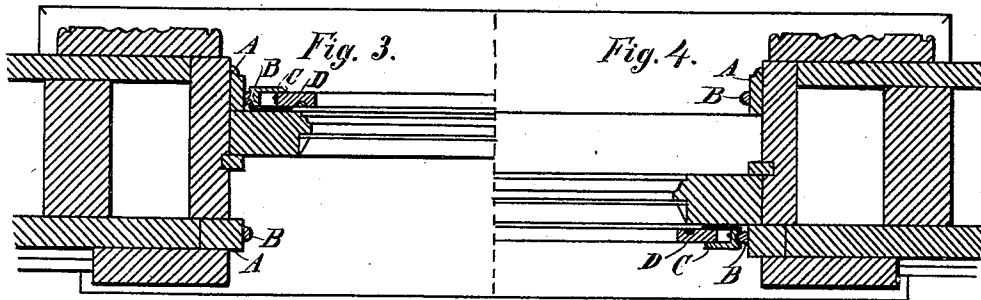
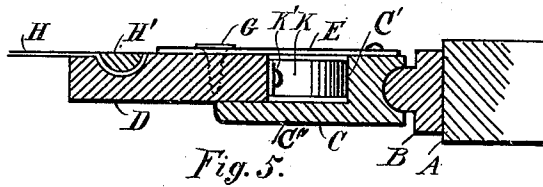
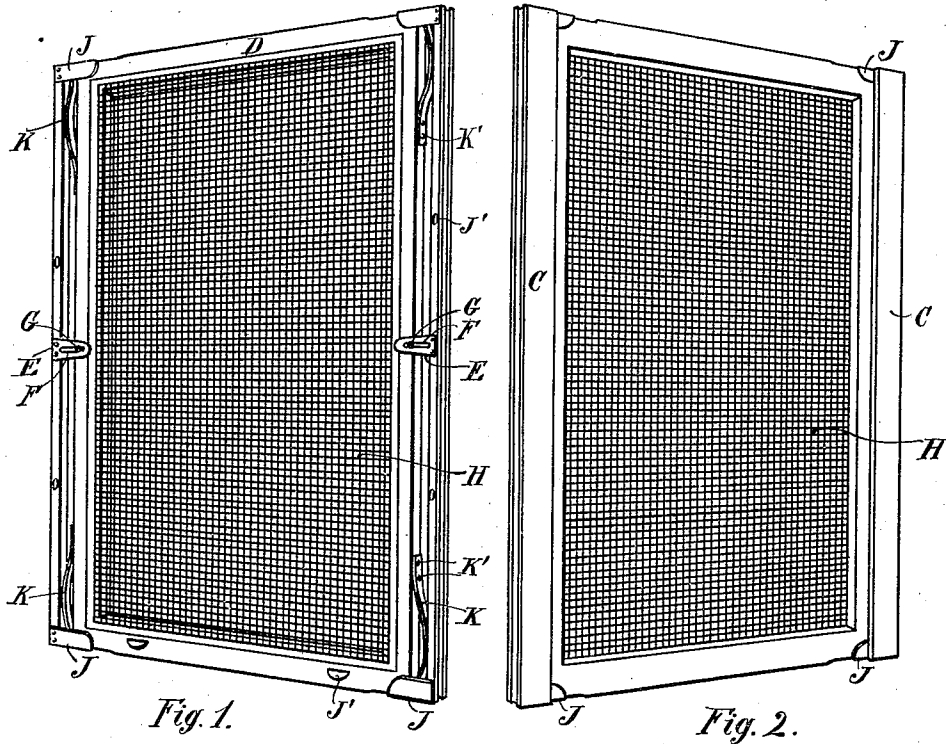


(No Model.)

H. F. HALL.
SCREEN FRAME.

No. 397,797.

Patented Feb. 12, 1889.



Witnesses.
L. G. Walker.
James E. Raymer

Inventor:
Hiram F. Hall
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UNITED STATES PATENT OFFICE.

HIRAM F. HALL, OF TOLEDO, OHIO.

SCREEN-FRAME.

SPECIFICATION forming part of Letters Patent No. 397,797, dated February 12, 1889.

Application filed April 20, 1888. Serial No. 271,322. (No model.)

To all whom it may concern:

Be it known that I, HIRAM F. HALL, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have
5 invented certain new and useful Improvements in Automatically-Adjustable Screen-Frames; and I do hereby declare that the following is a full, clear, and exact description
10 of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

15 My invention relates to that class of screen-frames which are provided with extensible side bars held normally projected by spring-pressure and provided with caps at their ends for guiding the said bars in their movements.

20 The objects of my invention are to provide such screens with means for covering the ends of the screen-frame and side bars, so as to not only properly guide the movements of said bars relative to the frame, but also to permit
25 the bars to automatically adjust themselves to accord with irregularities in the window-casing due to unequal settling of the building, and under all circumstances to form a perfectly dust-proof guard for the spaces between the screen-frame and the casing.

To the above purposes my invention consists in the peculiar and novel features of construction and arrangement hereinafter described and claimed.

35 In the drawings, Figure 1 is an elevation of the rear side of a complete frame and screen. Fig. 2 is an elevation of the front side of the same. Fig. 3 is a detail transverse sectional view through the window-frame and screen,
40 showing the screen upon the inside parallel with and in close proximity to the lower sash. Fig. 4 is a like view showing the screen upon the outside of the window in like relation with the upper sash. Fig. 5 is a detail transverse
45 sectional view of a portion of screen-frame with the adjustable side and the guide upon the window-casing, this figure being drawn on an enlarged scale.

50 A designates the inner side of the window-casing, having ways B attached thereto, pref-

erably upon the outer and inner sides of the window-casing.

D represents the screen-frame, having side bars, C, adjustably attached thereto and held in position by metal corner-pieces J, attached
55 to the ends of the side bars and moving upon the screen-frame.

Side bars, C, are made with a portion corresponding in thickness with the outer edge of the screen-frame, and which is in parallel
60 relation therewith when in position, and a right-angled wing portion, C', to overlap the space between the edge of the frame and the portion C' of the side bar when adjusted to any necessary expansion. The corner-pieces
65 are preferably constructed of sheet metal, and are of the same form in cross-section as the screen-frame and embrace a portion of the same by their sides, the top portion closing the space between the side bar and frame.

70 E represents a stay and retainer attached to the side bar by screws or nails, and held to the frame by a screw or nail, G, passed through a slot, F, in the stay and retaining-piece E, the slot being preferably formed by cutting
75 a slit longitudinally of the stay from the center to near each end, and then turning the edges at an angle to strengthen the stay and render it more rigid.

H is the wire screen, secured to the frame
80 by strips H' in the usual manner.

K designates springs attached to the frame by screws or nails K' and bearing against the parallel sides C' of the side bars, and serving to
85 adjust the side bars to closely fit between the sides of the window-casing, having a great scope of expansion or contraction with relation to the screen-frame by reason of the wings C' and the corner-irons. For convenience in raising the screen, and also for con-
90 tracting the sides, perforations J' are formed in the screen and bars, respectively.

In operation ways B are permanently secured to the window-casing—preferably on the inner and outer sides of the window-casing.
95 Bars C are adjustably connected with the screen-frame and become a part thereof. To insert the frame the side bars are moved inwardly to allow the bars to pass the projecting sides of the ways and are allowed to
100

spring into the grooves. Should the casing be out of a true line or of an irregular width, the side bars compensate for the same by the greater or less expansion of the upper or lower spring or springs, and the frame (which generally embraces the screen-frame and side bars) can be moved up or down in the ways, always fitting closely therein by reason of the action of the springs. The frame is rendered interchangeable from the outer to the inner side of the window by reason of the facility with which it can be removed from the inner and inserted into the outer ways. This feature is of great value, as by this means when it is desired to ventilate from the upper portion of the window the screen can be placed on the inside of the room, thereby preventing flies, mosquitoes, &c., from entering between the same when moved from a normal position; or, if desired to raise the lower window-sash, the screen is placed upon the outside with the same effect.

By reason of the adjustability of the frames they can be constructed as an article of manufacture and sold to the trade, and can be adjusted in place without requiring the aid of skilled labor.

What I claim is—

1. An automatically-adjustable screen-frame comprising a rectangular screen-frame, side bars held in parallel relation therewith, and corner-pieces having winged portions secured at each side of the side bars, and which overlap and embrace the frame upon each side thereof, in combination with springs interposed between the screen-frame and side bars, as and for the purpose set forth.

2. As a new article of manufacture, a screen-frame consisting of a rectangular frame having a screen attached thereto, side bars having a portion parallel with the sides of the frame and an overlapping wing portion, springs interposed between the side bars and frame, guides secured to each end of the side bars, which cover the ends of the side bars and the corners of the frame, and a central stay and retaining-piece connected rigidly to the bars and movably to the frame, as and for the purpose set forth.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

HIRAM F. HALL.

Witnesses:

WILLIAM WEBSTER,
CARROLL J. WEBSTER.