(No Model.)

W. SCOTT.

WINDOW SCREEN.

No. 590,688. Patented Sept. 28, 1897.

Fig. 1.

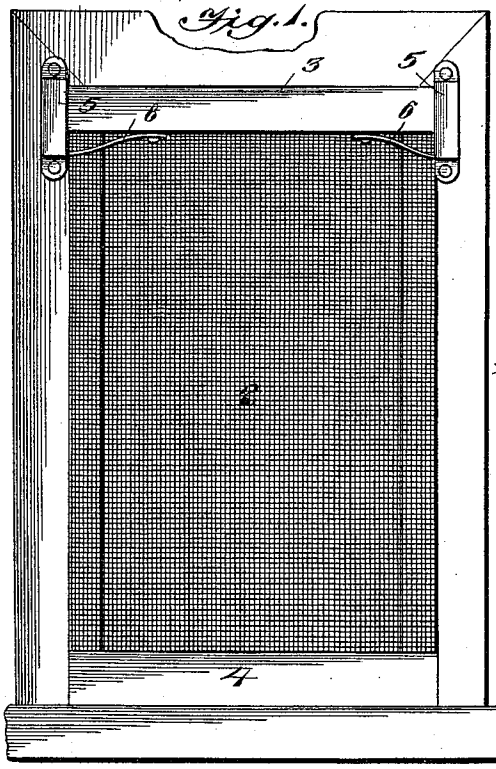
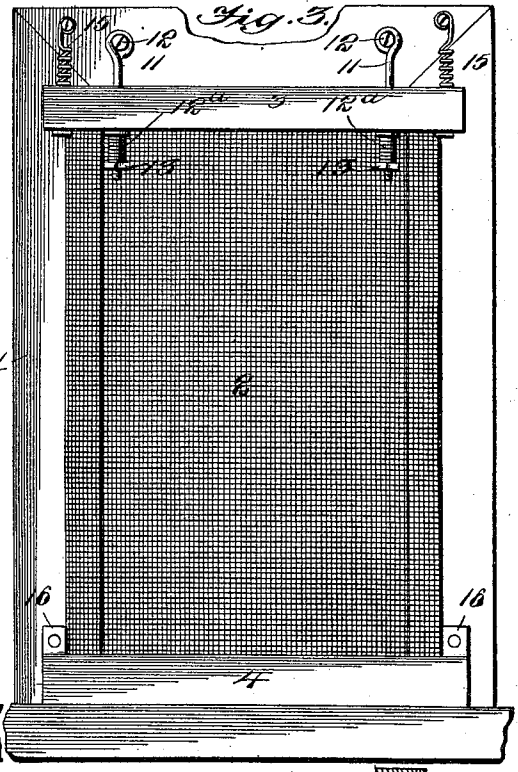


Fig. 3.



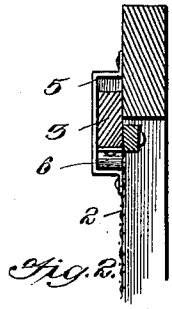
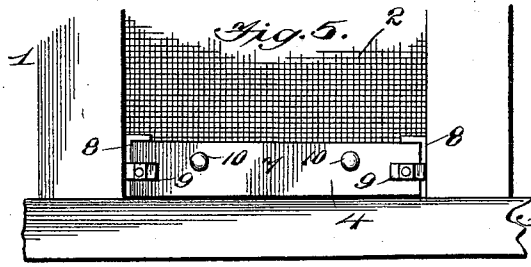


Fig. 2.

Fig. 5.



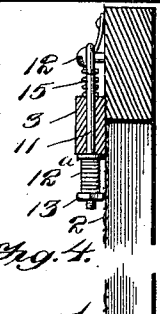


Fig. 4.

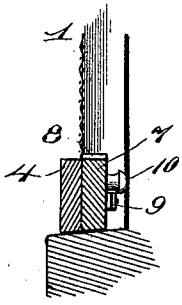
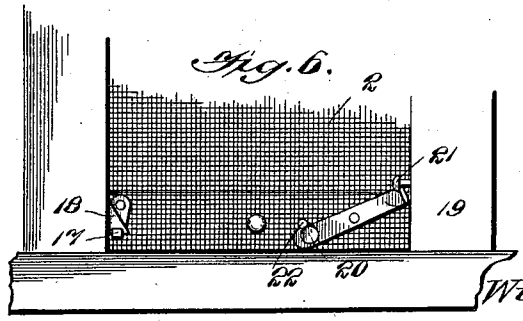
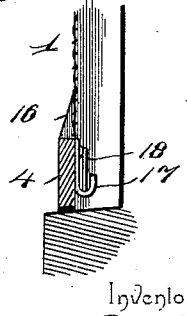


Fig. 6.





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UNITED STATES PATENT OFFICE.

WILLIAM SCOTT, OF LEAVENWORTH, KANSAS.

WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 590,688, dated September 28, 1897.

Application filed March 31, 1896. Serial No. 585,629. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SCOTT, a citizen of the United States, residing at Leavenworth, in the county of Leavenworth and State of Kansas, have invented a new and useful Window-Screen, of which the following is a specification.

This invention relates to window-screens, and the object in view is to provide a novel method of connecting the screen material or meshed fabric to the screen frame or stretcher or to the window-frame, whereby the said screen material or fabric may be stretched automatically at all times and also be capable of being easily and quickly removed either partially or wholly.

To this end the invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and finally pointed out in the claims hereto appended.

In the accompanying drawings, Figure 1 is a front elevation of a window-frame, showing the screen applied thereto. Fig. 2 is a vertical cross-section through the same. Fig. 3 is a view in elevation similar to Fig. 1, showing modified connections between the screen and the window-frame. Fig. 4 is a vertical cross-section through the same. Fig. 5 is a detail elevation of the lower portion of the window-frame, &c., taken from the opposite side of Fig. 1. Fig. 6 is a similar view taken from the opposite side of Fig. 3.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the accompanying drawings, 1 designates the window-frame to which the improved screen is applied. While I have illustrated the screen as applied to a window-frame, it is obvious that it may be applied to a screen frame or stretcher just as well. The improvement contemplates the use in connection with a piece of screen material or meshed fabric 2 of top and bottom strips or bars 3 and 4, respectively. These strips or bars are made fast to the top and bottom edges of the fabric 2 and the upper bar 3 is mounted at its ends in brackets 5, secured to the upper portion of the frame. These brackets are of greater vertical extent than the width of the top bar 3, so that the ends of said bar may reciprocate in vertical lines therein, and the bar 3 is normally upheld by means of leaf-springs 6, secured to the under surface of the bar 3 at their inner ends and extending thence oppositely and having their free ends deflected downward and resting within and against the bases of the brackets 5. These springs serve to stretch the screen in a manner that will presently appear.

The bottom bar 4 is supplemented by another strip or bar 7, arranged upon the inside of the screen and of a length adapting it to fit between the side bars of the frame.

8 designates a pair of L-shaped keepers which are secured to the inner adjacent surfaces of the side bars of the frame, the bar 7 being adapted to be received as to its upper edge beneath the horizontal and inwardly-projecting portions of said keepers. The bar 7 is also provided with turn-buttons 9, which may be moved behind the vertical portions of the keepers 8 for preventing the displacement of the bar 7, and the latter also has knobs 10, by which it may be the more readily manipulated. The springs 6 yield to allow the downward movement of the screen, and after the bottom bar is made fast in the manner just described said springs serve by their tension to stretch the screen material or fabric.

In lieu of the springs 6 tension-rods 11 may be employed, the same having eyes at their upper ends, by which they may be engaged over pins or studs 12, and having their shanks extended through vertical openings in the top bar 3 and provided upon their lower ends beneath said bar with spiral springs 12^a and adjusting-nuts 13, or, if desired, spiral springs 15 may be attached at one end directly to the upper edge of the bar 3 and at their other ends to the window-frame in any convenient manner. Either of said last-named constructions will provide the necessary tension for stretching the screen.

Instead of employing the fastening means above described in connection with the bottom bar 4 the said bar may be held in place by means of wedge-shaped stops or keepers 16, secured to the surface of the frame, as shown in Fig. 3, the said bottom bar being adapted to be engaged beneath said stops, or

the bottom bar 4 may have pivotally connected to its inner surface at or near one end a swinging finger or hooked pawl 17, which as the bottom bar is depressed is automatically deflected by a triangular-shaped stop 18 on the window-frame, the said finger or pawl afterward swinging by gravity and engaging beneath said stop. At or near the other end the bottom bar is provided with an intermediately-pivoted lever 19, having an operating-knob 20 and adapted to be rocked at its free end into engagement with a pin 21 on the window-frame, the said lever enabling the screen to be stretched under greater tension and being secured against backward movement by means of a pin or stud 22, projecting from the inner surface of the bottom bar, behind which pin or stud the lever engages, as shown.

It will be apparent that the top bar of the screen may be located adjacent to the meeting-rails of the sashes or at any other point, in which event, however, it will be advisable to interpose a filling piece or strip between such top bar 3 and the meeting-rail of one of the sashes in order to close the space which would otherwise be left open and permit the ingress of flies and insects.

Other forms of springs and fastening devices may be substituted for those described and other changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

The special advantage of the construction set forth in the above description resides in the fact that the screen may be applied to the window-frame or removed therefrom whenever desired without the use of fastening devices—such as nails, screws, and the like—and when, with a screen in place, it is desired to gain access to the lower portion of the window-opening, in order to lean out or throw an article from the window, the lower strip or bar may be detached from its fastening devices without affecting the supports for the upper strip or bar, the springs or yielding devices by which the upper bar is held in its operative position being adapted to yield sufficiently to allow said disengagement of the lower bar.

Having thus described the invention, what is claimed as new is—

1. A window-screen having upper and lower transverse bars, a flexible screen terminally attached to said bars, vertically-yielding means for supporting the upper bar and attaching the same movably to a window-frame, whereby said upper bar is normally held elevated and is adapted to yield downwardly when strained, and securing devices for detachably fastening the lower bar in its normal position with relation to the window-frame, the screen being held taut by the said supporting devices of the upper bar, and the securing devices being adapted to be disengaged to release the lower bar without dismounting the upper bar, substantially as specified.

2. A window-screen having upper and lower transverse bars, a flexible screen terminally attached to said bars, securing devices for detachably fastening the lower bar at the bottom of a window-frame, and yielding means, including guides, for supporting the upper bar upon the window-frame and maintaining the same in an elevated position to insure the tautness of the screen, substantially as specified.

3. A window-screen having upper and lower transverse strips or bars, twin brackets adapted to be secured to a window-frame and provided with parallel-sided vertical recesses to receive the extremities of the upper strip or bar, a flexible screen terminally attached to said strips or bars, springs arranged at opposite ends of the upper strip or bar and bearing terminally against the under side of said strip or bar and the lower end of the recess of the contiguous bracket, whereby yielding upward pressure is applied to the upper strip or bar to maintain the screen in a taut condition, and means for detachably securing the lower strip or bar to the window-frame and adapted to be disengaged therefrom without dismounting the upper strip or bar, substantially as specified.

4. In a window-screen, the combination of upper and lower strips or bars, a flexible screen terminally attached to said strips or bars, yielding means for mounting and guiding the upper strip or bar upon a window-frame and exerting a normal upward pressure thereon, and means for detachably securing the lower strip or bar to the window-frame, said means including a fixed stud or projection on the window-frame, an intermediately-pivoted lever adapted at one end to engage said stud, and a retaining-pin carried by the lower strip or bar for engagement by the opposite end of the lever to hold the latter in its adjusted position, substantially as specified.

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

WILLIAM SCOTT.

Witnesses:
LAURA GAUTIER,
M. L. DOUGHERTY.