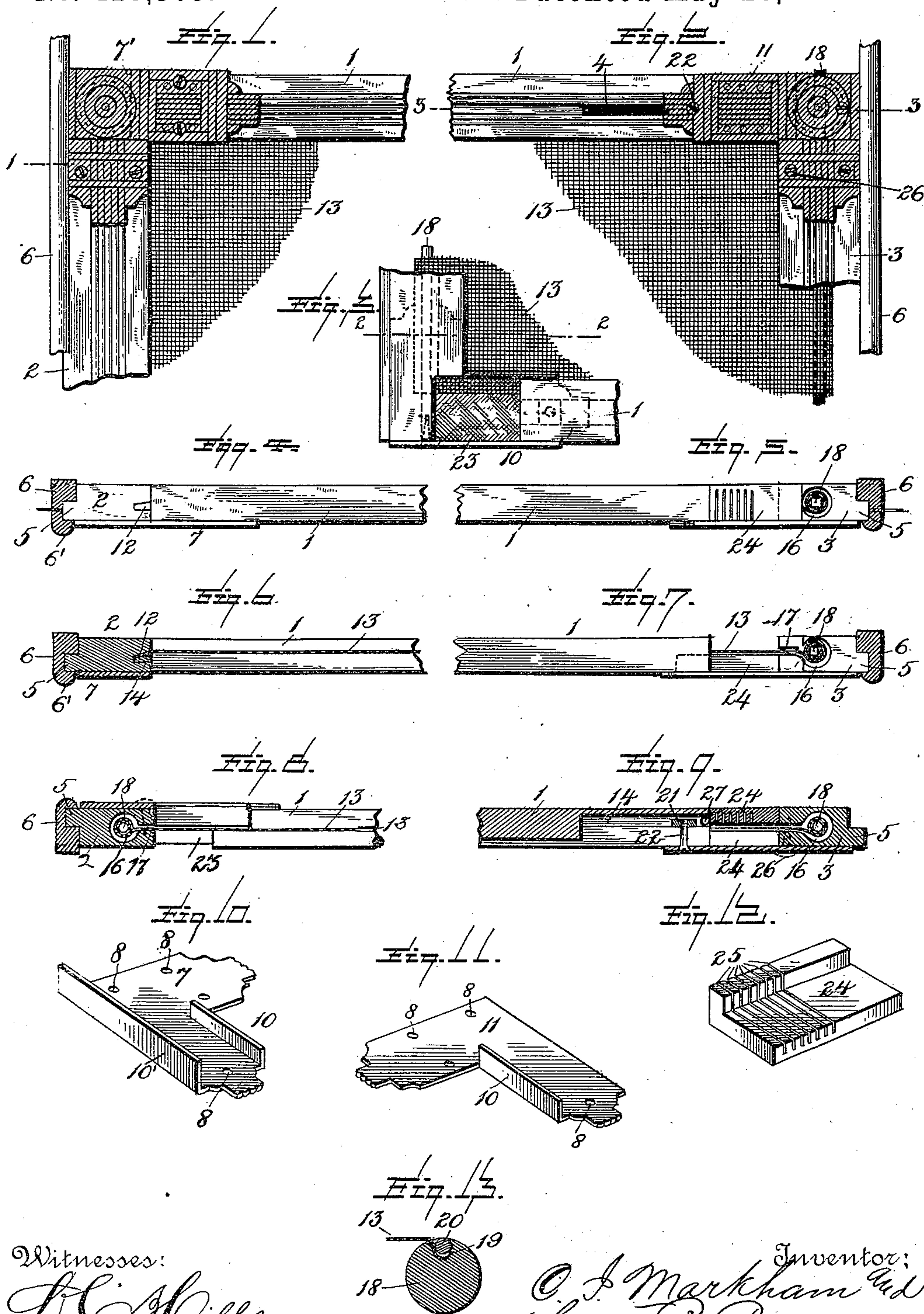


(No Model.)

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ADJUSTABLE WINDOW SCREEN.

No. 428,309.

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ADJUSTABLE WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 428,309, dated May 20, 1890.

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To all whom it may concern:

Be it known that we, CLARENCE I. MARKHAM and LEDRU R. POMEROY, citizens of the United States, residing at Syracuse, in the county of Onondaga, State of New York, have invented certain new and useful Improvements in Adjustable Window-Screens, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to window-screens, and among the prime objects in view are to provide a highly ornamental, light, and attractive screen, that is strong and durable, that can be manufactured at a reasonable cost, that is quickly and easily adjustable to varying widths, which, when applied to a window, will have the appearance of having been made especially for that window, and to provide means for maintaining the netting taut and wholly prevent the usually-occurring unsightly bagging of the same.

Numerous other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figures 1 and 2 are side elevations of the upper left and right hand corners of a screen constructed in accordance with our invention. Fig. 3 is a rear elevation of the vertically-opposite corner to that shown in Fig. 2. Figs. 4 and 5 are plans in detail of the upper edge views of Figs. 1 and 2. Fig. 6 is a transverse section on the lines 1 1 of Fig. 1. Fig. 7 is a similar view with the filling-blocks removed. Fig. 8 is a transverse section on the lines 2 2 of Fig. 3. Fig. 9 is a section on the lines 3 3 of Fig. 2. Fig. 10 is a detail in perspective of the metallic corner-plate employed at the corner shown in Fig. 3. Fig. 11 is a similar view of the plate employed at the corner shown in Fig. 2. Fig. 12 is a detail in perspective of a filling-block, and Fig. 13 is a detail in cross-section of the net-winding shaft.

Like numerals of reference indicate like parts in all the figures.

1 represents the upper and lower transverse

rails of the screen-frame, one of which is a duplicate in appearance and finish of the other, and 2 and 3 represent the left and right hand rails, respectively, the latter rails differing from each other in construction, but being the same in outward appearance. The upper and lower transverse rails 1 are each provided for a portion of their length intermediate their ends with a T or equivalent slot 4, the slot being formed in their front faces, and in this instance near their right ends.

The vertical or side rails 2 and 3 are preferably formed with a rabbet or bead 5 at their outer edges and in a line or flush with the front face of the screen, said rabbets being designed to fit and ride in corresponding grooves formed in vertical strips 6, secured to the inside of the window-frame. The front edges of the strips 6 are formed with an overlapping bead 6', which protrudes over the faces of the side rails 2 and 3 and gives them the appearance of an extra bead and adds greatly to their appearance. If desired, these strips and the beading of the side rails may be omitted, though the raising and lowering of the screen is greatly facilitated by their use.

The upper and lower rails 1 at their left-hand corners abut against the sides of the side rails 2, and are connected thereto by plain L-shaped corner-plates 7', having suitable perforations, through which screws are passed into the side and top rails, whereby a secure joint is formed.

To the upper end of the side rail 3 there is secured a plate 11, (see Fig. 11,) having screw-holes 8, through which screws are passed and in the rail, and by which the plate is rigidly secured thereto. This plate is also of an inverted-L shape, and projects over and partially embraces the end portion of the upper rail 1 by means of a narrow flange 10 formed on the plate. Through one of the screw-holes 8 formed in the plate 11 there is passed a binding-screw 22, the end of which projects into the T-slot 4, and upon the same is mounted a traveling block 21, by which the

side rail 3 may be brought nearer to or farther from the end of the rail 1 and be clamped thereto at any point. The opposite right end (shown in rear elevation in Fig. 3) of the rail 3 is connected to the lower rail 1 by an L-shaped plate 7, which is similar to the plate 11, with the exception that there is formed an outer angular flange 10', which embraces the lower edge of said rail and forms a socket or sleeve for the rail to slide in. This plate is also provided with the binding-screw 22 and traveling block 21, which work in the slot 4 in a manner after that just described.

The side rail 2 is provided at its inner edge with a longitudinal slot 12 for the reception of the edge of the wire-netting 13, which is held within the slot by means of strips 14, formed of wood and packed therein, though other means may be added or substituted, if desired, such as glue, tacks, &c.

The wire-netting 13 projects beyond the terminals of the rails 1, and is passed through a vertical slot 17, which communicates with a cylindrical slot 16, formed in the side rail 3, in which is journaled for rotation a rod or winding-shaft 18, to which the free edge of the netting is secured. The shaft 18 is grooved throughout its length, as at 19, the groove being preferably formed upon a curve, (see Fig. 13,) into which is entered the free end of the netting, the end being held snugly in position within the groove by means of a strip 20 inserted therein. This strip 20 is of softer metal than that of which the netting is formed, softer metal being employed in order to avoid cutting of the netting when the strip is driven in. By this it will be apparent that all slack in the netting caused by contracting the frame will be taken up by a rotation of the shaft 18. The upper end of the shaft 18 is squared for the reception of a key, by which the same may be rotated.

It may be found preferable to alter the position of the winding-shaft by placing the same at the left of the frame instead of the right, and it may also be preferable to provide the winding end of said shaft at the lower end of the frame, all of which may be easily accomplished without changing the construction or departing from the spirit of our invention.

By the construction described it will be seen that the screen-frame may be adjusted for wide or narrow windows and securely held in the desired adjusted position.

The longitudinal rails terminate short of the side rail 3, and between the same are inserted, preferably, though not necessarily, filling-blocks 24, L-shaped in cross-section, and formed with a series of saw-kerfs 25, extending nearly through the same or to such a depth as to be readily breakable or removable from the remainder of the block.

If it be desired to contract the frame to

adapt the screen for a smaller window-frame, the filling-block is removed and the screen adjusted, and the filling made narrower by the removal of one or more of the sections, whereby it is adapted for the thus contracted space.

In lieu of the filling-block described, we may secure one end of a section of canvas or other suitable material to the terminals of the rails 1 and the opposite ends to the shaft 18, to be wound therearound in the same manner as the netting, this latter construction being illustrated in Fig. 3, 23 representing the canvas.

If desired, numerous means may be devised for securing the netting along its edge after the slack has been removed—as, for instance, we may employ screws 26, inserted through the openings 8, formed in the plates 7, that occur along their inner edges. (See Fig. 9.) To prevent the complete and accidental withdrawal of the sections 1 when clamping-screw 22 is relaxed, we insert a screw or other stops 27 through the rails 1.

Having described our invention, what we claim is—

1. In a window-screen, the combination, with the side rails and transverse rails, of the netting permanently attached to one end of said side rails, and adjusting means at the other end for winding the netting and the filling-blocks independent of the side and end rails, and inserted between the ends of the transverse and side rails, and weakened at intervals to provide for the removal of portions, said portions being readily removable from the main body of the block, substantially as and for the purpose specified.

2. In a window-screen, the combination, with the side and end rails, one of said side rails being adjustable in relation to the other, and the corner-plates, of the netting, the shaft to which one end of said netting is secured, and the filling-blocks independent of the side and end rails and inserted in the spaces between the ends of the end rails and adjustable side rail beneath the corner-plates, and provided at intervals with saw-kerfs, the portions formed by said kerfs being each independent of the other, substantially as and for the purpose specified.

3. In a window-screen, the combination, with the upper and lower rails having in their inner faces longitudinal grooves, as shown, and the side rails, of the corner-plates connecting the end and side rails, binding-screw 22 on one of the corner-plates, the filling-block 24, and the traveling block 21, mounted on the inner end of said screw and working in the groove of the rail, substantially as and for the purpose specified.

4. In a window-screen, the combination, with the rails 1 and the side rails 2, the rails 1 each being provided for a portion of their length

with a T-shaped slot, of the corner-plate 11,
having flange 10 embracing the end portion
of the upper rail 1, the binding-screw 22, pro-
jecting through a hole in the corner-plate into
5 the slot in the rail 1, and the traveling block
21, mounted on the end of the screw and work-
ing in said slot, substantially as and for the
purpose specified.

In testimony whereof we affix our signatures
in presence of two witnesses.

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Witnesses:

GEORGE B. WARNER,
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