiding ears carried by the lower end of the screen to fit slidingly in said slots or kerfs, means for contracting the guiding strip to lock said guiding ears at the desired adjustment, and brackets 19 secured firmly to the upper ends of the guiding strips and carried thereby and extending downward so as to lie in the path of the lower sash when the latter is raised, and provided with offset ears 20 which fit in the top of the guide way of said sash and thus lock the guide strips from outward and inward deflection, said brackets providing bearings for the spring roller, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

J. A. DURNBAUGH.

Witnesses:

JOHN H. SIGGERS,

C. E. DOYLE.