

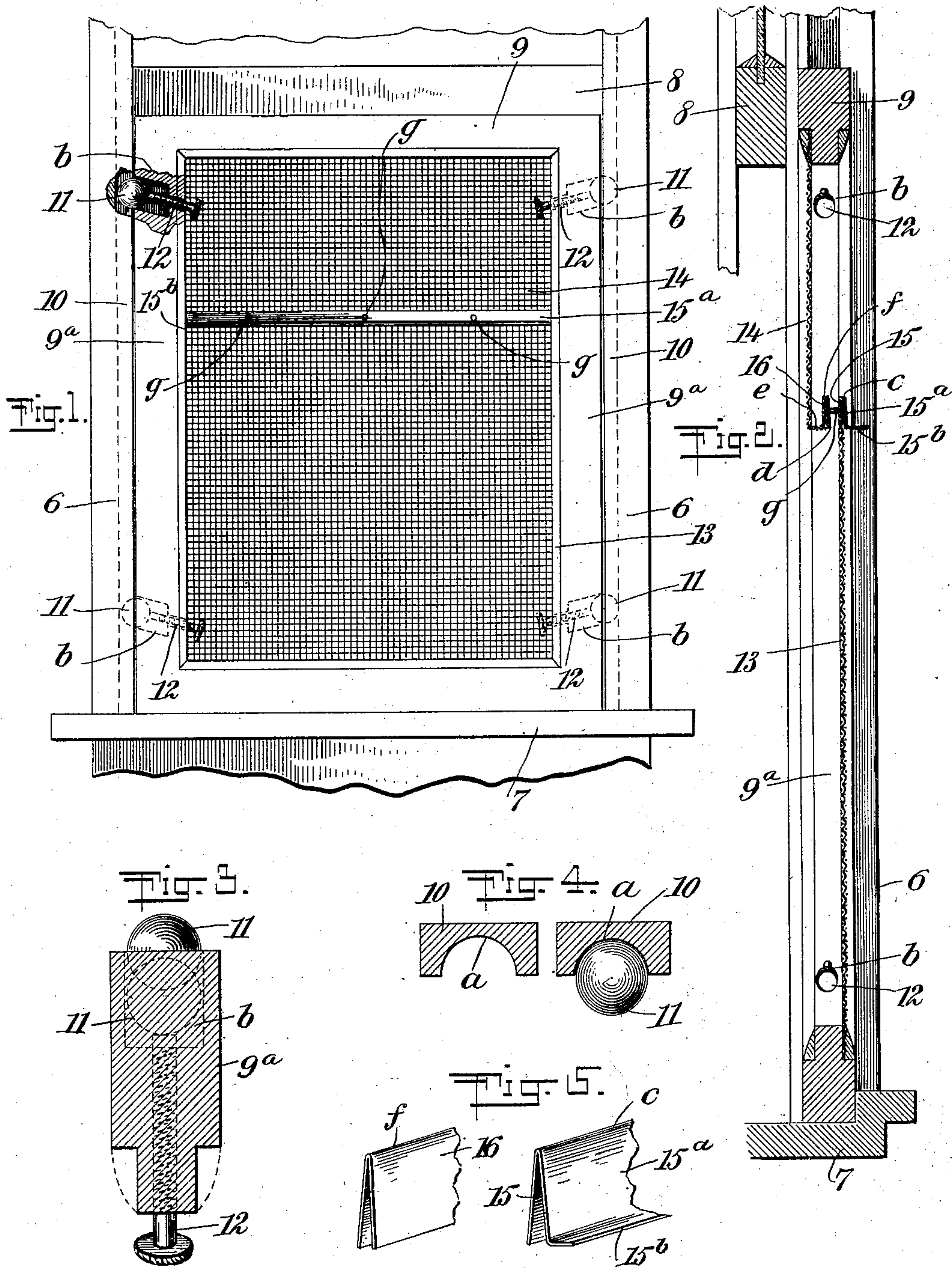
No. 753,544.

PATENTED MAR. 1, 1904.

W. A. CASSIDY.
WINDOW SCREEN.

APPLICATION FILED JUNE 20, 1903.

NO MODEL.



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UNITED STATES PATENT OFFICE.

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WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 753,544, dated March 1, 1904.

Application filed June 20, 1903. Serial No. 162,337. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. CASSIDY, a citizen of the United States, and a resident of Fort Worth, in the county of Tarrant and State of Texas, have invented a new and Improved Window-Screen, of which the following is a full, clear, and exact description.

This invention relates to a class of window-screens having provision for the escape of flies outwardly from a room, but adapted to prevent their free entrance, and has for its object to provide novel details of construction for a screen that afford means for the escape of insects, prevent their free entrance, and also provide novel means for slidably connecting the screen with the casement of a window in a superior manner.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an interior side view of a window-casement in part and of the improved window-screen held to slide on the casement by the novel means provided by my invention. Fig. 2 is an enlarged transverse sectional view of a portion of a window-casement, a sash held to slide in the casement, and the improved window-screen held to slide therein, but shown in position for screening the open lower portion of the window-casement. Fig. 3 is an enlarged transverse sectional view taken through one of the side bars of the screen-frame. Fig. 4 is a transverse sectional view showing a guide-strip employed and also representing the strip engaged by a ball that is a detail of the invention, and Fig. 5 is a perspective view showing portions of two coacting guard-strips that are features of the invention.

In the drawings that show the construction and application of the invention, 6 6 indicate the stiles of a window-casement spaced apart in parallel planes by the subsill 7, as usual, and 8 represents the upper sash, held to slide between the stiles by any preferred means. In

the opening afforded by the elevation of the lower window-sash the improved screen is held to slide by novel means that will be described.

The screen comprises the rectangular frame 9, having two side bars 9^a spaced apart parallel with each other by top and bottom rails, as usual. The ordinary parting-strips are secured upon the stiles of the window-casement to separate the upper and lower sashes, as shown for one strip in Fig. 2, and upon the inner keeper-strips, that loosely contact with the lower sash to prevent its inward displacement, two similar guide-strips 10 are secured by any preferred means, these guide-strips being disposed oppositely and parallel with each other. In each guide-strip 10 a preferably semicircular channel *a* is formed longitudinally in the inner side surface thereof.

At two points in each side bar 9^a, preferably near the upper and lower ends of the same, pockets *b* are formed in the edge portions, which incline inward at a suitable angle. In each pocket *b* a ball 11 is loosely inserted, each pocket having an adjusting-screw 12, that has threaded engagement within a screw-threaded perforation formed in the bottom wall of the pocket, the perforation extending through the side bar, so that each adjusting-screw, which is provided with a suitable head, may be inserted from the inner edge of a respective side bar 9^a of the frame and have contact with a ball 11, that may occupy the pocket entered by the screw.

The width of the screen-frame is so proportioned that it will fit loosely between the opposite guide-strips 10, and it will be seen that this insertion of the screen-frame may be readily effected if the adjusting-screws 12 are retracted sufficiently to permit the balls 11 to be completely housed in the pockets *b*. When the screen-frame is to be held loosely between the guide-strips 10, the frame is first placed in position between the guide-strips and then the screws 12 are adjusted to press the balls 11 partly out of the pockets *b* into the channels *a* in the guide-strips. This adjustment of the screws 12 should be sufficient in degree to cause the balls 11 to project half of their

diameter out of the pockets and cause their projected portions to have loose contact with the concave walls of the channels a , whereby the balls are adapted to freely roll in the channels and pockets when the screen-frame is raised or lowered. Obviously the screen-frame is held from lateral displacement by means of the balls 11 and their embedment in the pockets and guide-strips, as hereinbefore explained. To remove the screen-frame, it is only necessary to retract the screws 12 so as to permit the balls 11 to drop back entirely within the pockets b , which will release the balls from the guide-strips 10 and of course permit the frame to be laterally removed.

It is well known that the common house-fly will but seldom creep downward through a crevice, and particularly on a smooth metallic surface; but they will freely travel upward therethrough. This peculiarity of habit governing the creeping movement of flies is utilized to provide an escape for such insects, which is constructed as follows: The screen-cloth, of woven-wire fabric, is formed in two sections 13 14, that together are of sufficient area to cover the opening in the frame 9, these sections being each secured along their outer edges in rabbets formed in the inner edges of the screen-frame. To provide a crevice between adjacent edges of the screen-cloth sections 13 14, one section 13 is secured in the rabbeted edge of the frame 9 that is innermost when the screen is placed in the window-casement and is therein secured by any suitable means, thus leaving the upper transverse edge of the screen-cloth section free. In a like manner the other screen-cloth section 14 is affixed at its marginal edges within the rabbeted inner edge of the screen-frame 9 above the screen-section 13, so that the lower transverse edge of the screen-cloth material 14 will be disposed adjacent to the upper transverse edge of the screen-section 13, and a crevice will be formed between these transverse edges. In order to stiffen the pliable screen-cloth sections 13 14 at their free transverse edges, it is preferred to provide a reinforcing clip-plate or guard-strip for each edge, that is constructed substantially as follows: The guard-strip which is provided to reinforce the upper transverse edge of the screen-cloth section 13 is formed of a sheet-metal strip that is folded at c to provide two slightly-divergent members 15 15^a, which are adapted to receive the free upper edge of the section 13, whereon the guard-strip members are clamped, so as to secure them and afford a rigid support therefor. Upon the lower edge of the guard-strip member 15^a a horizontal flange 15^b is formed by bending the plate-metal material outwardly, which flange serves to reinforce the guard-strip and also acts as a baffle-plate to prevent the free upward travel of insects on the screen,

generally causing them to leave the screen-section 13 and alight upon the upper screen-section 14.

In order to reduce the width of the crevice d , that is formed between the two screen-sections 13 14, the lower transverse edge of the latter-named section is bent horizontally toward the other screen-section and then upwardly, producing an essentially U-shaped formation e thereon. There is a sheet-metal guard-strip 16 provided to engage the upstanding member on the formation e , and, as shown in Figs. 2 and 5, this guard-strip consists of a strip of plate metal return bent at its center of width f , forming a clip-plate or guard-strip of essentially inverted-V shape, which is mounted upon the free upper edge of the upstanding member of the U-shaped formation e , whereon it is clamped and secured by any suitable means.

It will be seen that the described construction of parts provides a crevice d of narrow width between the metallic walls of the reinforcing guard-strips 15 16, and to maintain the space between said strips uniform at all times a plurality of spacing-bars g , of wire, are secured transversely in or upon said guard-strips at proper intervals. The crevice d , that is formed between the parallel vertical metal walls of the guard-strips 15 16, is so proportioned that there is just sufficient space for the travel of house-flies upwardly on the adjacent surfaces of the guard-wall portions 15 16 for escape from a room guarded by the window-screen and prevent or obstruct the entrance of flies, owing to their aversion to creep downward on a polished surface.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a window-screen, the combination with a rectangular frame, of a reticulated screen formed in two sections respectively secured upon the upper and lower portions of the frame at opposite sides thereof, the lower edge of the upper section being bent into substantially U shape, so as to provide a transverse upstanding member thereon near the upper transverse edge of the other screen-section, a return-bent V-shaped reinforcing-clip of sheet metal secured upon the upstanding member, a return-bent sheet-metal clip secured upon the transverse edge of the other screen-section, said reinforcing-clip having an outwardly-bent horizontal flange at its lower edge that affords a baffle-plate for insects, and a plurality of spaced bars extended between the opposed reinforcing-clips, which hold said clips spaced apart in parallel planes.

2. In a window-screen, the combination with a window-casement, and two guard-strips held oppositely on the stiles of the casement, each strip having a concave groove therein, of a rectangular screen-frame having two spaced

and inclined pockets in each side bar thereof,
an adjusting-screw tapping the bottom of each
pocket, and a ball in each pocket, adapted to
engage within the groove of a respective
5 guard-strip when pressed by said adjusting-
screw.

In testimony whereof I have signed my name

to this specification in the presence of two sub-
scribing witnesses.

WILLIAM A. CASSIDY.

Witnesses:

WILLIAM REED MATTHEWS,
LEE JEFFERSON CLAYPOOL.