No. 740,517. PATENTED OCT. 6, 1903.

C. BIMEL.

WINDOW SCREEN MECHANISM.

APPLICATION FILED MAY 18, 1903.

NO MODEL.

Fig. 1.

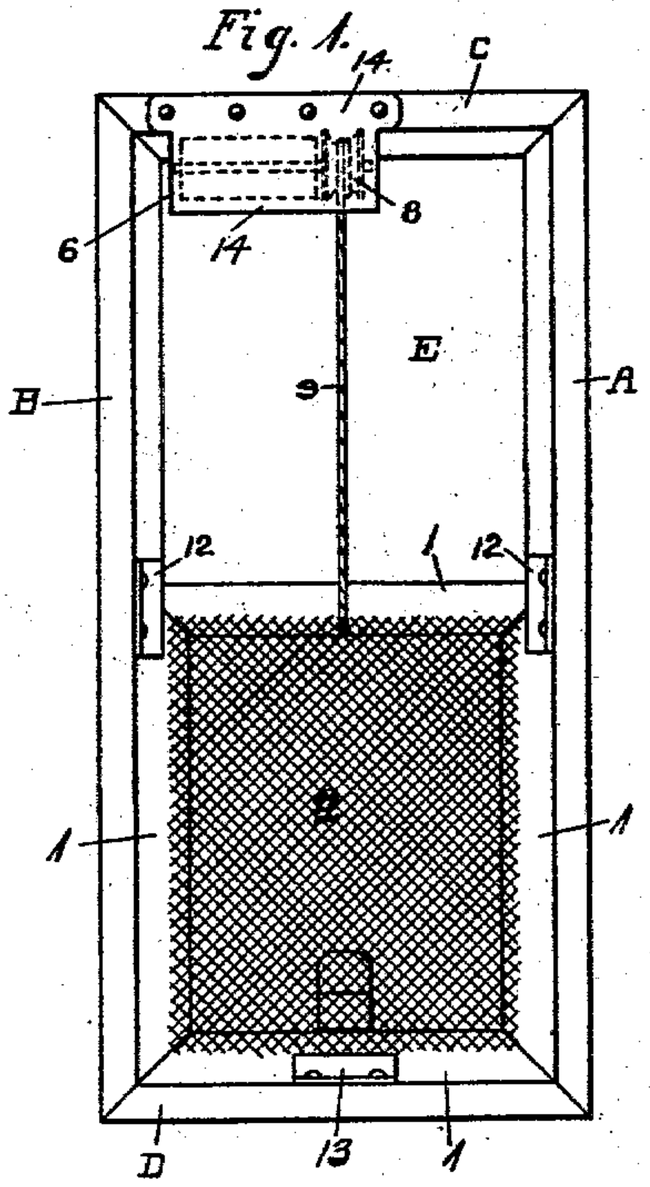


Fig. 2.

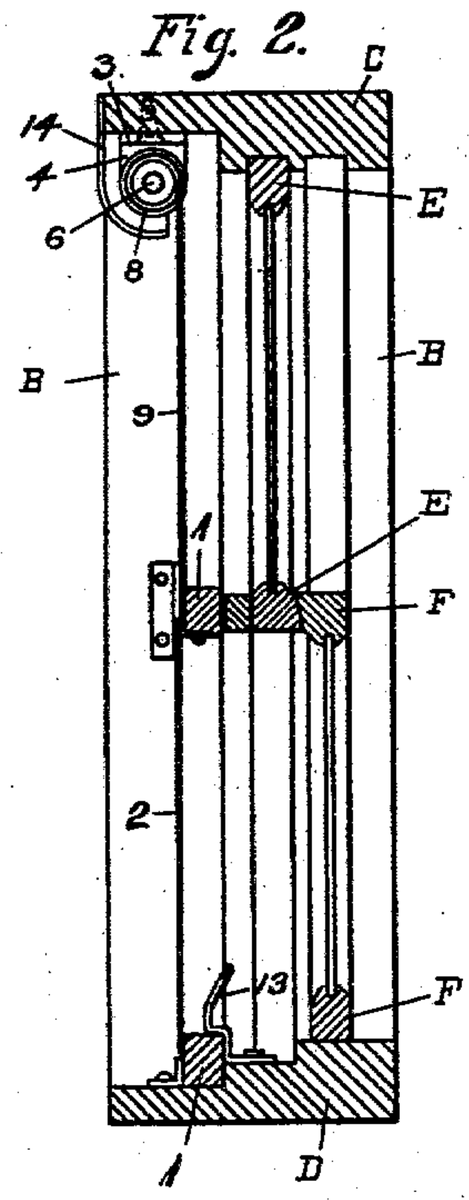


Fig. 3.

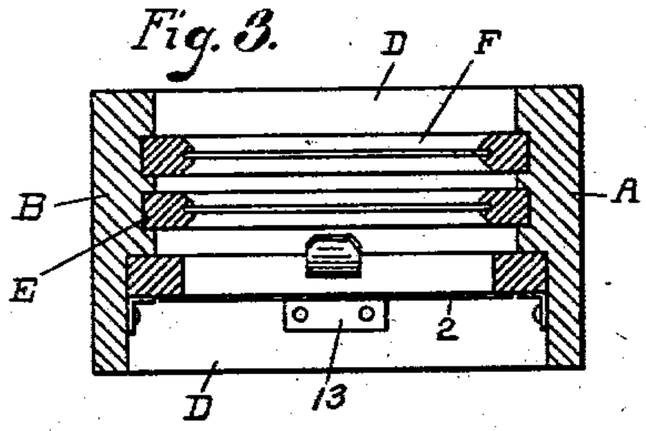


Fig. 4.

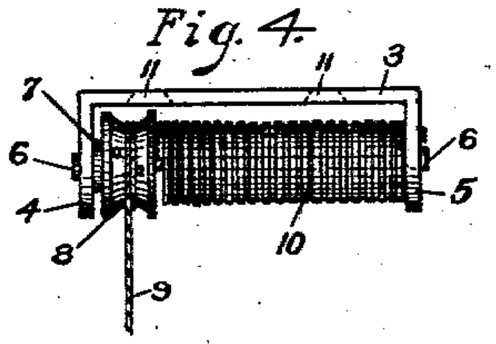


Fig. 5.

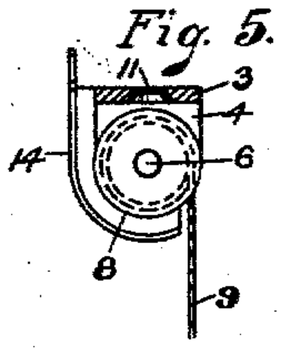
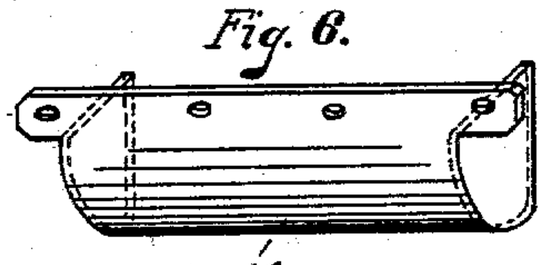


Fig. 6.



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WITNESSES:

Edwin C. Dozier.
Herbert R. Marlatt.

CONRAD BIMEL.
INVENTOR.
BY Robert W. Randle
ATTORNEY.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 740,517. Patented October 6, 1903.

UNITED STATES PATENT OFFICE.

CONRAD BIMEL, OF PORTLAND, INDIANA.

WINDOW-SCREEN MECHANISM.

SPECIFICATION forming part of Letters Patent No. 740,517, dated October 6, 1903.

Application filed May 18, 1903. Serial No. 157,729. (No model.)

To all whom it may concern:

Be it known that I, CONRAD BIMEL, a citizen of the United States, and a resident of Portland, in the county of Jay and State of Indiana, (whose post-office address is Portland, Indiana,) have invented certain new and useful Improvements in Window-Screen Mechanism, of which the following is a true and accurate specification, which when taken in connection with the accompanying drawings, forming a part thereof, is sufficiently clear and concise to enable others skilled in the art to which it appertains to make and use the same.

In this present invention my object, broadly speaking, is the provision of an improved window-screen operating and securing mechanism which may be easily and quickly attached and which may be easily operated and controlled to produce the requisite results.

Another object is to provide a window-screen mechanism which will be strong and durable in construction, positive in action, will be neat and attractive in appearance, and which can be manufactured and sold at a comparatively low price.

Other objects and advantages of my invention will appear from the drawings, from the following specification, and which will be fully pointed out in the claim hereunto appended.

With the above-enumerated objects in view my invention consists in a window-screen mechanism embodying the improved construction, arrangement, and operation of the several constituent elements and parts, as will be hereinafter fully described.

In order to enable others skilled in the art to which my invention most nearly appertains, I will now take up the details of my invention, which I will refer to as briefly and compactly as I may.

Referring now to the drawings, Figure 1 is a front or outside elevation of a window, showing my invention in connection therewith. Fig. 2 is a central longitudinal section of same. Fig. 3 is a central cross-section of same. Fig. 4 is a detail of the mechanism for raising the screen. Fig. 5 is a cross-sectional view of the operating mechanism, and Fig. 6 is a detail isometrical view of the cap for protecting the operating mechanism shown in Fig. 4.

Similar indices refer to and denote like parts throughout the several views.

In the drawings the letter A designates the right and B the left hand members of a window-frame, and of which C represents the top and D the bottom members thereof, in which frame operate the upper sash E and the lower sash F in any common well-known manner. Within the window-frame, operative against the stops which inclose the outer edges of the upper sash E and of a length substantially the same as the sash, is a frame 1, formed of four stiles, with a wire screen 2 stretched thereacross and secured to said stiles, forming the screen.

My invention proper consists of a suitable frame consisting of the horizontal body 3, with integral downwardly-extending fingers 4 and 5, and through said fingers are formed small openings alining with each other, providing bearings for the ends of the shaft 6, the ends of said shaft being pivoted in said openings in the fingers 4 and 5.

The numeral 8 represents a spool, which is secured to the shaft 6, near the finger 4, by the pin 7, which pin passes through the wheel 8 and the axle 6 at right angles to the axial direction of said shaft. Secured in the center of the channel of the spool 8 is one end of the cord or cable, the lower end of said cord or cable being secured in the center of the upper edge of the frame 1. Between the spool 8 and the finger 5, encircling the shaft 6, is a helical resilient spring 10, one end of said spring being secured in an eye through the finger 5, as shown in Fig. 4, and the opposite end of said spring is secured in an eye in the inner flange of the spool 8, as shown in Fig. 4. Through the body 3 is formed two or more screw-holes 11 to receive the screws by which the mechanism may be secured to the under side of the member C of the frame, near the outer edge and to one side thereof, in order that the spool 8 may be central of the frame horizontally, as shown in Fig. 1. In positioning said mechanism the fingers 4 and 5 are sprung slightly apart and the shaft, spring, and spool removed. The screws are then inserted through the holes 11 and into the member C, whereby the body 3 is secured thereto, after which the shaft, spring, and spool are replaced, and the fingers 4 and 5

are then sprung toward and parallel with each other to the position shown in the drawings. The screen is retained slidably in contact with the outer stops of the sash by the guides 12, which are secured to the inner faces of the members A and B of the frame, or said guides 12 may be replaced by ordinary stops or strips extending from the member C to D and secured to the members A and B. When constructed as described, the tension of the spring 10 should be at all times sufficient to normally keep the cord 9 wound on the spool 8, and thus keep the screen up—that is, in front of the upper sash 3—by which it will be apparent that should the screen be drawn down by hand when released it will be immediately drawn upward by said spring.

To retain the screen down when desired, I provide a catch 13, secured to the center of the member D immediately inward from the lower edge of the screen 1 when the screen is down, which catch extends upward and then outward, forming a shoulder, and then extends upward and angling inward, forming a beveled surface to engage the lower edge of the lower stile of the screen, by which arrangement it will be apparent that when the screen is drawn down the lower stile thereof will engage the beveled portion of the catch and press it inward, and when the screen is entirely down—that is, resting on the upper surface of the member D—the shoulder of the catch 13 will engage over the lower stile of the screen and will lock the screen in its closed position.

In order to protect the operating mechanism from the weather or other injury, I have provided a cap or casing 14 of a form suitable to inclose said mechanism and secure it to the outer edge of the member C of the window-frame, substantially as shown in Figs. 1, 2, and 5 and in detail in Fig. 6. It will also be apparent that the screen-frame is adapted to cover the space occupied by either the upper or lower sash. Thus by drawing down both the upper and the lower sash of the window and releasing the catch of the screen the screen will be drawn up to its highest point, thus covering the space of the upper sash, and by raising both sash of the window and bringing down the screen and securing it by the catch, thereby covering the space of the lower sash.

From the above description, taken in connection with the accompanying drawings, it will be seen that I have produced an improved window-screen mechanism embodying the objects otherwhere referred to in this specification.

While I have illustrated and described the best means now known to me for carrying out my invention, I do not wish to be understood as restricting myself to the exact details of construction shown, but hold that any slight changes or variations, such as might suggest themselves to the ordinary mechanic, would properly fall within the limit and scope of my invention.

Having now fully shown and described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

In a window-screen mechanism, the combination with a window-frame having a framed screen occupying half the space therein and slidable vertically therein, a frame 3 secured to one side of the upper end of said window-frame, fingers 4 and 5 extending down from the frame 3 with openings therethrough horizontally in alinement with each other, the shaft 6 pivoted in said openings in the fingers 4 and 5, a spool 8 secured to said shaft near one of said fingers by the pin 7, the pin 7 passing through the spool 8 and the shaft 6, a coil-spring encircling the shaft 6 and secured at one end to the spool 8 and at the other end to one of said fingers, the cord 9 secured at one end in the channel of and to the spool 8 and the other end secured to the upper edge of the screen, and a cap for covering said spool and spring, all substantially as shown and described.

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

CONRAD BIMEL.

Witnesses:
JAMES J. MORAN,
LUCY LEE CLARK.