(No Model.)

A. H. CLEAVELAND.

WINDOW SCREEN.

No. 406,878. Patented July 16, 1889.

Fig. 1.

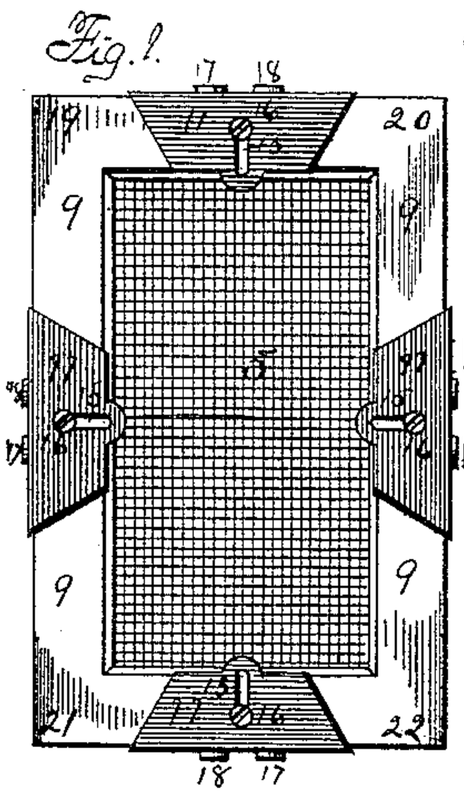


Fig. 2.

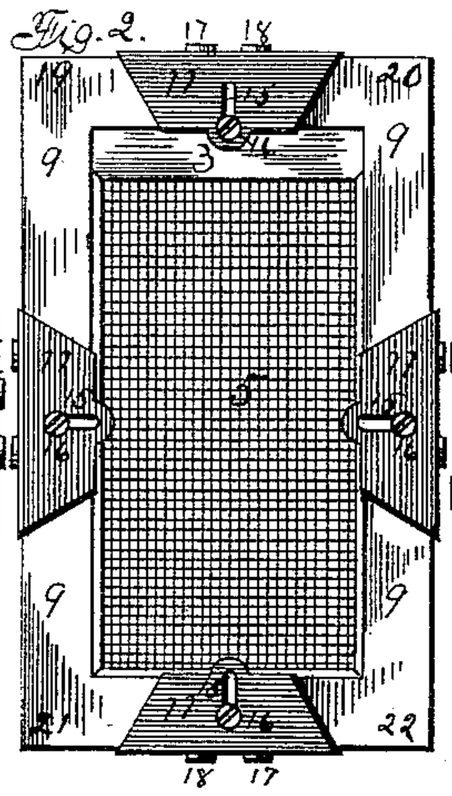


Fig. 3.

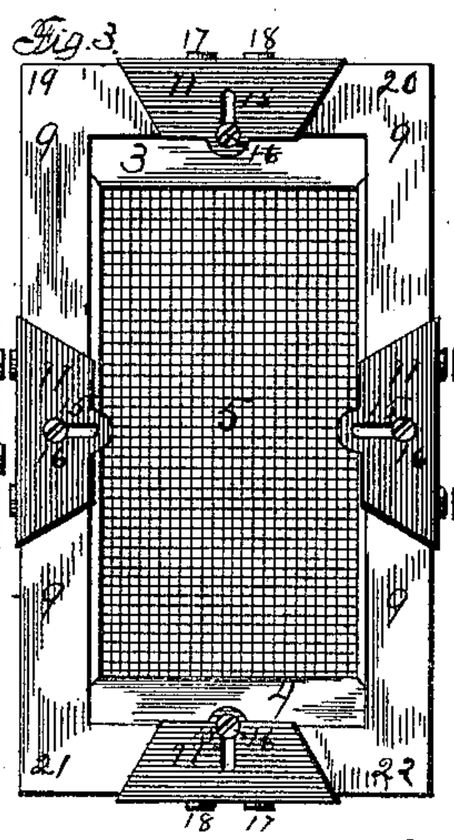


Fig. 4.

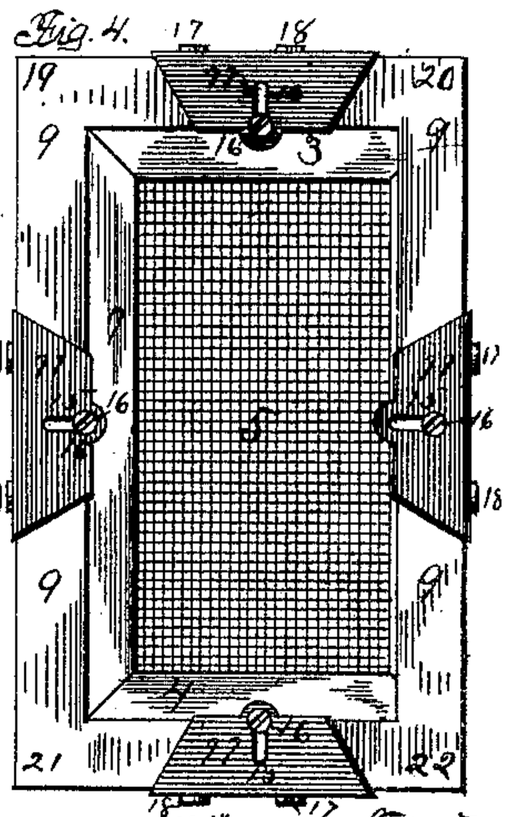


Fig. 5.

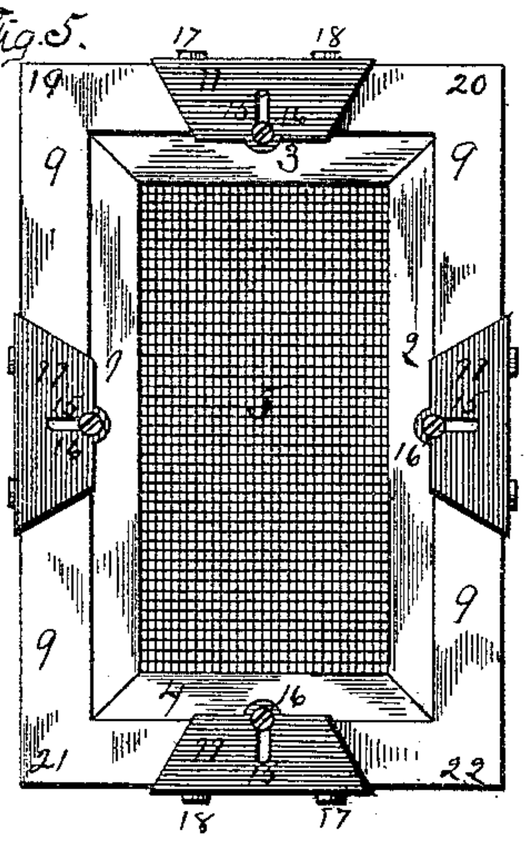


Fig. 6.

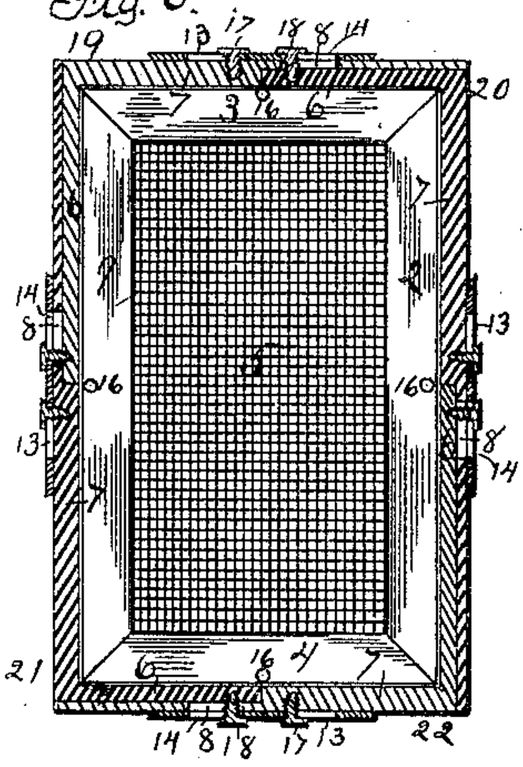


Fig. 7.

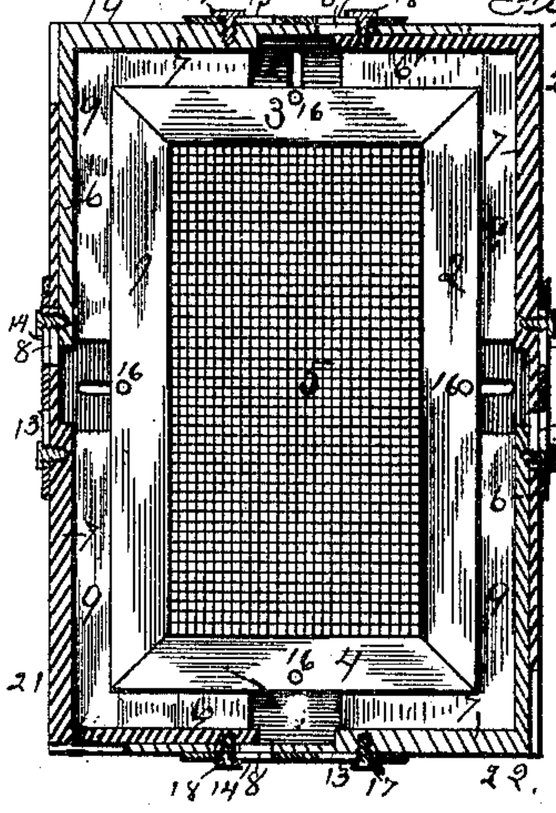


Fig. 9.

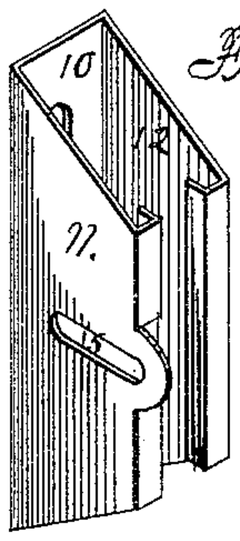
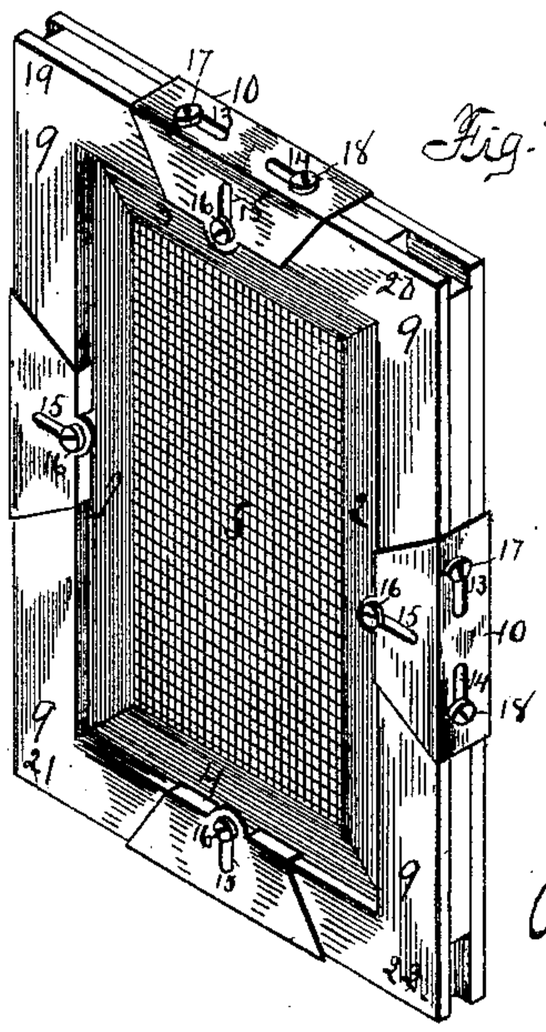


Fig. 8.



Witnesses:
L. A. W. Behel
J. D. Southworth.

Inventor:
Albert H. Cleaveland
By A. O. Behel
Atty.

UNITED STATES PATENT OFFICE.

ALBERT H. CLEAVELAND, OF BELVIDERE, ILLINOIS.

WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 406,878, dated July 16, 1889.

Application filed January 28, 1889. Serial No. 297,773. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. CLEAVELAND, a citizen of the United States, residing at Belvidere, in the county of Boone and State of Illinois, have invented certain new and useful Improvements in Window-Screen Frames, of which the following is a specification.

The object of this invention is to construct a window-screen frame so as to be adjustable in all directions to fit windows varying in size, and which will leave no openings at the corners. To this end I have constructed the frame represented in the accompanying drawings, in which—

Figure 1 is a face view with the frame adjustable to its least dimensions. Fig. 2 is a face view with the upper portion of the frame extended. Fig. 3 is a face view with both ends extended. Fig. 4 is a face view with both ends and one side extended. Fig. 5 is a face view with all sides extended to their fullest extent. Fig. 6 is a face view of the screen-frame, the outer frame being in sections and the parts in their closed position. Fig. 7 is a face view of the screen-frame, also in sections with the parts in their extended position. Fig. 8 is an isometrical representation of a complete window-screen with ends and sides extended. Fig. 9 is an isometrical representation of one of the clasps used to connect the parts.

The center portion of my improved frame is composed of the side rails 1 and 2, upper rail 3, and lower rail 4, secured together. The screen 5 is connected to this central frame in any suitable manner. The outer frame is in four sections, each section forming a corner of the frame and composed of the center portion having arms 6 and 7 at right angles to each other. The arm 7 is slotted, as at 8, for a purpose to appear hereinafter. On each side of the center portion is secured an outer casing 9, which forms a groove in which the screen-frame fits.

A clasp shown at Fig. 9 consists of the sides 10, 11, and 12. The edges of the sides 11 and 12 are turned inward, as shown, to embrace the inner edges of the casings 9. The side 10 of the clasp has two longitudinal slots 13 and 14, and the side 11 has a transverse slot 15. One of these clasps is slipped onto each of the sections comprising the outer frame. The sections are then placed together, so as to inclose the screen-frame, and are shut up to their smallest capacity. The clasps are then moved centrally of the frame. A screw 16 is then placed in the transverse slot 15 in its extreme outer end and enters the screen-frame between the sections of the outer frame. A screw 17 is passed through the longitudinal slot 13 and enters the portion 7. A screw 18 passes through the slot 14, also through the slot 8, and enters the portion 6 of the adjoining section. Screws 17 and 18 are in the inner ends of the slots 13 and 14 when the sections are close together, as shown in Fig. 6.

When it is desired to extend the frame, the screw 17 of section 20 and screw 18 of section 19 are loosened, so as to move freely in their respective slots 13 and 14. By moving the upper portion of the outer frame, composed of the sections 19 and 20, upward, the sections will be guided in their movement by the screws 16, 17, and 18 moving in their respective slots, and will be held in their adjusted position by turning in the screws 17 and 18, which will clamp the clasps to their sections, as shown in Fig. 2. The lower portion, composed of sections 21 and 22, may be adjusted in the same manner by manipulating the screws which control the sections, as shown in Fig. 3.

In adjusting one of the side portions composed of sections 19 and 21, by loosening the screws 17 of section 19 and screw 18 of section 21, the side portion may be moved outward, and when sufficiently adjusted can be so held by turning in the screws, as shown in Fig. 4. The right-hand portion may be adjusted in the same manner, as shown at Fig. 5. The screw 16, moving in the slots 15, holds the screen-frame with relation to the other frame in any of its adjustments.

In applying the frame to a window the upper and lower portions of the outer frame are adjusted so as to fit snugly between the under side of the outside sash and window-sill and secured in said adjustment, as shown at Fig. 3. By moving the side portions so as to fill the space between the window-casings the proper width may be attained. The frame is

then taken from the window and one of the side portions fixed in its extended position, as shown at Fig. 4. The frame is then placed back in the window and the free side is extended, so as to hold the frame in position under the window, which will appear as shown at Fig. 5. When the frame is once adjusted, it need never be changed, unless from shrinkage, when the outer frame may be further extended to closely fit the window.

In making the required adjustment the sections must be separated, consequently leaving an opening between their ends. By the employment of the clasp shown at Fig. 9 the openings are always closed. By this adjustment of the parts the corners are always filled out, thereby overcoming the objection to adjustable window-screens now in use.

By making the lap-joint of the outer frame-sections great strength is imparted to the frame; but it is obvious that the sections may be cut into about midway between their ends without departing from the gist of my invention; also, if a frame is desired in which adjustment is required in only one direction, one section of the frame may be stationary with relation to the center frame and the other section extensible.

I claim as my invention—

1. A window-screen composed of a center frame holding the screen and an outside frame in two or more angular sections made vertically and laterally adjustable with relation to the center frame, each of said sections forming one or more corners of the frame, substantially as set forth.

2. A window-screen composed of a center frame holding the screen and an outside frame in two or more angular sections made vertically and laterally adjustable with relation to the center frame, each of said sections forming one or more corners of the frame, and clasps for holding the sections when adjusted, substantially as set forth.

3. A window-screen composed of a center frame holding the screen and an outside frame composed of sections, each section forming one-half of an end and side and made adjustable with relation to the center frame in width and height, substantially as set forth.

4. A window-screen composed of a center frame holding the screen and an outside frame composed of sections, said sections forming one-half of an end and side and made adjustable with relation to the center frame in width and height, and clasps holding the sections together when adjusted, substantially as set forth.

5. A window-screen composed of a center frame and an outside frame, said outside frame completely inclosing the center frame and composed of sections, a clasp connecting the sections, said clasp having slots located at an angle to each other, and screws passing through the slots into the sections, whereby the sections are rendered vertically and laterally adjustable and are retained in their positions, substantially as set forth.

6. A clasp for frames, substantially as herein described, consisting of the sides 10, 11, and 12, the edges of the sides 11 and 12 being provided with inwardly-projecting flanges and the sides 10 and 11 with longitudinal and transverse slots, respectively, substantially as set forth.

ALBERT H. CLEAVELAND.

Witnesses:
A. O. BEHEL,
E. BEHEL.