(No Model.)

L. F. STUTZ & J. A. DURNBAUGH.

INSECT SCREEN OR DUST ARRESTER.

No. 505,494. Patented Sept. 26, 1893.

Fig. 1.

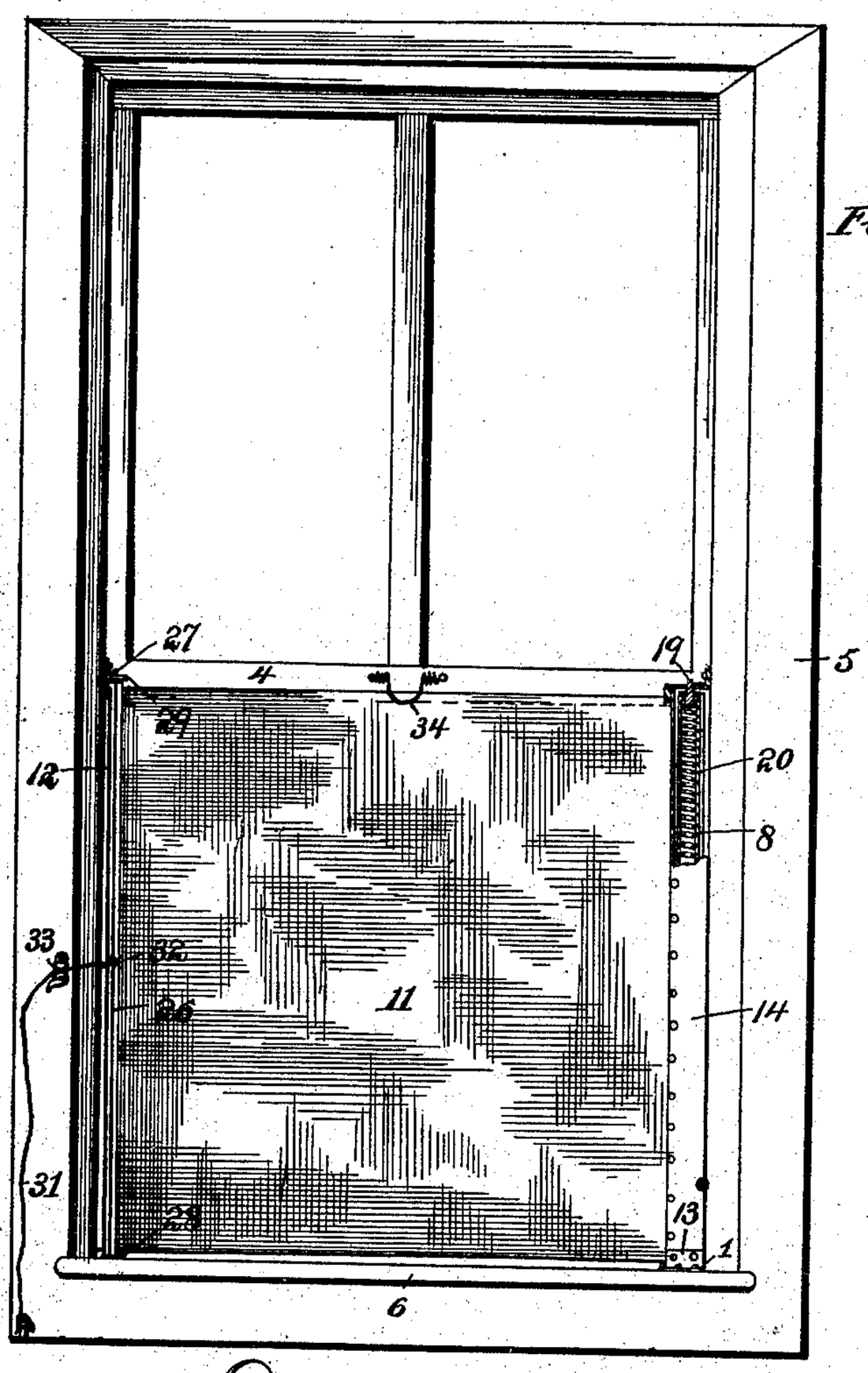


Fig. 2.

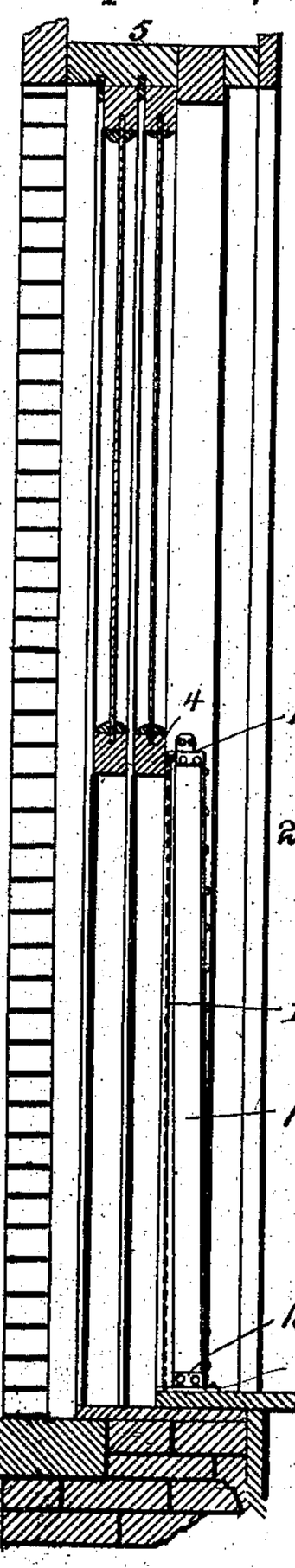


Fig. 4.

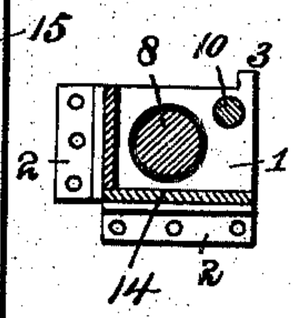


Fig. 8.

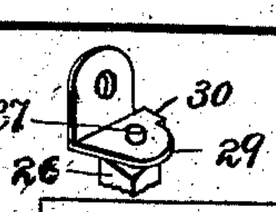


Fig. 3

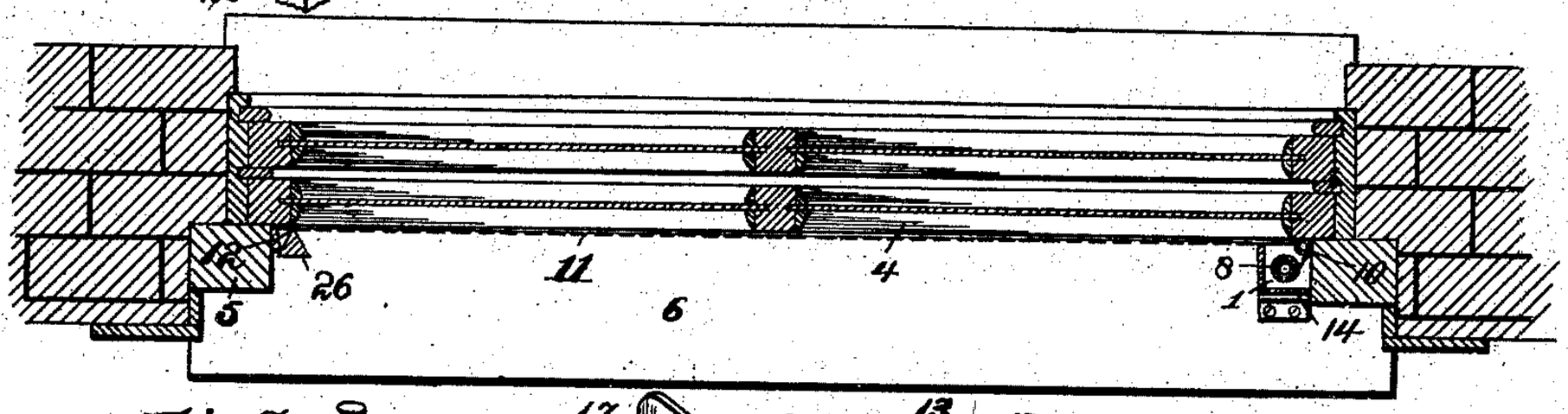


Fig. 7.

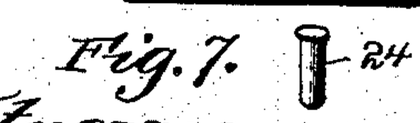


Fig. 5

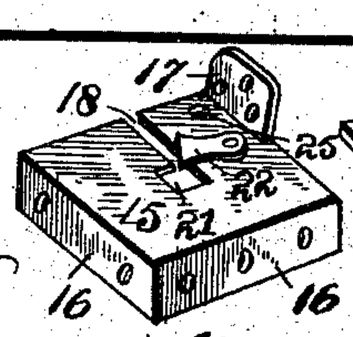
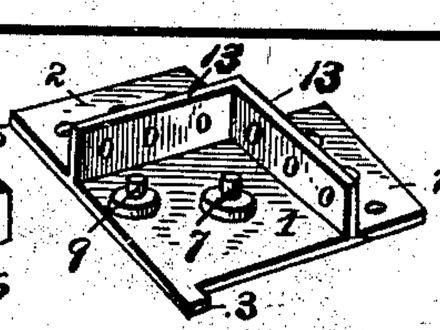


Fig. 6.



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UNITED STATES PATENT OFFICE.

LOUIS F. STUTZ AND JOSEPH A. DURNBAUGH, OF WASHINGTON, DISTRICT OF COLUMBIA.

INSECT-SCREEN OR DUST-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 505,494, dated September 26, 1893.

Application filed July 30, 1892. Serial No. 441,704. (No model.)

To all whom it may concern:

Be it known that we, LOUIS F. STUTZ and JOSEPH A. DURNBAUGH, citizens of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Adjustable Insect-Screens or Dust-Arresters for Windows; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

It is the object of our invention to provide a screen or arrester for the exclusion of insects and dust which will be adjustable to window openings of various sizes, which can be readily operated so as to cover or so as to leave entirely unobstructed the window opening, and which when in position to cover the opening shall fit tightly or closely along the sash, frame and sill.

Our invention relates to that class of such screens in which the screen is mounted upon a roller standing upright at the side of the window opening, and may be drawn horizontally across said opening to cover it.

In order to make our improvement more clearly understood we have shown in the accompanying drawings means for carrying it into practical effect, without however limiting the invention in its useful applications to the particular construction which, for the sake of illustration, we have delineated.

In said drawings—Figure 1 is a front view showing a portion of a window having a screen embodying our invention applied thereto, portions of the device being shown as broken away to better disclose the various parts. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a horizontal sectional view. Fig. 4 is a similar view on a larger scale of the screen casing and rollers. Figs. 5 and 6 are perspective views of the supporting brackets. Fig. 7 is a view of the removable upper journal of the guide roller. Fig. 8 is a view of the upper bearing bracket for the polygonal shaft.

Referring to the drawings, 1 indicates a bracket or base plate adapted to be secured by screws or other suitable means to the window-sill, it being provided with horizontal flanges 2 for such purpose.

3 is an outwardly projecting lug or flange which serves to accurately locate the bottom of the screen, said lug being placed, when the device is applied to a window, so that it will be in the same vertical plane (at its end) as the inner face of the lower sash. The latter is shown at 4, the window-frame at 5, and the sill of the latter at 6.

7 is a vertical pivot stud secured to or formed with the base 1 and adapted to receive the lower end of a spring roller 8, and 9 in a similar stud on which is mounted and turns the lower end of a guide roller 10.

The screen is indicated at 11 and is formed of any suitable woven or reticulated material and is secured at one vertical edge to the roller 8 and at the other edge to a stick 12. The bracket 1 is also provided with vertical flanges 13 along two of its edges, to which flanges are secured the lower ends of wooden or metallic strips forming an angular casing 14 which entirely conceals from view on the inner side the rollers, and the screen when the latter is not in use.

15 is a bracket at the upper end of the device provided with vertical flanges 16 which support the upper end of the casing 14 and with a vertical flange 17 adapted to be secured to the window frame.

18 is a slot formed in the upper bracket and adapted for the entrance of a squared journal 19 which supports the upper end of the spring roller and is connected therewith by means of a spring 20.

21 is an off-set portion of the slot 18 in which the journal is adapted to rest and where it is confined by a pivoted dog 22.

In putting the roller having the screen attached thereto in place its lower end is fitted upon the stud 7 and the journal 19 is introduced into the inner end of the slot 18. The journal is then turned by a key until the roller 8 has the desired tension whereupon said journal is secured by the dog 22, as seen in Fig. 5.

The flange 17 and the flange 3, enable the

device to be accurately applied to a window so that the screen when drawn out will be in proper position relative to the upper sash and to the sill.

24 is a removable journal adapted to be passed through a perforation 25 in the bracket 15 and into the upper end of the guide roller 10 after the lower end of the latter has been mounted on the stud 9. The rollers referred to do not stand in a true vertical position, the upper end of the guide roller being flush with the inner face of the sash and the lower end being about three eighths of an inch farther inward, so that the guide roller, and its parallel spring roller, have an outward inclination, throwing the lower edge of the screen to a point at a distance from the outer edge of the sill. Any slight outward movement of the screen will therefore not leave a space along the edge of the sill by which insects or dust could find an entrance.

We will now describe the means by which the screen is drawn out and a tight joint secured along the opposite side of the window frame. 26 is a vertical shaft triangular in cross section and mounted by its end journals 27 in a lower bearing 28 and an upper bearing 29. The lower bearing is of such diameter that when its edge is flush with the outer edge of the sill the angle of the shaft 26 will be three eighths of an inch from the outer edge of the sill and in line with the lower end of the spring roller. The upper bearing 29 has a flange 30 which when flush with the inner face of the sash will keep any one of the angles of the shaft 26 substantially flush or in the same plane with the inner face of the sash. 31 is an operating cord secured to the stick 12 and passing around a notch 32 in the shaft 26 to a catch or clamp 33 on the window frame. As the screen is drawn across the window opening by pulling the cord 31 the stick 12 will encounter one of the inclined faces of the shaft 26 and turn the latter passing around into and completely filling the space between the shaft and the window frame as seen in Fig. 1. The catch 33 is then operated to secure the cord. When the cord is released the spring roller will take up the screen and the window will be left unobstructed, the screen being concealed within the casing 14.

34 is a spring actuated clip mounted on the sash at about the middle thereof and adapted to engage the upper edge of the screen and retain it in position against the sash. The roller 10 is so located with reference to the take-up roller that the screen as it is drawn off from the latter is deflected and compelled to take a circuitous course, thereby acting as a tension device, as well as a guide, for the screen.

What we claim is—

1. In a screen for the purposes described, the combination of a spring roller at one side of the window, a screen secured thereto and having at its free edge a stick, means for drawing the screen across the window opening, an outwardly inclined guide roller 10, and means for holding the said stick in an outwardly inclined position at the other side of said window, the direction of said inclination being such that the base of the screen is farther inward than the top, substantially as set forth.

2. The combination with the rolling screen and means for taking up the same at the side of a window, of a stick secured to the free edge of the screen, and a rotary polygonal shaft 26 mounted at the other side of the window and adapted to confine said stick against the window frame, substantially as set forth.

3. The combination with the screen, and an outwardly inclined spring roller secured thereto, of a stick attached to the free end of the screen, means for drawing said stick and screen across the window opening, and an outwardly inclined rotary polygonal shaft 26 adapted to confine said stick against the window frame, the direction of inclination of said roller and shaft being such that the base or lower edge of the screen is farther inward than the top, substantially as set forth.

In testimony whereof we affix our signatures in the presence of two witnesses.

LOUIS F. STUTZ.
JOSEPH A. DURNBAUGH.

Witnesses:
H. N. LOW,
F. J. BENJAMIN.