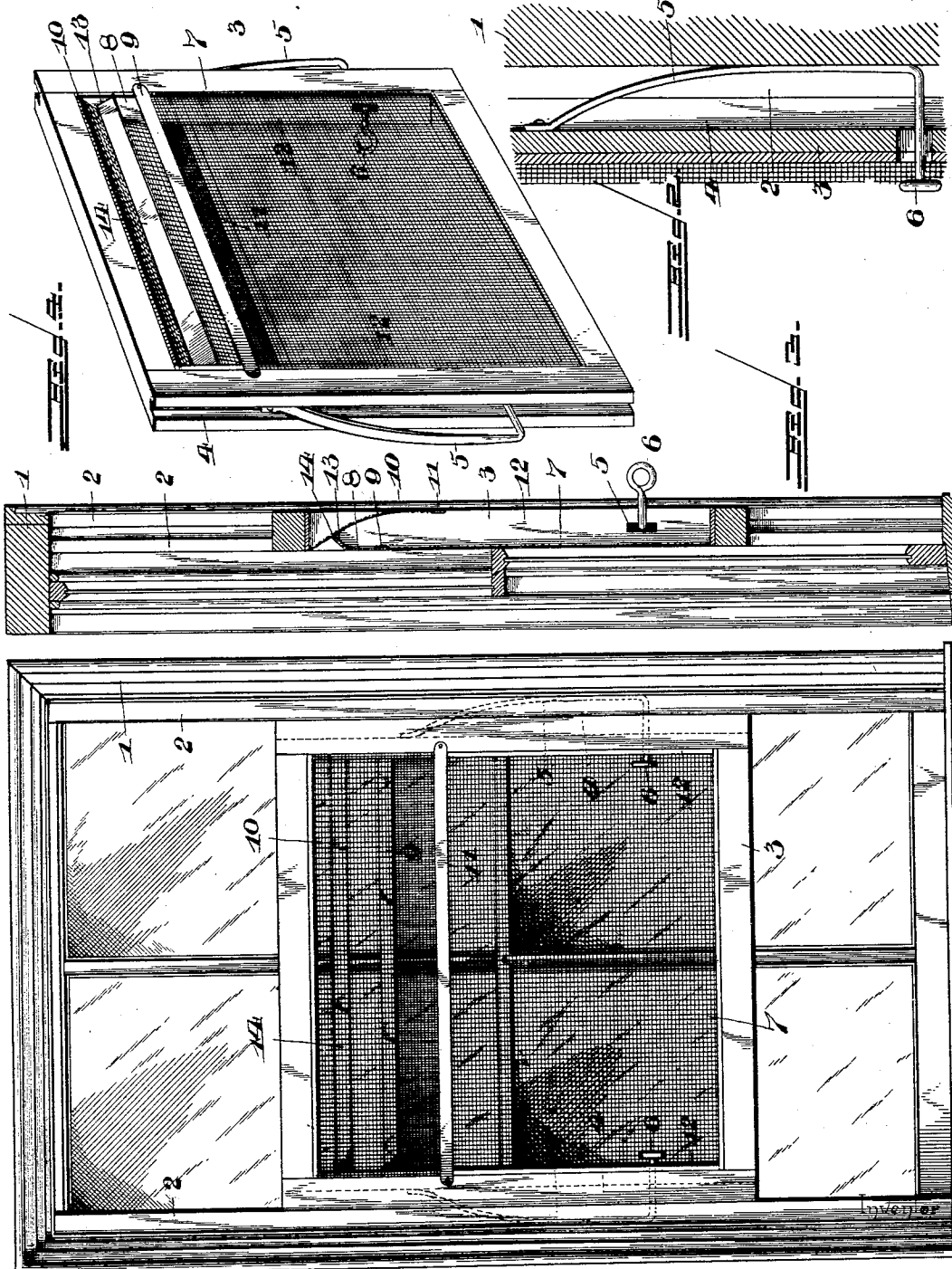


(No Model.)

R. DERBYSHIRE.
WINDOW SCREEN.

No. 580,257.

Patented Apr. 6, 1897.



Witnesses
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UNITED STATES PATENT OFFICE.

RALPH DERBYSHIRE, OF FALL RIVER, MASSACHUSETTS.

WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 580,257, dated April 6, 1897.

Application filed March 31, 1896. Serial No. 585,610. (No model.)

To all whom it may concern:

Be it known that I, RALPH DERBYSHIRE, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, 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 screen-frame of novel construction adapted to permit the exit of flies and other insects, while effectually preventing their entrance, and to provide, in connection with such screen-frame, spring-slides whereby the frame is guided in its movements within the window-casing, and whereby also it may be retained at any elevation.

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

In the drawings, Figure 1 is a view of a window-frame, showing the improved screen applied thereto. Fig. 2 is an enlarged detail section through the window-casing and one of the side bars of the screen-frame. Fig. 3 is a vertical transverse section through the window-casing and screen-frame. Fig. 4 is a detail perspective view of the screen-frame detached.

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

1 designates a window-casing which, for the purpose of carrying out the present invention, is provided upon the inner surfaces of its sides with parallel stops 2. The improved screen-frame (indicated at 3) is made of a width to fit between the stops 2 at opposite sides of the window and of a height equal to or slightly greater than one of the window-sashes. The stops 2 may be located either inside or outside of the sashes, as may be preferred.

The vertical side bars of the screen-frame are formed with grooves 4 in their outer surfaces extending the entire height of said side bars, or nearly so, and within these grooves 4 are arranged spring-metal slides 5. One of such slides is arranged at each side of the screen-frame and extends rather more than half the length of the groove in which it is

seated, being secured at its upper end within said groove, as shown. The lower end of the spring-slide is bent substantially at right angles and extended inward through an opening in the side bar of the frame, and after passing through said bar it is formed or provided with a finger-hold 6, by means of which the slide may be drawn inward, the said finger-hold also serving as a stop and coacting with the inner surface of the side bar to limit the outward movement of the spring-slide at that side of the frame when the screen is detached from the window-frame. When the spring-slides are sprung outward, they engage between the parallel stops 2, above referred to, and prevent displacement of the screen-frame, while at the same time preventing the canting or tilting of the screen-frame.

In order to prevent the screen from twisting, canting, or tilting, each slide is provided between its extremities with an extended straight portion which is adapted, when the screen is in place in a window-frame, to occupy a position approximately parallel with the contiguous side edge of the screen-frame and in contact throughout its length with the floor of the groove formed between the stops 2, as shown clearly in Fig. 3. This straight portion is preferably arranged with its initial point or one end contiguous to the offset or short arm at the lower or free end of the slide, whereby the initial movement of the finger-hold 6 is adapted to disengage said straight portion from the groove in the window frame or casing. Furthermore, the upper portion of the slide is flattened to adapt it to yield contiguous to its upper end, rather than in its straight portion. Furthermore, the slides serve by their resiliency and frictional engagement with the window-casing to hold the screen-frame in whatever position it is placed or left. The screen-frame may be adjusted up or down by overcoming the tension of the springs, or it may be entirely removed from the window-casing by simply moving the finger-holds 6 inward and withdrawing the slides 5 from their engagement.

7 designates a main piece of screen material or meshed fabric which is attached to the screen-frame in the proximal plane of its outer surface. This main piece or section of screen covers the major portion of the frame, but terminates below the top bar thereof to leave

an open space 8, the top edge of the screen or fabric 7 being protected by a strip 9 of metal or any suitable material.

10 designates another or auxiliary section of screen material or fabric which has its upper edge secured to the frame in the plane of its outer surface, from which point the screen-section 10 is inclined or deflected inward to bring its lower edge in the plane of the inner surface of the frame, such lower edge being covered by a protecting-strip 11 and being located below the plane of the protecting-strip 9 of the other or main section of the screen.

12 designates a pair of strips secured to the inner adjacent faces of the side bars of the screen-frame, said strips having their rear edges curved or made sloping, as shown, to serve as formers for the screen-section 10, and being further provided upon their inner adjacent faces with inclined grooves 13, in which are inserted the ends of a bar or slat 14. This bar or slat rests at one edge against the screen 10, from whence it inclines outward and downward to bring its lower edge substantially in the plane of and over the top edge of the screen 7, sufficient space, however, being left between the screen and the bar or slat 14 to permit the egress of flies and insects. The said bar serves to prevent the flies, &c., when they strike forcibly against the screen or the frame, from falling through the opening 8 and inside of the screen-frame.

As flies naturally climb upward upon a screen-frame, they will eventually reach the top edge of the screen 7, and as they are loth to crawl downward they will fly away. Flies climbing up the outer surface of the screen 7 will stop upon reaching its top edge and will not crawl down the inner surface thereof. If flies should strike against the screen 10 when moving with considerable speed, they will be prevented from falling between the two screen-sections by means of the outwardly-declining bar or slat 14. The screen is simple and cheap in construction, may be readily applied to any window, either inside or outside of the sashes, and, while permitting the egress, will prevent the ingress of the flies, &c.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. The combination with a screen-frame, of a main section or piece of screen material, arranged at the outer surface of the frame and extending from the lower horizontal bar thereof toward the upper horizontal bar and terminating short thereof, and an auxiliary section or piece of screen material extending downwardly and inwardly in an arc from the outer surface of the upper bar to a point at the inner surface of the frame below the upper edge of the main section or piece, and separated therefrom to leave an intervening space which is closed at the sides by the side bars of the frame, and a horizontal deflecting bar having one edge in contact with said upper or auxiliary section or piece at an intermediate point in the arc above the plane of the upper edge of the main section and declining outwardly therefrom with its lower edge above and spaced from, in the vertical plane of, the upper edge of the lower or main section or piece to deflect insects approaching the auxiliary section from the outside, substantially as specified.

2. The combination with a screen-frame, of a main section or piece of screen material arranged at the outer surface of the frame and extending from the lower horizontal bar thereof toward and terminating short of the upper horizontal bar, an auxiliary section or piece of screen material extending downwardly and inwardly in an arc from the outer surface of the upper bar to a point at the inner surface of the frame below the upper edge of the main section, and separated therefrom to leave an intervening space, forming-strips secured to the side bars of the frame with their inner edges curved at their upper ends to shape said auxiliary section or piece and provided in their inner surfaces with inclined grooves, and a horizontal deflecting-bar fitted at its extremities in said grooves with its inner edge in contact with the auxiliary section of screen material at an intermediate point in the arc and declining outwardly therefrom with its outer edge in the vertical plane of the upper edge of the main section, 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.

RALPH DERBYSHIRE.

Witnesses:

SANDY HARRISON,
HENRY ELLISON.