No. 690,662. Patented Jan. 7, 1902.

T. J. PERRIN.

ADJUSTABLE METALLIC WINDOW SCREEN.

(Application filed Mar. 29, 1901.)

(No Model.) 3 Sheets—Sheet 1.

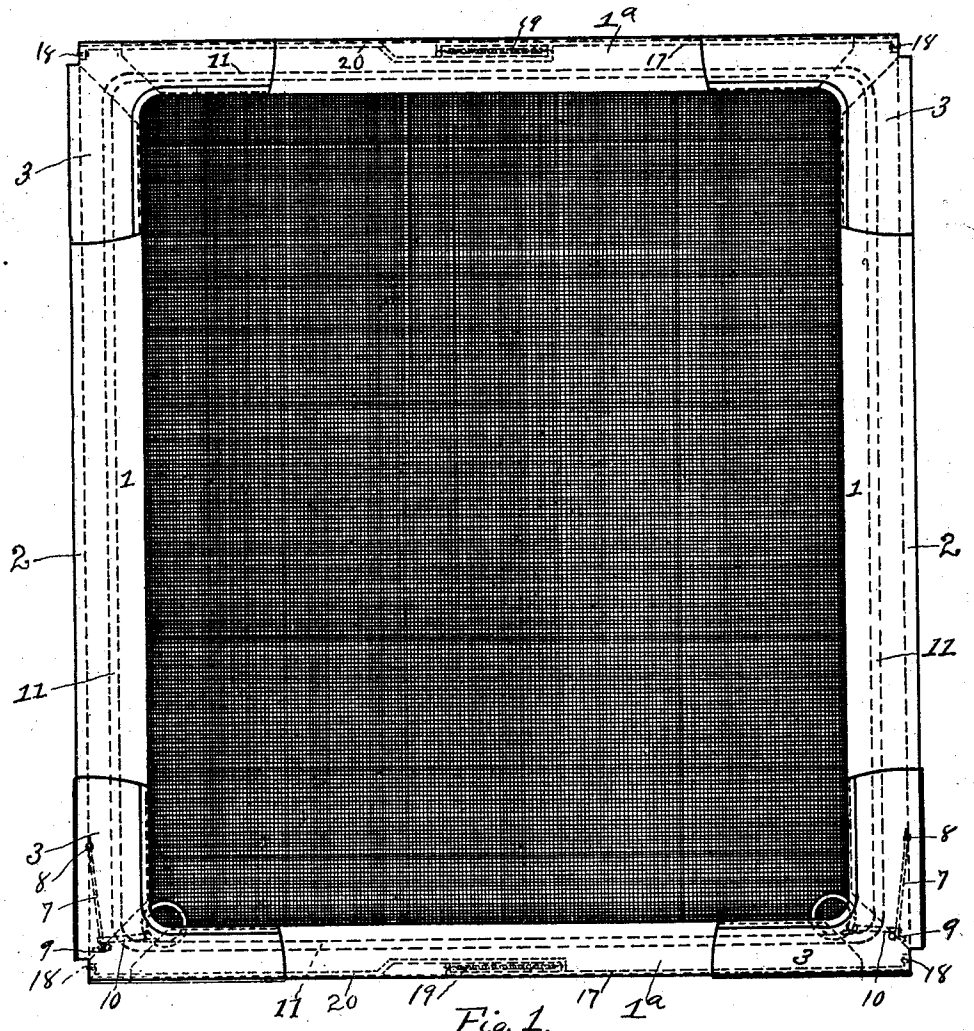


Fig. 1.

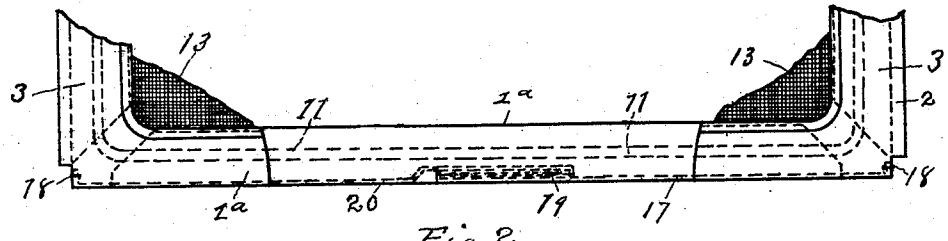


Fig. 2.

Witnesses.

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(No Model.) 3 Sheets—Sheet 2.

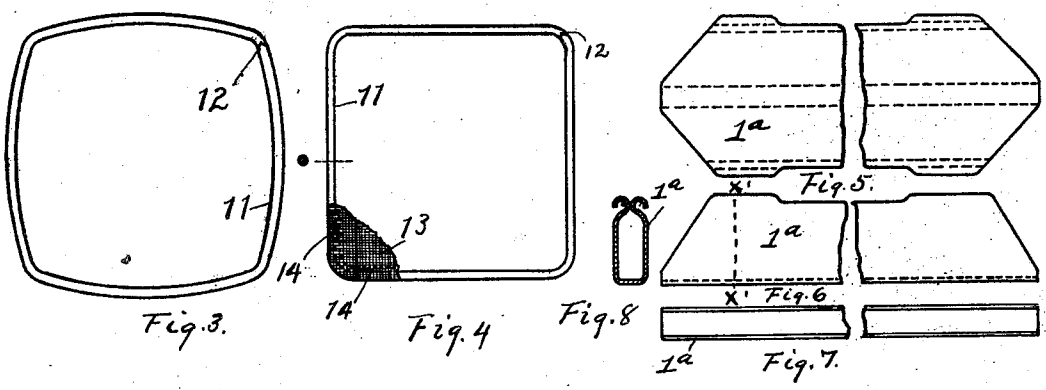


Fig. 3. Fig. 4 Fig. 8 Fig. 5. Fig. 6 Fig. 7.

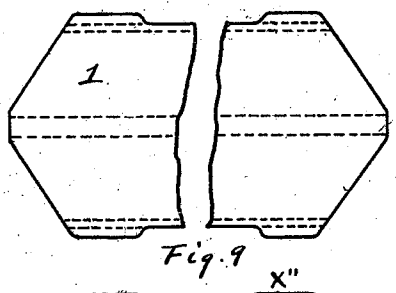


Fig. 9

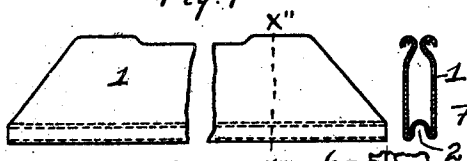


Fig. 10

Fig. 11.

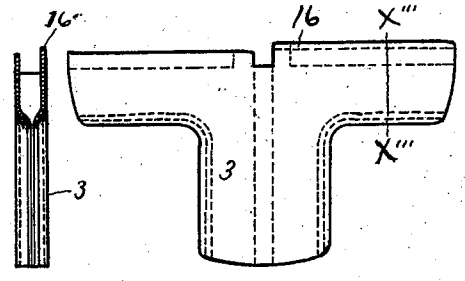


Fig. 13. Fig. 12.

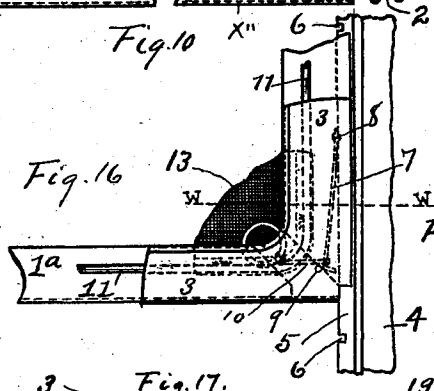


Fig. 16

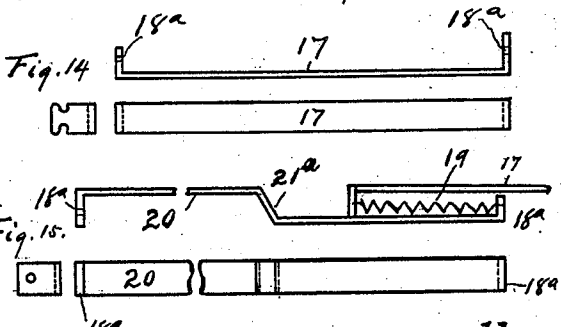


Fig. 14 Fig. 15.

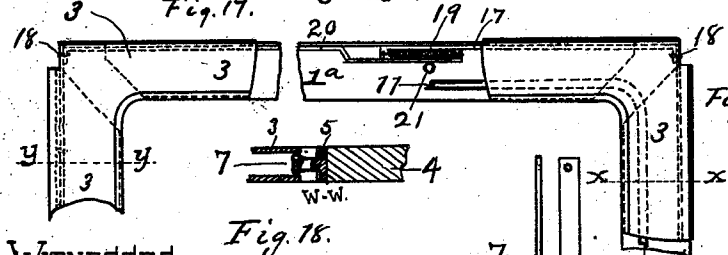


Fig. 17. Fig. 18.

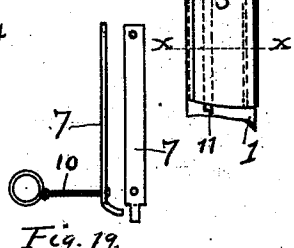


Fig. 19.

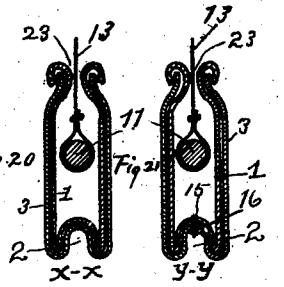


Fig. 20 Fig. 21

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(Application filed Mar. 29, 1901.)

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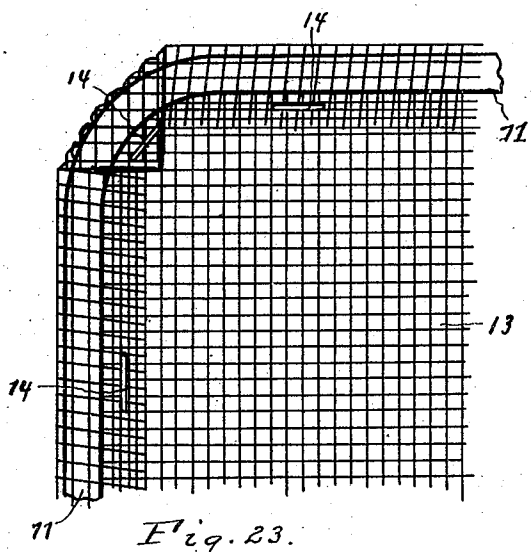


Fig. 23.

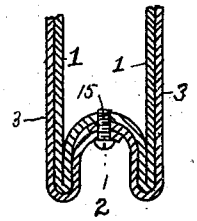


Fig. 22.

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UNITED STATES PATENT OFFICE.

THOMAS J. PERRIN, OF DAYTON, OHIO.

ADJUSTABLE METALLIC WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 690,662, dated January 7, 1902.

Application filed March 29, 1901. Serial No. 53,422. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. PERRIN, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Adjustable Metallic 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 drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in adjustable metal window-screens.

The object of the invention is to provide a window-screen of the above type which is capable of adjustments to fit different sizes of window-frames and which may be manipulated by any one without difficulty, it not being necessary to mark a screen for a certain window to which it might have been previously applied.

Referring to the accompanying drawings, Figure 1 is an elevation of my improved adjustable window-screen. Fig. 2 is a similar view of the lower portion of the screen with the locking devices omitted. Fig. 3 is a detail view of a skeleton frame, showing the sides bowed or curved before the stretching of the wire-cloth thereon. Fig. 4 is a detail of a skeleton frame with wire-cloth complete, showing the manner of attaching the cloth to wire frame or skeleton. Fig. 5 is a top view of the sheet metal comprising the top or bottom rail. Fig. 6 is a side view of the same. Fig. 7 is an edge view of the same. Fig. 8 is a cross-sectional view on line $x' x'$ of Fig. 6. Fig. 9 is a top view of one of the side rails. Fig. 10 is a side view of the same. Fig. 11 is a cross-sectional view on line $x'' x''$ of Fig. 10. Fig. 12 is a plan view of the metal blank before being formed into a corner-piece. Fig. 13 is a sectional view on line $x''' x'''$ of Fig. 12; Fig. 14, edge, top, and end views, respectively, of adjusting-bars; Fig. 15, edge, top, and end views, respectively, of adjusting-bars. Fig. 16 is a view of a lower corner of the screen, showing a portion of a side of the window-frame. Fig. 17 is a view of the upper portion of the adjustable frame. Fig. 18 is a sectional view on line $w\ w$ of Fig. 16; Fig. 19, detail views of the locking-spring. Fig. 20 is a sectional view on line $x\ x$ of Fig. 17; Fig. 21, a similar view on line $y\ y$ of Fig. 17. Fig. 22 is an enlarged vertical view showing more clearly how the corner-pieces are attached to the side rails. Fig. 23 is a view of a corner of the skeleton frame and the wire-cloth united, showing more clearly how said wire-cloth is secured to the skeleton frame.

Referring to Fig. 1, this form of screen is adjustable sidewise. 1 1 designate metallic side rails, each of which has a channel or groove 2. (Shown in dotted lines in Fig. 1; also shown in Figs. 11, 20, and 21.)

3 designates right-angled corner-pieces. In Figs. 1 and 2 these corner-pieces telescope onto the side rails 1 1 and are made fast thereto, while they freely telescope over the top and bottom rails 1^a 1^a, allowing the side rails 1 1 to contract or expand, according to the size of window-frame.

4 designates a portion of the side of a window-frame. 5 is a metallic tongue or guide secured to each of said sides. These tongues are provided with notches 6, which coöperate with spring-catches 7 to lock the screen at top or bottom. These locking-springs 7 are secured at 8 to the side rails and are stopped by pins 9. The lower ends of said spring-catches are turned at angles to the body of the springs. These ends enter the locking-notches 6.

10 is a finger-piece which is secured to the spring-catches 7 and projects out a sufficient distance to enable the finger to catch hold thereof.

11 designates a skeleton frame which may be made of any suitable material, either a round wire, channel, or angle-iron. This frame is sprung together in a V-shaped notch 12 and is securely held in place by the wire-cloth 13.

Fig. 3 shows the skeleton frame before stretching the wire-cloth thereon. Fig. 4 shows said frame with the wire-cloth stretched thereon. It will be noted that in Fig. 3 the frame bulges on four sides, while in Fig. 4 the sides are straight. The straightening of the sides applies the necessary tension to the wire-cloth and prevents it from sagging at

any time. In Fig. 4 the manner of securing the wire-cloth is shown, which consists of small staples 14, of wire, firmly twisted together. As in Figs. 20 21, the wire-cloth incloses the frame 11 and is made secure thereto. It will be understood that the grooves 2 of the side rails receive the tongues 5, and the screen is guided thereby in its perpendicular movements.

Referring to Fig. 20, the corners 3 telescope over the side rails and are bent around in the groove 2 and meet in the center and are secured to said side rails.

In Fig. 21 the corners are telescoped similar to that shown in Fig. 20; but the edges fitting in the groove 2 are overlapped and made secure to the side rails by a set-screw 15, thus allowing the top rail to be elevated or lowered. The top and bottom horizontal rails are wider in the present case than the ordinary rails in non-adjustable screens. This is necessary in order to provide suitable room for the necessary adjustments. The adjustments are obtained by lowering or elevating the top rail after first having loosened the screws 15. This construction enables a vertical adjustment of the screen.

The blank shown in Fig. 12 is used in the construction of the corner shown in Fig. 21 and is provided with an excess of metal, as at 16, which provides the overlapping edges in the groove 2.

In Fig. 14, 17 designates adjusting-bars secured to the interior of the corner-pieces by screws 18. The ends 18^a of these bars are bent at right angles and the inner or shorter end provided with means for securing a draw-spring 19. 20 designates a similar bar bent at each end, also bent at 21^a to receive the spring 19. One end of this bar 20 is secured to the interior of the corner by the screw 18, as before described, and the other ends of said bars are supported in an operative position by a pin or stud 21. The spring 19 is secured to the end thus supported, so that it will be seen the said spring 19 is connected to each of said bars. The function of these bars and the spring is to expand the side rails to compensate for the difference in the width of windows, and thus the screen will be held firmly in position.

It will be seen from the several views of the drawings, particularly Figs. 20 and 21, that there is considerable space provided within the metallic frame composed of the side and top rails 1 1 1^a 1^a. This is necessary in order to obtain the proper adjustments of said metallic frame, which adjustments may be obtained without affecting the screen-frame 11. The slots 23 in the rails and the corner-pieces are just large enough to permit of easy adjustments of the outer metallic frame without affecting the wire screen or its frame. The outer metallic frame can readily be opened and the inner frame and wire-cloth removed and replaced whenever desired without injury to the frame or without changing the frame in any manner.

Having described my invention, I claim—

1. An adjustable metallic window-screen, comprising side rails having longitudinal grooves therein adapted to receive tongues or guide-pieces extending from the sides of a window-frame, top and bottom rails, corner-pieces uniting the side rails with the top and bottom rails, the said corner-pieces fitting in the grooves on the side rails, catches inclosed in the bottom corner-pieces, a tension-frame, wire-cloth secured thereto, said frame and cloth being inclosed in the side, bottom and top rails, and means for expanding the side rails to maintain them in close contact with the window-frame, substantially as specified.

2. In an adjustable metallic window-screen, an adjustable screen-frame consisting of side rails having longitudinal grooves therein, and top and bottom rails, corner-pieces having rigid connections with the side rails and telescopic connection with the top and bottom rails, a tension-frame, a wire-cloth secured to said tension-frame, said frame and cloth being inclosed in the rails, and the said rails being adapted to be adjusted inwardly and outwardly in order to increase or decrease the dimensions of the screen, catches secured within the lower corners of the frame and adapted to lock the screen in position, a finger-piece projecting from said catches on the interior of the screen, and means for maintaining the screen in rigid contact with the window-frame.

3. In an adjustable metallic window-screen, an outer metallic frame, telescopic corners therefor, a screen and frame inclosed in said outer metallic frame, adjusting-bars, springs connected to said bars, said adjusting-bars and springs being inclosed in the top and bottom rails whereby the sides of the outer frame are pressed outwardly to increase the width of the screen, and means for locking the screen in position in the window.

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

THOMAS J. PERRIN.

Witnesses:
R. J. McCARTY,
MATTHEW SUBLER.