

No. 714,898.

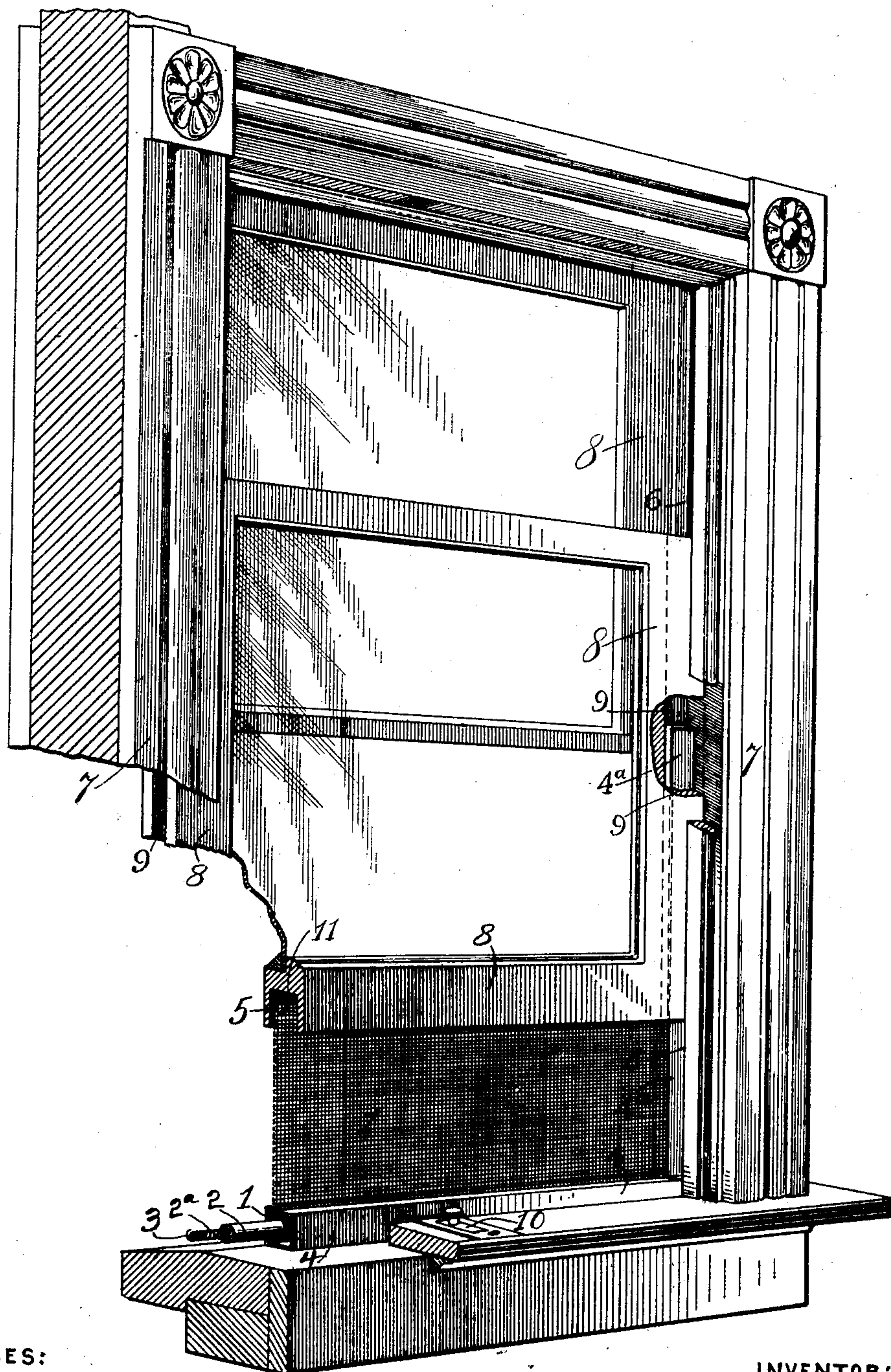
Patented Dec. 2, 1902.

F. B. HARRISON.

WINDOW SCREEN.

(Application filed Aug. 23, 1900.)

(No Model.)



WITNESSES:

David C. Walter  
L. Brown.

INVENTOR:

Frank B. Harrison.  
By his Atty. *Alfred Hall*



# UNITED STATES PATENT OFFICE.

FRANK B. HARRISON, OF TOLEDO, OHIO.

## WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 714,898, dated December 2, 1902.

Application filed August 23, 1900. Serial No. 27,819. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK B. HARRISON, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Window-Screens; and I 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, reference being had to the accompanying drawing, and to the figures of reference marked thereon, which forms a part of this specification.

My invention relates to and its object is to provide an adjustable window-screen which may be caused to automatically and effectively occupy the aperture of an open window regardless of the extent of the opening, to so construct such a screen that it shall always be in place ready for use, and when not in use that it shall be quite concealed and securely housed and protected from the weather, from dust, and from accident. The advantages of such construction are the convenience of the device, that it obviates the annoyance of the putting up and taking down of screens with the change of seasons, and that the unsightly appearance of a window-screen in place out of "fly-time" is avoided.

To this end my invention consists in the novel construction and arrangement of parts hereinafter described, and shown and illustrated in the accompanying drawing, in which the single figure is a perspective view of a window including the frame, sashes, guides, and my screen, with portions of the window frame and sashes cut away to show the arrangement of the parts.

In the drawing, 1 is a piece of flexible wire-screen cloth of the width approximately of the window-opening attached at bottom to a spring-roller 2, which consists of the usual hollow cylinder having a stout spiral spring 2<sup>a</sup> therein, one end of which is secured to the spindle of the cylinder, the other end being secured to the cylinder. The spindle 3 of the cylinder is mounted and secured against rotation in the end of a housing 4. This housing is a case the interior length of which corresponds with the length of the spring-roll 2 and the interior area of which in cross-section may correspond with the diameter of the roll

2 when the wire-cloth is wound thereon. This housing or case may be of any suitable material; but I prefer to construct it of sheet metal. It may be of any desired form in cross-section; but I prefer the rectangular form. The upper edge of the wire-cloth is secured to the bottom of the lower sash, as at 5, by means of a suitable thin strip of metal, tacks, or the like. At each end of the housing or case 4 is a screen-guide 4<sup>a</sup>, consisting of a strip of sheet metal bent into flattened-U shape in horizontal section and securely attached to the extremity of the housing or case. The vertical margins of the wire-cloth slide between the two flanges of the guide-strip, the entrance between the guides being in line with the portion of the roller which receives and delivers the wire-cloth. The ends of the roller case or housing, together with the vertical guide-strips, rest and are movable in the guides or ways 6, formed upon the window-frame 7 for the sash 8. The outer vertical sides of the sash are channeled or grooved, as at 9, to receive the loosely inwardly-projecting flanges of the guides 4<sup>a</sup>.

It will be seen that the tension of the spring in the spring-roller keeps the wire-cloth normally wound tightly on the roller, thus by the pull on the wire-cloth holding the housing or case close against the bottom of the sash, with the guide-strips 4<sup>a</sup> projected into their channels or grooves 9 in the sides of the sash. Now if the sash be raised or lowered the housing and its contents, together with the guides, will all travel bodily with the sash; but if the housing, by means of the catch 10, be engaged with the window-frame the housing and guides will stand fast while the wire-cloth, which is held taut by the spring, is unwound or wound and is paid into or out of the housing by the movement of the sash. It will be seen that when the sash is lowered the screen, the housing, and the guides will be concealed and that normally when the sash is raised and lowered the screen, the housing, and the guides will travel with the sash and will still be concealed; but when the housing is engaged with the frame by means of the catch 10 the housing and the guides will stand fast, while the wire-cloth will be unrolled and rolled as the sash is raised and lowered. As the margins of the wire-cloth move in the



guides 4<sup>a</sup>, the opening will now be completely filled by the screen regardless of the height to which the sash may be raised.

The housing or case for the spring-roll may be formed of wood and by means of a neat joint may be made to resemble a portion of the lower rail of the sash; but I prefer, as a cheaper and simpler form, to provide a channel or recess 11 in the bottom of the sash for the reception of the housing or roller-case, as shown in the drawing.

In the foregoing description I have considered my invention as applied to the bottom of a lower window-sash; but it is obvious that by partial or total inversion and without departure from my invention the device is also applicable to the top of an upper sash or to the side of a horizontally-movable sash.

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

1. A window-sash grooved on its sides, a detachable housing containing a spring-roller with a screen attached thereto, and screen-guides secured to said housing and longitudinally movable in said grooves.

2. In an adjustable window-screen, a roller-case, screen-guides secured to said case, a sash, means for detachably securing the case and guides to the sash and means for detachably securing the case against movement.

3. In an adjustable window-screen, a sash, guides therefor, a housing or case detached from but adapted to slide with the sash in said guides, a roller in the housing or case, a screen secured to the roller and to the sash, a spring in the roller adapted to normally hold the screen wound upon the roller and to hold the housing against the sash, and means for detachably securing the housing or case to the window-frame.

4. An adjustable window-screen comprising a sash, a spring-roller, a case or housing for said roller movable with said sash but detachable therefrom, a screen attached to said roller and to said sash, guides for said screens secured to said housing, and means for detachably securing said case or housing against movement.

5. In an adjustable window-screen, a window-frame, a sash vertically movable therein, a housing removably secured to the sash, a spring-roller journaled in the housing, a flexible screen carried by the roller, means for connecting the upper edge of the screen with the sash, and guides for the edges of the screen which guides are secured to the housing and are interposed between the window-frame and the sash.

6. In an adjustable window-screen, a housing attachable to the window-sash, a roller secured in the housing, a screen carried by the roller, a window-sash having a vertical groove in each edge, guides housed in the grooves and secured at their lower ends to the housing, the edges of the screen projecting into the guides.

7. In a window-screen, a sash having in the under side of its lower rail a longitudinal recess, a flexible window-screen, a spring-roller for said screen, means for mounting said spring-roller within said longitudinal recess, and slotted guides for the margins of said flexible screen movable independently of the sash.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK B. HARRISON.

Witnesses:

WILBER A. OWEN,  
L. BROWN.