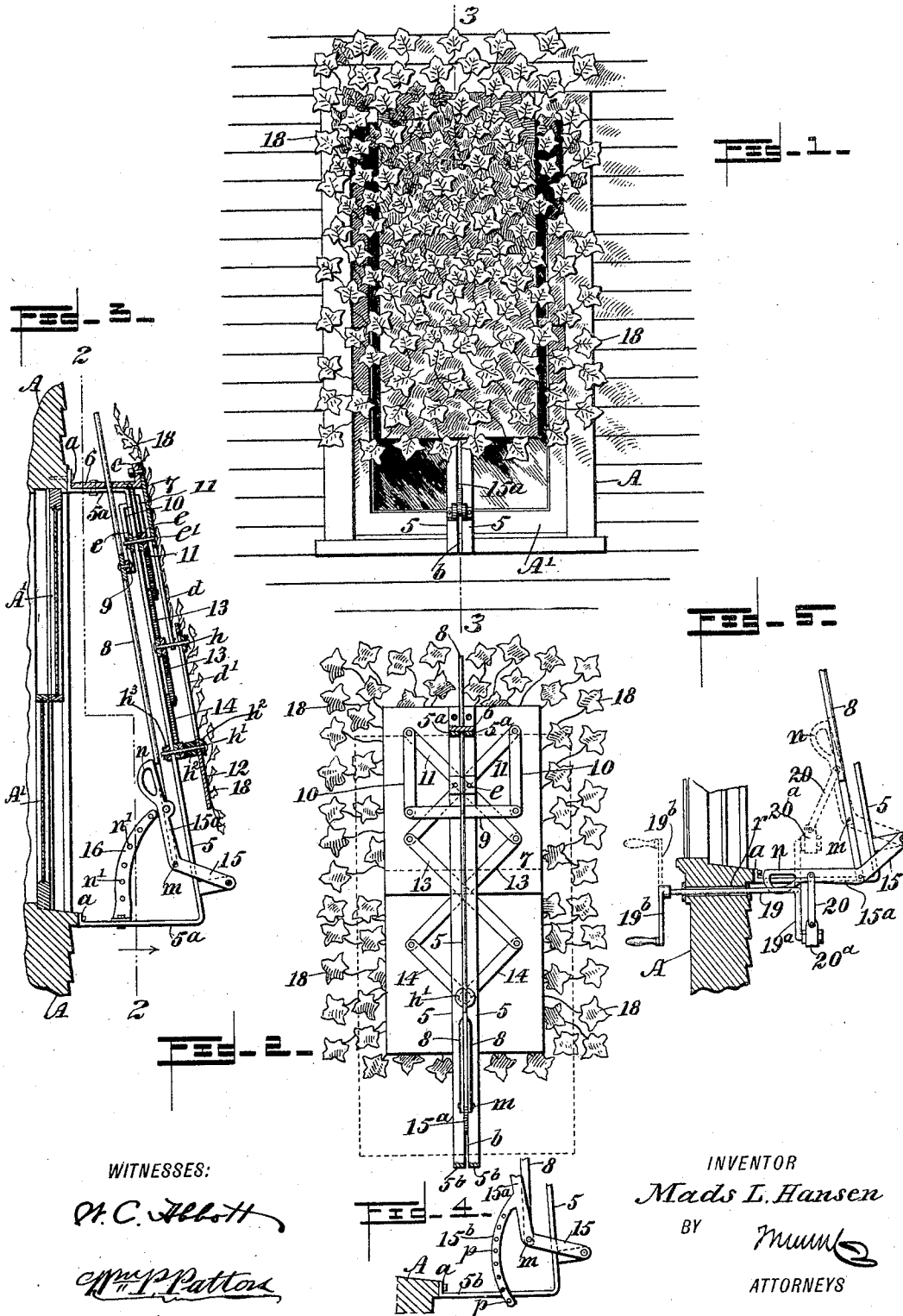


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M. L. HANSEN.
WINDOW SHADE.

APPLICATION FILED SEPT. 2, 1904.



UNITED STATES PATENT OFFICE.

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WINDOW-SHADE.

SPECIFICATION forming part of Letters Patent No. 790,832, dated May 23, 1905.

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To all whom it may concern:

Be it known that I, MADS L. HANSEN, a citizen of the United States, and a resident of San Francisco, in the county of San Francisco and State of California, have invented a new and Improved Window-Shade, of which the following is a full, clear, and exact description.

This invention relates to means for screening the transparent glazing of a window from sunlight, and also to protect the window from felonious entrance, and has for its object to provide novel details of construction for a device of the character indicated which are simple, practical, and conveniently operated, so as to adapt the shade to screen more or less of the window, be secured at any point of adjustment for the screen or shade, or be elevated so as to permit sunlight to enter the lower half of the window-sash, a further object being to provide a shade for a window which is strong, of an ornamental form, is fireproof, and that will freely admit air if the window is open and at the same time prevent the entrance of a burglar.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the subjoined 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 a front view of the improved window-shade applied to a window and adjusted to screen it from an excess of sunlight. Fig. 2 is a rear view of the shade, partly in section, on the line 2 2 in Fig. 3. Fig. 3 is a vertical transverse sectional view substantially on the line 3 3 in Fig. 1. Fig. 4 is a fragmentary side view of a modified means for holding the improved window-shade elevated or lowered for shading a window, and Fig. 5 is a transverse sectional view of the sill of a window-casement and a side view of another modified means for adjusting the window-screen.

Upon a window-frame A, shown holding two vertically-adjustable sashes A', two similar guide-bars 5 5 are secured in a vertical position at the transverse center of said frame

upon the upper and lower members of the same. The guide-bars are formed of flat metal strips having suitable width and thickness and at each end portion of said bars are bent nearly at a right angle flatwise in the same direction, providing on each bar an upper arm 5^a and a lower arm 5^b. The arms 5^a 5^b are secured upon the cap-piece and sill of the window-frame, as mentioned and as appears at *a* in the drawings. The pair of guide-bars 5 are spaced apart, as at *b*, in parallel planes, thus affording a suitable channel between their adjacent edges.

Upon the upper arms 5^a of the guide-bars 5 a bracket-plate 6 is secured, having a transverse flange *c*, bent at nearly a right angle on its outer end, that projects somewhat exterior of the outer surfaces of the guide-bars, as appears in Fig. 3. A flat screen-plate 7 is near its upper edge secured upon the outer surface of the flange *c*, and, as shown, this plate is preferably rectangular in contour, having sufficient area to nearly cover the upper sash of the window.

Centrally and vertically in the screen-plate 7 a slot *d* is formed of a suitable length extending from the lower edge of said screen-plate, said slot being opposite the channel *b* between the guide-bars 5. Two opposite bracket-plates *e* are firmly secured upon the guide-bars 5 at the top of the slot *d*, and a pivot-bolt *d'*, that is secured to and projects from the screen-plate 7, is secured in aligned perforations in the plates *e*.

An adjusting-rod 8 is held to slide in a nearly vertical plane by the loose engagement of its upper portion within a perforation in the bracket-plate 6 and by a support at the lower end, which will be hereinafter described. Upon the adjusting-rod 8 below the bracket-plate 6 a cross-bar 9 is rigidly secured at its center of length, and upon the ends of this flat cross-bar the lower ends of two similar links 10 are pivoted. Each link 10 is in the form of a metal strip having an offset bend near its upper end, thus producing a short member thereon, which projects toward the screen-plate 7. Upon the bent upper ends of the links 10 the upper ends of two similar flat strips 11 11 are pivoted, these

strips that cross each other diagonally being at their longitudinal centers where they lap upon each other pivoted upon the pivot-bolt d' , occupying the space between the adjusting-rod 8 and the screen-plate 7.

A screen-plate 12, similar to the screen-plate 7, is held to slide thereon, engaging the outer surface by the following means: Two flat strips 13 cross each other at their centers and at the upper ends lap upon and are pivoted to the diverging lower ends of the strips 11. At their centers the strips 13 are together mounted upon a pivot-bolt h , said bolt extending outward through the slot d' in the screen-plate 7 and also through a like slot d' in the screen-plate 12, said slots being alined with each other, and, as shown in Fig. 3, there is a washer on the outer end of the bolt h , held in place by a cross-key. The divergent lower ends of the strips 13 are lapped and pivoted upon the upper ends of flat strips 14, and the latter are lapped upon each other at their lower ends. A pivot-bolt h' is passed through the screen-plate 12 and a washer h^2 , then through the strips 14 at their lower ends, then through the channel b and on the end receiving a washer and cross-key h^3 .

The relative arrangement and pivoted connection of the strips 11, 12, and 13 with the links 10 provides a lazy-tongs connection between the screen-plates 7 and 12 and the adjusting-rod 8, thus adapting the longitudinal movement of the latter downwardly to correspondingly raise the lower screen-plate 12.

To control the sliding movement of the lower screen-plate 12 over the stationary upper screen-plate 7, an angle-lever 15 is pivoted at its lower end upon ears formed or secured upon the outer sides of the guide-bars 5 near the lower ends of their main portions, as is shown in Figs. 1 and 3. Preferably the lower portion of the adjusting-rod 8 is longitudinally slotted and therein loosely receives the upwardly-projecting member 15^a of the angle-lever 15, a pivot m that passes through the angle of the bent lever, and the lower ends of the forked members of the adjusting-rod, thus adapting a downward rocking movement of the lever to pull the adjusting-rod downward, which will close the lazy-tongs and raise the lower screen-plate 12 correspondingly.

Upon the lower horizontal arms 5^b of the guide-bars 5 a curved arm or sector-bar 16 is secured by its lower end and thence curving upward and outward, as shown in Fig. 3. A preferably looped handle n is formed on the upper end of the lever member 15^a , and from the relative position of the sector-bar this lever member will slide along one side of the sector-bar when rocked upon the pivot of the angle-lever. The member 15^a of the angle-lever may have a perforation in it near the handle n , that may be disposed opposite any one of a series of perforations n' , formed lat-

erally at intervals in the sector-bar 16, by a rocking adjustment of the angle-lever 15, and by an insertion of a pin, split ring, or the curved shackle-bar of a padlock the lower screen-plate 12 may be secured at any point of elevated or lowered adjustment.

In Fig. 4 the means for holding the lower screen-plate elevated or lowered is shown in modified form. In this construction an edge-curved arm 15^b is formed or secured on the edge of the angle-lever member 15^a and curves outward and downward toward the lower arms 5^b on the guide-bars 5, and by a downward rocking movement of the angle-lever 15 the free lower end of the curved arm 15^b may be passed down through the channel b more or less for the corresponding elevation of the lower screen-plate 12.

In the curved arm 15^b spaced transverse perforations p are formed for the reception of a cross-pin or the hasp member of a padlock, the pin or lock member passing through a perforation p , that is below and near to the lower sides of the spaced arms 5^b that said curved arm passes between, and it will be evident that by this means the screen-plate 12 may be held at any desired point of sliding adjustment effected by the rod 8 by its longitudinal movement.

The screen-plate 12 is preferably lapped a short distance at its upper end upon the outer side of the upper screen-plate 7 when said lower plate is completely lowered, and it may here be stated that the plates 7 12 may be so proportioned in length as to cover the window completely lengthwise if this should for safety be preferred.

There is preferably a supplementary screen or shade provided, that is formed of sheet metal cut into the form of leaves that may represent foliage of a vine, and, as shown at 18 in Fig. 1, the foliage is arranged and secured upon the outer sides of the screen-plates, so that it completely covers the screen-plates and overlaps their edges.

For clearness in representation of the details of construction the screen-plates are shown projected away from the window a distance greater than they are in application of the device for service, so that the opening at each side edge of the screen-plates 7 12 will be proportionately less, which will permit the foliage to be so disposed thereat as to properly shade the window-sashes or an opened window. In Fig. 5 is shown a means for adjusting the window-screen from the inside of a room. In this construction the sectors 15^b or 16 may be dispensed with and a crank-shaft 19 be held to rock in a transverse perforation r formed in the window-sill, said shaft having a crank-handle 19^b on its inner end, which may be removable, and a crank-arm 19^a on its outer end.

A link 20 is pivoted by one end on the lever member 15^a and at the other end is piv-

oted upon a coupling-block 20^a, held to rock on a lateral pin projecting from the crank-arm 19^a.

It will be evident that by turning the crank-handle 19^b within the room the lower section of the screen may be raised or lowered. Any preferred means may be employed to hold the screen in a desired position when this detail is employed.

While but two screen-plates are shown, it is to be understood that this number may be increased, if desired, and two sets of lazy-tongs members be employed, along with a duplicate adjusting-rod, so that a wide and high window may be shaded and protected with the improvement.

Other slight changes in the constructive details may be made within the scope of the invention, and I claim all such immaterial changes as fall within the intent of the claims.

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

1. A window-shade, comprising two screen-plates held in front of a window, one above the other, means for holding the upper screen-plate stationary and spaced from the window-casing, means for sliding the lower screen-plate upward and over the upper screen-plate, and means for securing said lower plate elevated or lowered.

2. The combination with a window-casement, of a window-shade comprising a screen-plate held spaced from and in front of the upper portion of the casement, a similar screen-plate held to slide upward and over the stationary screen-plate, means for sliding the lower screen-plate, and means for holding said plate raised or lowered.

3. In a window-shade of the character de-

scribed, the flat screen-plate held stationary in front of a window-casement and spaced therefrom by a bracket-plate, a channeled guide-bar having arms that are secured on the upper and lower portions of the window-casement, an adjusting-rod slidably held in the bracket-plate, another screen-plate lapped on the upper one, a lazy-tongs device connected to the upper and lower screen-plates, means for depressing the adjusting-rod whereby to slide the lower screen-plate upward, and means for holding the lower screen-plate raised or lowered.

4. In a window-shade of the character described, the operating device for controlling the lower slidable screen-plate, comprising a lazy-tongs connected at its upper end with a stationary screen-plate and at its lower end with another screen-plate, said plates having alined slots therein, supporting guide-bars having a channel between them, a pivot-bolt in members of the lazy-tongs working in the alined slots, a pivot-stud projecting from the guide-bars through crossed upper members of the lazy-tongs, a pivot-stud extended from the lower screen-plate through the lower end members of the lazy-tongs and working in the channel, means for sliding the adjusting-rod downward and correspondingly raising the lower screen-plate by closure of the lazy-tongs, and means for holding said adjusting-rod raised or lowered.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MADS L. HANSEN.

Witnesses:

H. FRIEDLANDER,
IVAN FRIEDLANDER.