M. O. NELSON.

WINDOW SCREEN.

APPLICATION FILED APR. 13, 1917.

1,241,425.

Patented Sept. 25, 1917.

3 SHEETS—SHEET 1.

Fig. 1.

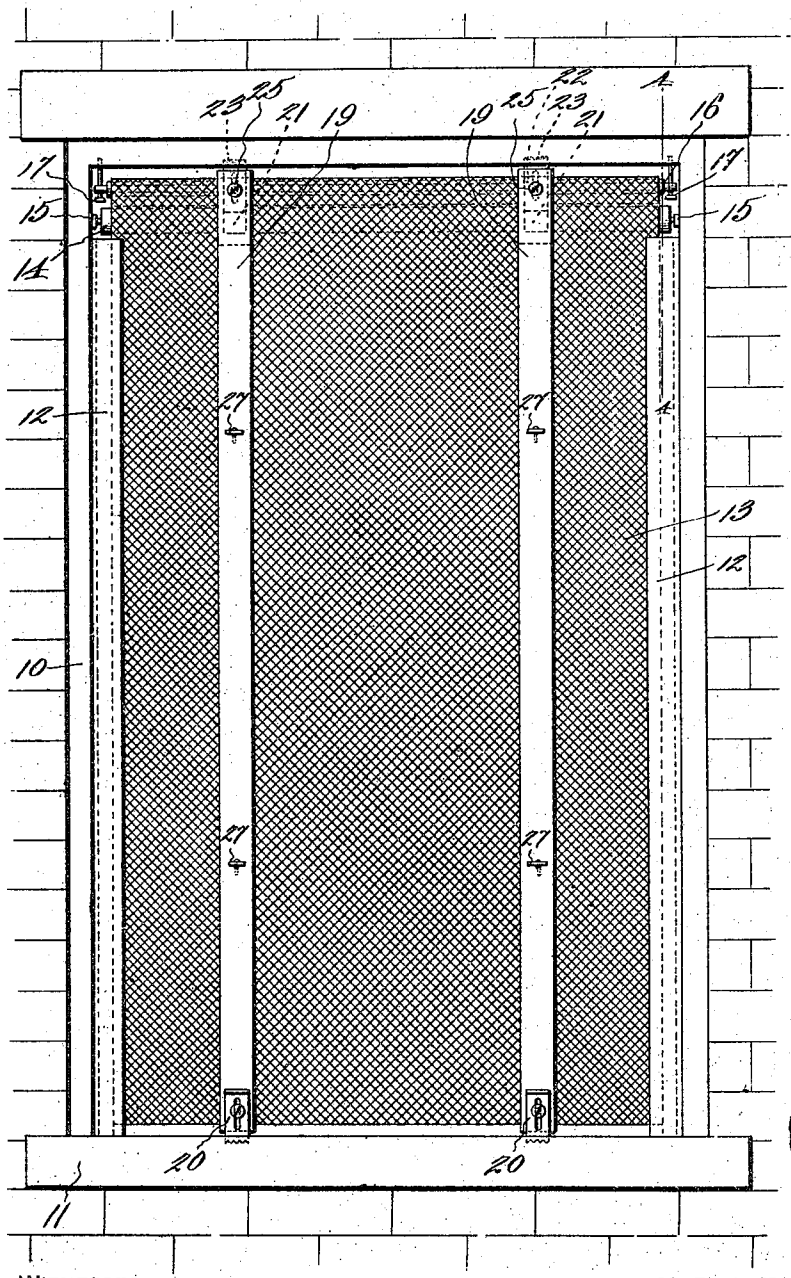
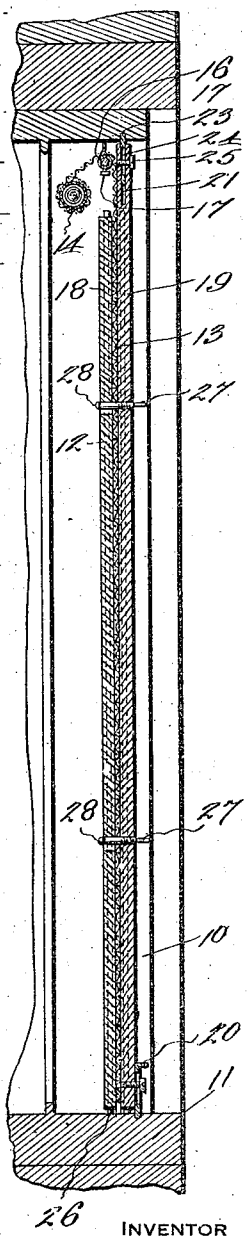


Fig. 2.



WITNESSES

M. Map. Duvall.

INVENTOR

M. O. Nelson,

BY Victor J. Evans

ATTORNEY

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3 SHEETS—SHEET 2.

Fig. 3.

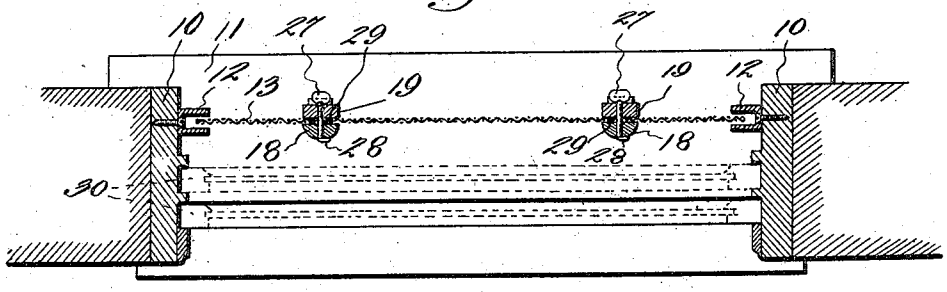
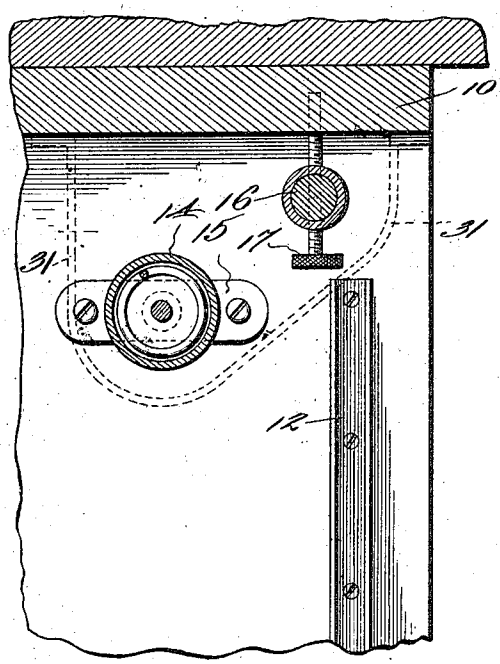


Fig. 4.



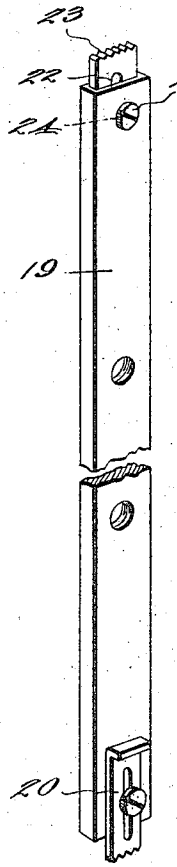


Fig. 5.

WITNESSES

W. Mary. Duvall

INVENTOR

M. O. Nelson,

BY Victor J. Evans

ATTORNEY

M. O. NELSON.

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3 SHEETS—SHEET 3.

Fig. 6.

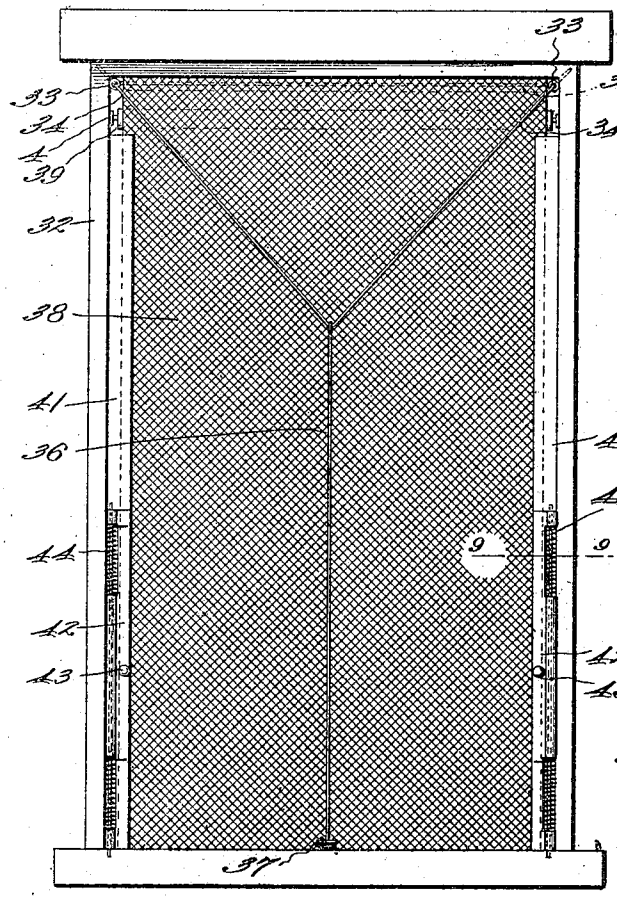


Fig. 9.

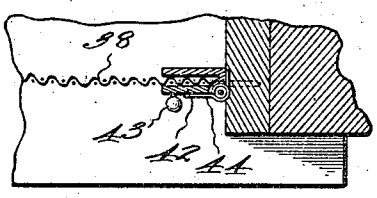


Fig. 7.

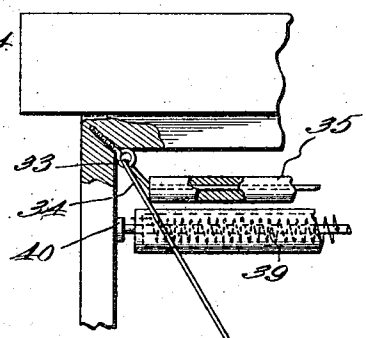
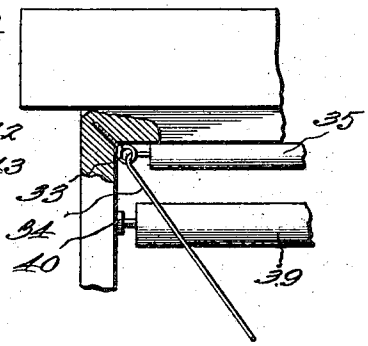


Fig. 8.



WITNESSES

W. Mapl Duvall.

INVENTOR

M. O. Nelson,

BY Victor J. Evans

ATTORNEY

UNITED STATES PATENT OFFICE.

MARTIN OSCAR NELSON, OF BROOKLYN, NEW YORK.

WINDOW-SCREEN.

1,241,425. Specification of Letters Patent. Patented Sept. 25, 1917.

Application filed April 13, 1917. Serial No. 161,831.

To all whom it may concern:

Be it known that I, MARTIN OSCAR NELSON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Window-Screens, of which the following is a specification.

The present invention relates to improvements in window screens.

In carrying out my invention it is my purpose to provide a screen that is connected with a spring actuated roller, the said roller being inclosed in a suitable housing to protect the same and the screen thereon from the elements when the screen is not in its lowered position, the screen having its opposite edges arranged in ways disposed to the opposite sides of the window casing while means is provided for retaining the screen in its lowered position whereby the same will fully inclose the casing to one of the sides of the sash in the casing and whereby either of the said sashes may be raised or lowered without interfering with the screen.

It is a further object of the invention to provide a screen that is adapted to be arranged upon a window casing, to fully cover the said casing when the screen is in its operative position and to be arranged in a suitable housing carried by the casing when the screen is in its inoperative position. Guide means are arranged vertically of the casing to receive the screen therebetween, and means comprising mechanism are carried by the said guide means designed to engage with the screen to retain the screen either in an entirely lowered or partially lowered condition.

It is a still further object of the invention to produce a device of this character which may be readily secured to either the exterior or interior of any ordinary window casing, which is comparatively simple in construction, which may be readily applied to or detached from the casing and which will perform the functions for which it is adapted with ease and with accuracy.

With the above and other objects in view the improvement resides in the construction, combination and arrangement of parts set forth in the following specification and falling within the scope of the appended claims.

In the drawings:

Figure 1 is a perspective view of a window casing having arranged thereon my improved screen,

Fig. 2 is a vertical transverse sectional view in a line with one pair of guide plates,

Fig. 3 is a horizontal sectional view approximately on the line 3—3 of Fig. 2,

Fig. 4 is a sectional view approximately on the line 4—4 of Fig. 1 and upon an enlarged scale,

Fig. 5 is a perspective view of one of the guide plates,

Fig. 6 is an elevation illustrating a modification,

Fig. 7 is an enlarged elevation looking toward one of the corners of the window casing, parts being broken away and parts being shown in section and the screen being removed,

Fig. 8 is a view similar to Fig. 7 but illustrating the guide roller for the screen in its elevated position as when the screen is brought to cover the window casing or when the screen is wound around its roller to uncover the casing, and

Fig. 9 is an enlarged sectional view approximately on the line 9—9 of Fig. 6.

In the drawings I have illustrated my improvement as arranged on the outer side of a window casing but it is to be understood that the same may, if desired, be arranged upon the interior of the casing.

In the said drawings, the numeral 10 designates the window casing and 11 the sill therefor. The casing 10, to the opposite sides thereof is provided with vertically arranged channel members 12—12, and between the flanges of these channel members the opposite edges of the screen are adapted to be arranged. The screen is indicated by the character 13 and is in the nature of a wire mesh, the same being wound around a suitable spring actuated roller 14 that has its shafts journaled in suitable bearings 15—15 secured to the sides of the casing adjacent to the top thereof. It will be noted that the roller 14 is disposed a suitable distance away from the channel members 12, and the numeral 16 designates a guide rod over which the end of the screen is trained and whereby the edges of the said screen are directed to the guide channel members 12. The guide rod comprises a member which is round in cross section, and the same at the opposite ends thereof is provided with adjustable elements, such as screws or bolts 17 which enter the top

of the casing so as to provide for the adjustment of the said rod 16 with respect to the said top of the casing.

The screen may be arranged between guide members which are in the nature of bars 18 and 19 arranged in pairs, the bars 19 being disposed outward of the bars 18, so that the said bars 19 will contact with the outer surface of the screen and the bars 18 with the inner surface of the said screen. The inner bars are of a materially less length than the outer bars, the said inner bars 18 upon their lower ends being preferably provided with tooth portions 26 to engage with the lower member of the window casing, the outer bars 19, having at their lower ends slotted plates 20, the outer edges of which are toothed, the said plates being engaged by headed elements whereby to adjustably connect the said toothed members to the said bars 19, while the upper or opposite ends of the said bars may be slotted or otherwise provided with a pocket to receive a plate 22, the same having its outer edge toothed as at 23 and being provided with an elongated slot 24 and the numeral 25 designates a compression element that has its shank threaded through the bar 19 and passing through the slot 24 in the plate 22, and whereby to compress the said plate 22 in the pocket of the bar 19. The toothed edge 23 of the plate is designed to engage with the upper member of the window casing, whereby to retain the outer bars 19 in proper position with respect to the said casing and with respect to the spring. The pairs of bars 18 and 19 are provided, at desired intervals, with alining openings designed to receive binding elements in the nature of screw members 27. If desired, the bars 18 may have their openings in the nature of key hole slots, and the member 27 may have the end of its shank offset and passed through the said key hole slot, so that when the member 27 is turned the offset end thereof, indicated by the character 28, will contact with the inner surface of the bar 18. It is, of course, to be understood that the screen is provided with openings through which the shanks of the members 27 pass, and these openings may be and preferably are enforced by metallic rivets, and the binding elements and openings in the screen are so arranged that the said screen may be arranged to cover one or both of the sashes in the window casing.

The numeral 31 designates a suitable housing which incloses the roller 14 and the guide rod 16 and which also is adapted to inclose the screen when the said screen is wound around the roller.

In practice, when the screen is not in use it is, of course, wrapped around the roller 14 through the medium of the rotation of the roller by the spring means connected therewith. When the device is in use the guide rods 19 and the compressing elements 27 associated therewith may be removed, the screen being drawn downward of the casing and guided by the channel members 12 and the guide bars 18. When the screen has been drawn to either entirely inclose or partially inclose the casing, the guide bars 19 are arranged opposite the guide bars 18 and in contact with the screen. The binding elements 27 are then actuated to secure the screen between the bars 18 and 19.

In Figs. 6 to 9 I have illustrated a modified form of the construction. In these figures the guide bars 18 and 19 are dispensed with and different means is illustrated for adjusting the guide roller for the window screen.

In the said Figs. 6 to 9 the window casing is indicated by the character 32 and at the upper corners thereof I arrange guide members preferably in the nature of eye bolts 33 through which are passed the opposite ends of a flexible element 34 that is passed centrally through the screen guide roller 35. Of course, the flexible elements 34 may be connected to the guide rollers in a different manner if desired and instead of the single flexible element 34, two of such elements may be employed one secured to each end of the guide roller 35. The element 34, as illustrated by the drawings is, however, in the nature of a single member and the portion thereof upon the outer face of the window casing is centrally connected by an operating cord member 36, while the sill of the window casing 32 is centrally provided with an upstanding headed element or clip 37 designed to be engaged by the cord 36, when the said cord is operated either in permitting the roller 35 to gravitate away from contact with the upper member of the casing 33, as illustrated in Fig. 7 of the drawings or into contact with the upper member of the casing, as illustrated in Fig. 8 of the drawings. The roller upon which the screen 38 is wound is indicated by the numeral 39 and has its shaft or trunnion spring influenced whereby the screen 38 will be normally wound around the said roller, the said shaft or trunnion being journaled in suitable bearings upon the confronting faces of the side members of the casing 32.

The screen 38 is designed to have its opposite edges received in and guided through channel members 41 substantially similar to the channel members 12. The channel members 41 are secured to the confronting vertical members of the window casing in any desired or preferred manner, and the outer flanges of the said members 41 at a suitable distance from the lower ends of the said members are cut away and in this cut away portion is hingedly secured spring

pressed members 42 each provided with a handle 43, the springs 44 connected between the said members and the shafts thereof being designed to swing the members 42 inwardly toward the inner flange of the channel members 41. By this arrangement it will be noted that the members 42 are in the nature of spring clamps and are designed when the screen is moved to the position illustrated in Fig. 6 of the drawings to engage with the opposite edges of the said spring to compress the same against the inner flange of the channel member 41 to hold the screen at a desired adjusted position upon the window casing. It is, of course, to be understood that the spring clamps 42 may if desired have their inner faces roughened or formed with projections to engage between the mesh of the screen 38.

Having thus described the invention, what I claim is:

1. In combination with a window casing, channel members upon the sides thereof, a spring pressed roller at the top and journaled in bearings, a screen wound around said roller and adapted to have its edges received in the channel members, vertically disposed guide plates upon the sill arranged in pairs for receiving the screen therebetween, and means for adjustably securing the screen between the plates.

2. In combination with a window casing, channel members secured to the sides thereof, a spring actuated roller journaled in bearings at the top of the casing, a screen wound around said rollers and adapted to have its edges received in U-shaped members, an adjustable guide bar for the screen at the top of the casing, vertically disposed guide plates for the screen each comprising an inner and an outer member, means for removably securing the outer member to the casing, and means for removably securing the inner member to the outer member, and said means adapted to engage with the screen.

3. In combination with a window casing, vertically disposed U-shaped members to the sides thereof, a horizontally disposed spring actuated roller journaled in bearings at the top of the casing, a screen wound around the roller, an adjustable bar for the screen between the roller and the U-shaped members, a housing for the roller and guide bar, vertically disposed guide plates adapted to receive the screen therebetween when the screen is moved over the casing and the edges thereof arranged in the U-shaped members, toothed elements upon the guide plates, one of said elements being adjustable, and means for retaining the said element adjusted, binding elements between the spaced pairs of plates, whereby to removably connect the inner to the outer plates, the screen having openings provided with reinforcements, the said binding elements adapted to pass through the reinforced openings to secure the screen between the guide plates.

4. In combination with a window casing, channel members upon the confronting sides thereof, a spring actuated roller at the top of the casing, a screen wound around the roller and adapted to be received in the channel members, and means for engaging with the screen for retaining the same between the said channel members against the influence of the spring roller.

5. In combination with a window casing, channel members upon the confronting sides thereof, a spring actuated roller journaled upon the sides of the casing, a screen wound around said roller, a guide roller for the screen, means associated with the guide roller and operative to move the said roller toward the horizontal member of the casing, and means for co-engaging with the screen for securing the said screen against the influence of the spring actuated roller.

In testimony whereof I affix my signature.

MARTIN OSCAR NELSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."