

938,147.

Patented Oct. 26, 1909.

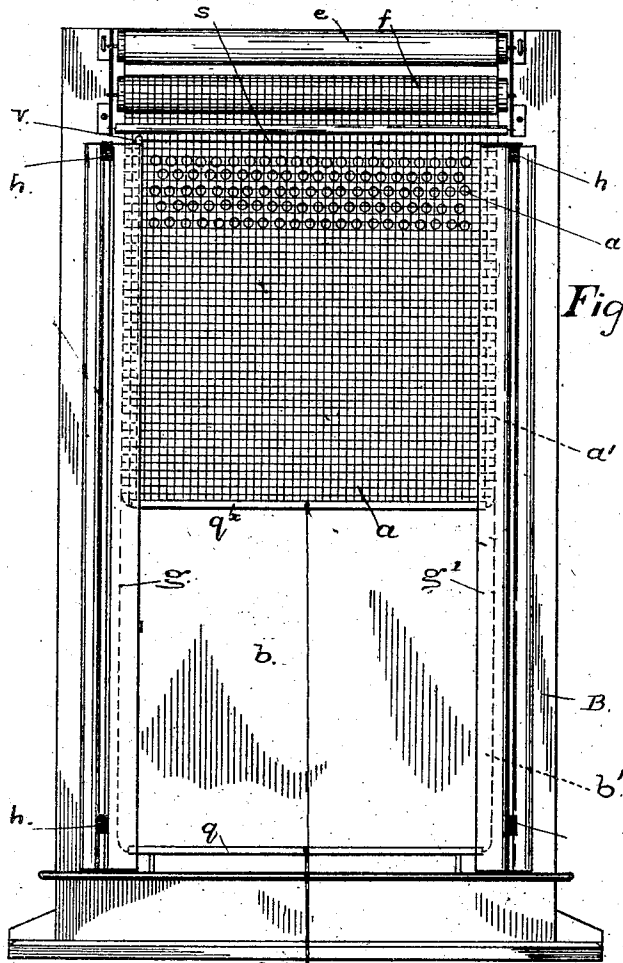


Fig. 1.

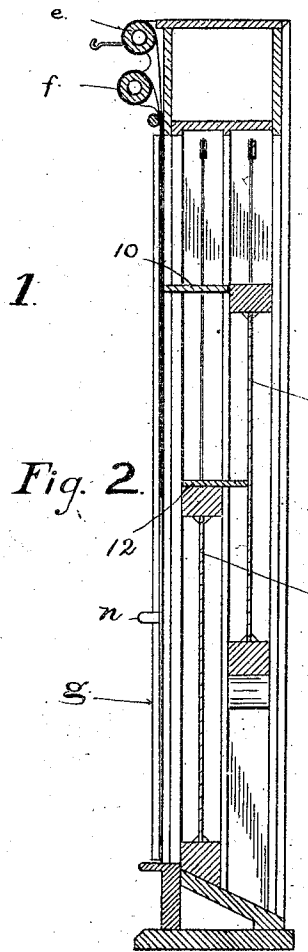


Fig. 2.

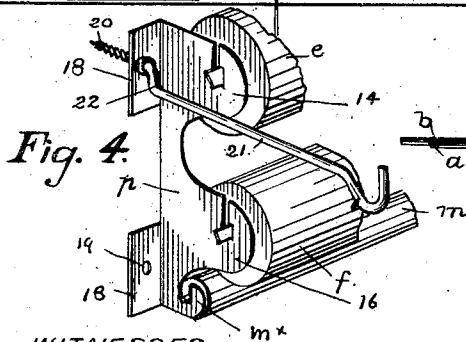


Fig. 4.

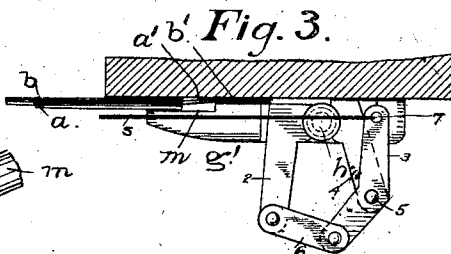


Fig. 3.

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UNITED STATES PATENT OFFICE.

CONSTANT V. HUGHES AND JESSE M. ROBINSON, OF ALAMEDA, CALIFORNIA, ASSIGNORS TO VENTILATING WINDOW SHADE COMPANY, A CORPORATION OF ARIZONA TERRITORY.

COMBINATION SHADE AND SCREEN FOR WINDOWS.

938,147.

Specification of Letters Patent.

Patented Oct. 26, 1909.

Application filed May 11, 1908. Serial No. 432,114.

To all whom it may concern:

Be it known that we, CONSTANT V. HUGHES and JESSE M. ROBINSON, citizens of the United States, and residents of Alameda, in the county of Alameda and State of California, have invented new and useful Improvements in Combination Shades and Screens for Windows, of which the following is a specification.

This invention has for its object to provide an improved window shade and fly screen, having the quality of excluding or modifying the light and keeping out flies and other insects without obstructing or interfering with the ventilation of the room through the open window; with the additional advantage of permitting either the shade or the screen to be used and adjusted either together, or separately and alone.

To these ends and objects our invention embraces a novel arrangement of window shade and screen, mounted for operation on spring-rollers, and the combination therewith of fixtures and controlling devices of novel and peculiar construction, all as hereinafter specified for operation as set forth.

The following description explains at length the nature of our said invention and the manner in which we proceed to construct, produce and apply the same; reference being had to the accompanying drawing, wherein—

Figure 1 represents in front elevation a window and its frame, or casing, having the combination shade and screen of our invention arranged thereon for operating, the shade being shown as drawn down to cover the whole of the window, and the screen adjusted to cover and protect the upper portion of the shade through which ventilation of the room is afforded by placing the apertured portion of the shade in line with the opening above the lowered top-sash. Fig. 2 is a vertical transverse section through Fig. 1. Fig. 3 is a detail-view of a section of one of the clamping-strips. Fig. 4 is a view in perspective of one of the combination fixtures of our invention, showing the brackets or supports for the shade-roller, the screen-roller and the idle-roller that control both the shade and the screen as they are wound on or drawn off the rollers.

A novel feature in the combination window-shade and screen of our invention con-

sists in a rolling window-shade of flexible, light-excluding fabric or material formed or provided with an apertured air-admitting section consisting of a number of relatively large and closely arranged apertures or perforations, comprising what we have termed the ventilating portion or section, combined with a screen of open-mesh or reticulated fabric of proper flexibility to wind or roll and unroll on a shade-roller; and supporting means for the shade-roller and screen-roller having separate bearings for the two rollers and so constructed and arranged as to insure an invariably fixed and unchangeable position of the rollers after they are mounted on the window-casing. By means of these supports the two rollers are caused to wind and unwind evenly and uniformly, with the effect to keep the edges of the separately movable and adjustable shade and screen always in line and in true vertical relation to each other and to the sides of the window-casing under all conditions of adjustment or movement of either shade or screen.

According to our invention the shade being of more or less opaque quality of shade material, such as is generally used for a window-shade, is formed or provided with the apertured ventilating section or portion *a*, preferably located at the upper part near the shade-roller and with an unperforated or solid portion *b*. Under such conditions it is practicable to give free circulation of air through the window and yet have the shade drawn down, as is usually done at night to afford the desired privacy to the occupants of the room. But it is important at such times especially to exclude flies and insects that are attracted by the light within and prevent them gaining entrance through the open window; we provide for operation with the shade an adjustable screen and means for adjusting and controlling it both separately of and in connection with the shade, so as to cover and protect the window-opening in all the different positions of the shade and as well when the shade is drawn down to bring the apertured ventilating section in use, as when the shade is raised either wholly or partially. This part of the invention consists in a curtain of fine mesh fabric such as mosquito netting, or similar reticulated fabric or material of proper dimensions in

length and width to extend across and cover the window, and of sufficient flexibility for rolling on a roller.

The screen-roller *f* and the shade-roller *e* are mounted on the window-casing over the top of the window-opening in such relation to each other that the shade and the screen will lie one upon or against the other, maintaining a uniformly even position with their vertical edges in line, and running true and even as the shade and the screen wind or unwind, whether they are used jointly to exclude the light and also screen the opening, or the screen is set to cover the window in whole or in part without using the shade.

It is important that the screen-roller be hung and supported horizontally and parallel with the shade-roller and that the two rollers be kept in such position without being liable to vary their position for the reason that the shade and the vertical edges of the screen being clamped or confined against the face of the casing by the clamping-strips the edges of both shade and screen must run true and even so as to be grasped and held by the clamps. Such alinement and uniform movement of the two parts are secured through the combination and arrangement with the shade and screen rollers or fixtures of peculiar and novel construction comprising a pair of brackets *p*, each having separate ears or projecting members 14—16—*m*^{*} one above the other on a common plate or body on which are flanges 18 also formed integral with the plate, and standing at right angles to the members 14—16.

The bracket is secured to the casing by screws taking through apertures 19 in the flanges and as the ears in which are the sockets or rests for the journals of the shade-roller and the screen-roller, are a part of the bracket, the two rollers will be properly set and their parallel relation maintained by the single adjustment and fixing of the one pair of brackets on the window-casing.

In place of one of the screws for fixing the bracket to the casing is substituted a stiff wire arm 21 having a hook-shaped outer end with a screw-thread 20 on the opposite end, and formed with an offset or shoulder 22 on the shank. A screw-hook of this form has the double function of a fastening for the bracket and a support for the end of a curtain-rod, when curtains are hung over the window when the hook is screwed in place and the shoulder formed by the offset before mentioned is set up closely against the bracket, the hook will support the weight of the curtains and the curtain-pole and also fix the bracket tightly to the casing thereby avoiding the necessity of fixing additional and separate supports on the casing.

The clamping strips *g* *g*¹ overlapping the vertical edges of the shade and screen have

the function of preventing the shade and screen from flapping or swinging in the wind and of closing the gaps or openings between those parts and the window-casing through which flies and other insects could otherwise gain entrance. These clamping-strips are preferably formed each of a thin slat of proper length to extend from a point beneath and close under the shade-roller down to the bottom of the casing, or to the lowest point covered by the shade and the screen when they are drawn down. The slats are attached to the casing by spring-hinges *h* and are so placed as to clamp the shade and the screen along the vertical edges with sufficient force to hold them smoothly and closely over the window-opening. The slats before mentioned are also of proper width to overlap the shade, but they are cut away or recessed on the side next the casing in such manner that while they will engage and bear upon the marginal edge *b'* of the shade, they will clear the shade-stick *q* on the bottom of the shade, or will bear so lightly on it as not to prevent or interfere with the shade moving readily up or down when the clamping-strips are raised to take their pressure off the edge of the shade and allow it to be drawn from or wound on the roller. The form or construction of the clamping-strip is shown in Fig. 3, being preferably recessed as at *t*, to take the pressure of the strip off the shade-stick *q*. Another novel feature in this clamping means consists in connecting the two clamping-strips together, so that they can be raised or held off the shade by using one hand, thereby leaving the other hand free to raise or lower the shade.

The clamping-strip *g* hinged to one side of the window-casing is connected with the correspondingly formed strip *g*¹ on the opposite side by the cord or wire *s*. This wire is attached to the strip *g* at *v*, and is connected to the other strip *g*¹ through the medium of a bell-crank lever of peculiar construction, comprising an arm 2 on one leaf or member of the top hinge, and a lever 3 of the first order having one end connected to the end of the arm 2 by a link 6, and its fulcrum 5 on the end of a fixed arm 4 on the stationary leaf or member of the hinge. The wire *s* is attached to the end 7 of the lever, and between that point and the opposite end that is connected to the movable leaf of the hinge the fulcrum-point 5 is located. The effect of this lever-connection is to produce movement of one clamping-stop simultaneously with the movement of the corresponding strip on the casing, simply by opening or drawing back the strip on which the knob or handle *n* is provided for that purpose. As both strips are attached to the window-casing by spring-hinges, they are held normally closed upon the marginal

sides of the shade exerting at such time sufficient pressure to prevent the shade from flapping under a strong breeze, and to avoid gaps or openings between the edges of the shade and the face of the window-casing that commonly exist when the shade hangs loosely or unconfined.

Being connected together in the manner described, it is not possible to release one edge of the shade without taking the pressure from the opposite side, or without releasing both edges of the shade from the clamps g g^1 at the same moment, and by connecting the clamps for simultaneous movement the additional advantage is gained of releasing the shade from the clamps by using one hand alone, thus leaving the other hand of the operator free to raise or adjust the shade. No separate adjustment of the clamping-strips is therefore required, and they are opened or closed on the shade independently of special care or attention.

In order to employ a relatively thin and flat clamping-strip it is desirable that the shade-stick q on the bottom of the shade should be made as thin as will be found consistent with the necessary stiffness and strength. The stick q is made somewhat shorter than the width of the shade, leaving marginal portions b' on both sides beyond the ends of the stick q , and of suitable width to lie under and be caught between the window-casing and the clamping-face of the strip. The ends of the shade-stick thus will slide readily between the clamps g g^1 and the casing, but the shade will be confined at all points along the edge b' when the clamps are closed. A stick of the same character is used on the screen, as shown at q^* , Fig. 1. The top rail of the upper sash preferably carries a stop-board 10 arranged to close the space between the sash and the window shade, as represented in Fig. 2, and so prevent insects from passing into the apartment when the upper sash is lowered.

In the ordinary sliding-sash window having a top and a bottom sash there exists when either one or the other is opened, a space between the two sashes, affording an inlet for flies and insects from the outside; and such space or gap will exist between the top-rail of the bottom sash and the glass in the top-sash when the top-sash is lowered; or when the bottom sash is raised. The means for closing the opening between the top-rail of the lower sash and the glass pane of the upper sash comprises a stop-board 12 of proper length to fit closely in place

between the upright sides of the window-frame, and of such width that it will fit closely against the face of the glass pane in the sash and also project over the top-rail of the lower sash to which it is fixed. But the stop-boards just described, and the spring-clamping strips and the means for operating them, herein illustrated, are not claimed in this case, but are claimed in our application filed of even date herewith, Serial No. 432,115.

We claim:—

1. The herein described adjustable shade and screen for a window, comprising the stationary brackets, two shade-rollers supported in said brackets in fixed and unvarying relation and in parallel position on a window casing, a shade of flexible fabric attached to one of said rollers having an apertured air-admitting section, a fly-screen of flexible reticulated fabric attached to the other of said rollers, and the spring held clamping-strips on the window-casing adapted to extend over and clamp the shade and the screen along the marginal edges thereof, the said clamping-strips having recessed back-faces.

2. The combination with a bracket for supporting a shade-roller provided with a perforated attaching flange, of a screw-fastening consisting of a hook having a shank provided at its inner end with a screw-thread and having an off-set beyond the screw thread arranged to bear against the flange of the support through which the screw is passed.

3. In a combination shade and fly-screen fixture for a window, a fixed support adapted to carry the shade-roller and the screen-roller, comprising flanges for securing the support to the window-casing and separate bearings for the journals of the shade-roller and the screen-roller, arranged in fixed and unvarying relation to support the said rollers in parallel position, and fastening screws for securing the said support on the window-casing, one of said fastening means consisting of a hook having a straight shank provided on the end with a screw-thread, and having an offset beyond the screw-threaded portion adapted to bear against the flange of the support through which it is inserted.

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