May 30, 1944. W. J. STARR 2,350,200

SCREEN HOLDER

Filed June 11, 1943 2 Sheets-Sheet 1

FIG. 1.

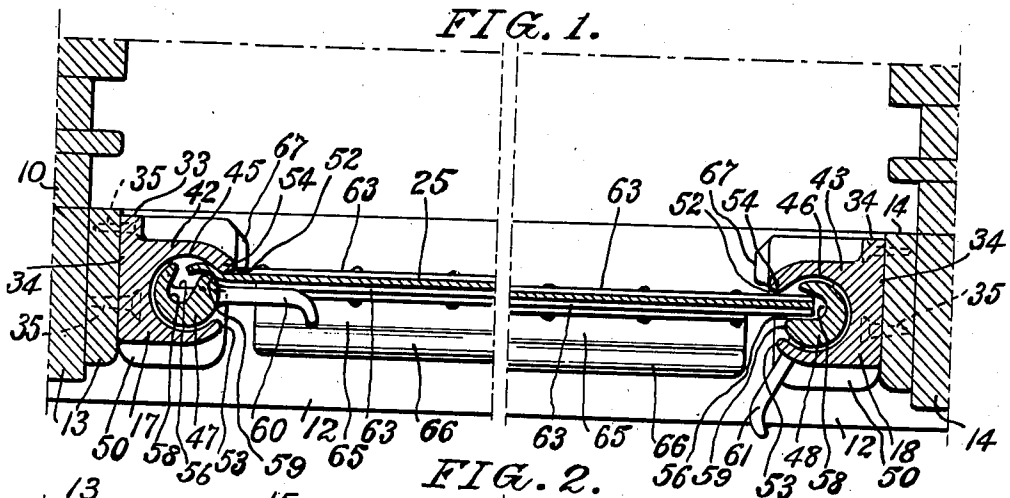
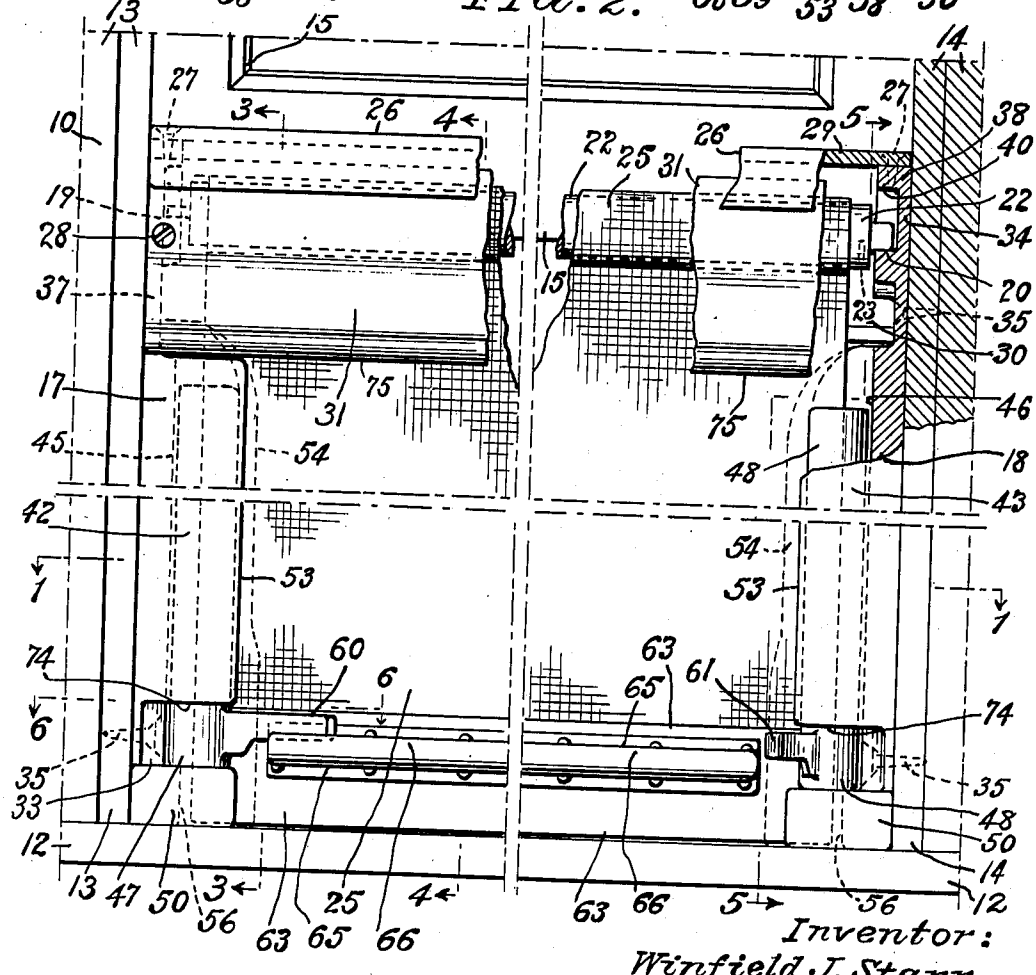


FIG. 2.



Inventor:
Winfield J. Starr
By F. DeWitt Goodwin
Attorney

May 30, 1944. W. J. STARR 2,350,200

SCREEN HOLDER

Filed June 11, 1943 2 Sheets-Sheet 2

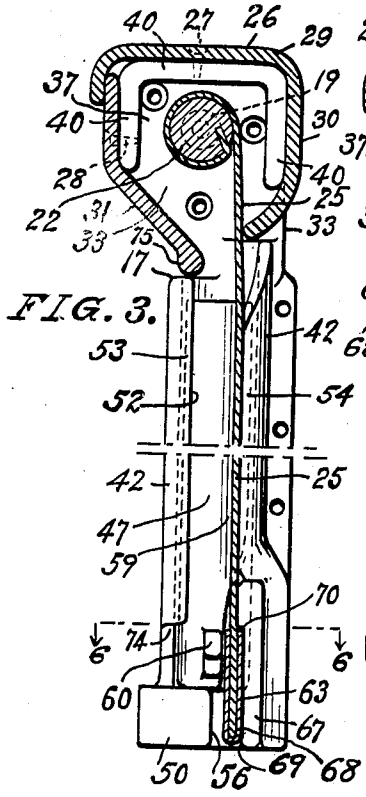


FIG. 3.

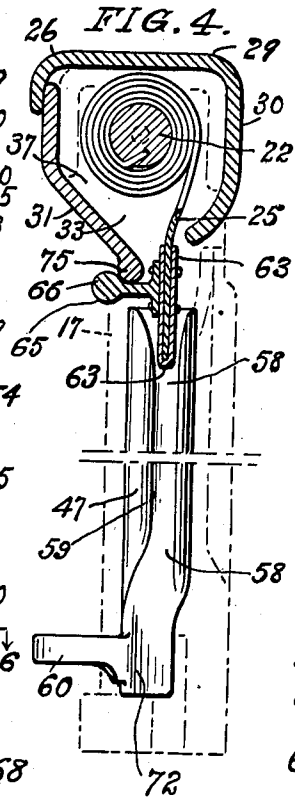


FIG. 4.

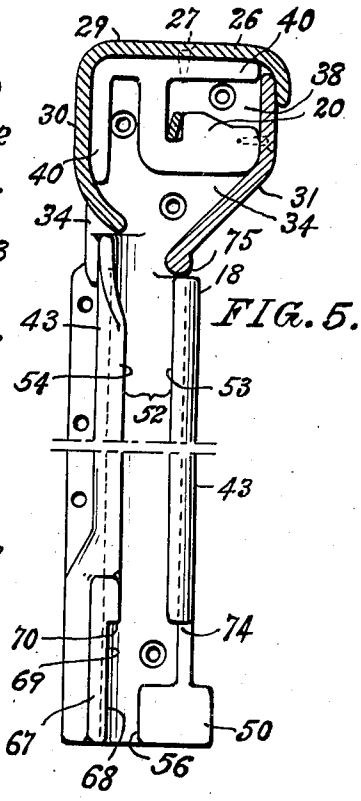


FIG. 5.

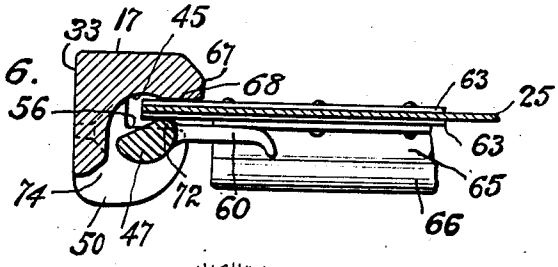


FIG. 6.

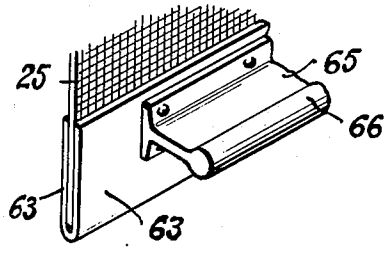


FIG. 7.

Inventor
Winfield J. Starr
By F. DeWitt Goodwin
Attorney

Patented May 30, 1944 2,350,200

UNITED STATES PATENT OFFICE

2,350,200

SCREEN HOLDER

Winfield J. Starr, Philadelphia, Pa.

Application June 11, 1943, Serial No. 490,435

11 Claims. (Cl. 160—23)

My invention relates to improvements in screen holders and particularly to holders for roller screens of the flexible type for windows.

The object of my invention is to provide a holder for securing the edge portions of a flexible screen which will not break or injure the fabric of which the screen is formed.

A further object is to provide casings, adapted to be secured upon the vertical members of a window frame, for holding rotatable locking bars, and provide said bars with longitudinal channels forming runways for the edge portions of the screen. Said bars being adapted for rotation within the casings to radial positions of said channels for bending, or deflecting, the edge portions of the screen over rounded surfaces of the casings sufficiently for holding the screen in place without tightly clamping the fabric of the screen.

A further object is to construct the casings so that the bearings for the ends of the roller may be mounted upon the casings.

A further object is to provide a novel cover for the roller and the screen having detachable parts making the roller accessible.

A further object is to provide novel means for readily operating the screen and for holding it in the raised and lowered positions.

A further object is to construct the casings and parts so that they may be formed of molded plastic material adapted for holding a screen formed of like material.

These together with various other novel features of construction and arrangement of the parts, which will be more fully hereinafter described and claimed, constitute my invention.

Referring to the accompanying drawings:

Fig. 1 is a horizontal sectional view, as on line 1—1, Fig. 2, showing a screen and holder mounted upon a window frame, embodying my invention.

Fig. 2 is a view in elevation of Fig. 1, showing a portion of a window frame and the screen holder in section.

Fig. 3 is a vertical section as on line 3—3, Fig. 2, showing one of the side casings detached from the window frame.

Fig. 4 is a vertical section as on line 4—4, Fig. 2, showing the locking bar detached from the casing, which latter is shown in dot and dash lines, and showing the screen in the raised position.

Fig. 5 is a vertical section on line 5—5, Fig. 2, showing the casing detached and the locking bar removed.

Fig. 6 is a horizontal section on line 6—6, Fig. 2.

Fig. 7 is a perspective view showing a portion of the screen.

In the drawings, in which like reference characters refer to like parts, 10 represents a window frame comprising a sill 12, side frame members 13 and 14. A sash 15 is shown in the raised position in Fig. 2.

My novel screen structure comprises side casings 17 and 18, adapted to be secured to the frame members 13 and 14. The casings 17 and 18 are of unit construction adapted to be formed of plastic material.

The opposite casings 17 and 18 are provided with bearings 19 and 20, upon which a spring roller 22 is mounted. The roller 22 is provided with a single locking pawl, or dog, 23, shown in dotted lines in Fig. 2, adapted for holding the roller against the action of a spring, not shown, in the usual manner. Upon the roller is mounted a flexible screen 25, preferably formed of plastic material. The roller 22 is shown positioned upon the inner side of the window frame and adjacent to the vertical center of the latter, so as to cover the opening when the sash 15 is raised, as shown in Fig. 2.

A box like cover 26 is provided for encasing the roller 22. Said cover extends between the casings 17 and 18, to which the ends of the cover are detachably secured by screws 27 and 28. The cover 26 comprises a top member 29 a back member 30, which extends downwardly between the roller and the sash, and a separable front member forming a valance 31 covering the inner face of the roller. The valance 31 may be detached by removing the screws 28 thus making the roller accessible for mounting and removing it from the bearings 19 and 20.

The casings 17 and 18 comprise side walls 33 and 34 which form facing surfaces adapted to be secured to the frame members 13 and 14 by screws 35. Said walls 33 and 34 extend upwardly and form heads 37 and 38 upon which the bearings 19 and 20 are located. The casings 17 and 18 are provided with flanges 40 projecting inwardly from said walls 33 and 34 and form supports for the ends of the cover 26.

Body portions 42 and 43 are formed upon said walls 33 and 34 and are provided with cylindrical bores 45 and 46, in which are mounted for rotation locking bars 47 and 48, respectively.

Each of the body portions 42 and 43 extends from a point immediately below the head carry-

ing the roller to an enlarged base 50 adapted to rest upon the sill 12. Each of the body portions 42 and 43 has a longitudinal slot 52 defined by edge walls 53 and 54. Said walls 53 and 54 are adapted for retaining the bars 47 and 48 mounted loosely within the bores of the casings. Said bars 47 and 48 extend from adjacent to the top of the body portions 42 and 43 to the bases 50, upon which latter said bars are supported. Said edge walls 53 and 54 are spaced apart sufficiently to permit the edge portion of the screen to freely enter the bores of the casings and move freely within said slots. Each base 50 is provided with a vertical slot 56 through which the lower end of the screen may pass to the line of the sill 12.

Said bars 47 and 48 are each provided with a longitudinal channel 58 adapted to be occupied by the edge portion of the screen. Said channels form free runways for the screen. Each bar is formed with a rounded longitudinal edge surface 59, adapted for engaging the screen when the bar is rotated within the bore of the casing.

Secured upon the lower ends of the bars 47 and 48 are radially extending handles 60 and 61, adapted for rotating said bars to the position shown at the right hand end of Figs. 1 and 2, in which the screen is free for vertical movement, or said bars may be rotated to the position shown at the left hand end of Figs. 1 and 2, in which the edge portion of the screen is shown secured between the rounded edge surface 59 of the bar and the inner surface of the bore of the casing, with said edge portion of the screen deflected around the edge wall 54 of the casing to an angle, relatively to the main portion of the screen, which is sufficient to hold the screen without injuring the fabric of the latter.

A rigid strip 63 is secured upon the lower end of the screen 25 and extends the full width of the latter. The ends of said strip 63 enter the bores of the casing 17 and 18 and also enter the channels 58 formed in the bars 47 and 48.

A finger grip 65 is secured to said strip 63 and is positioned upon the latter so as to permit the handles 60 and 61 to swing over the finger grip 65 when the screen is in the lowered position adjacent to the sill 12. The finger grip 65 is provided with an enlarged bead 66 adapted for holding the handles 60 and 61 in the locked position of the bars 47 and 48, relatively to the screen, as shown at the left hand end of Figs. 1 and 2 and in Fig. 6.

The lower ends of the bars 47 and 48 have reduced end portions which are semicircular in cross section, as shown in Fig. 6, so that the bars will not bend the ends of the strip 63 when the bars impinge the edge portions of the screen.

As shown in Fig. 5, the lower ends of the casings 17 and 18 are each provided with a projection 67, having an off-set vertical facing surface 68, forming a recess 69 and a shoulder 70. When the handles 60 and 61 are in the locked positions, the ends of the strip 63 of the screen are forced into said recesses 69, below the shoulders 70 and retained against said facing surfaces 68 by the cam surfaces 72 formed upon the reduced lower ends of the bars 47 and 48, as shown in Fig. 6. By this arrangement the lower end of the screen is firmly held relatively to the casings without bending the ends of the rigid strip 63 of the screen.

The casings 17 and 18 are provided with notches 74, which form openings located above the bases 50, which openings permit the handles 60 and 61 to swing to the unlocked positions of the locking bars 47 and 48, as shown in Fig. 2.

When the screen is in the raised position, as shown in Fig. 4, the finger grip 65 engages a stop 75, formed upon the valance 31. Said stop 75 limits the upward movement of the screen. The finger grip 65 and the stop 75 are positioned for engagement before the rigid strip 63 of the screen passes above the upper ends of the locking bars 47 and 48, thus retaining the screen in alignment with the channels or runways 58 of the locking bars, ready at all time to be lowered to the bottom of the casings 17 and 18.

Various changes in the construction and arrangement of the parts may be made without departing from my invention.

I claim:

1. A holder for roller screens having in combination, a locking bar having a longitudinal channel forming a runway for an edge portion of the screen, means mounting the locking bar for rotation, a longitudinal wall secured in a fixed position adjacent to and parallel with said bar over which wall the screen is adapted to slide to the rolled and unrolled positions, and means for rotating said bar for deflecting an edge portion of the screen over said wall at an angle relatively to the body of the screen for retaining said edge portion of the screen between said wall and said bar.

2. A holder for roller screens having in combination, a locking bar having a longitudinal channel forming a free runway for an edge portion of the screen, means mounting said bar for rotation upon an axis parallel to an edge of the screen when extended, a longitudinal wall secured in a fixed position adjacent to and parallel with said bar over which wall the screen is adapted to slide, said wall having a rounded surface presented adjacent to said bar, and means for rotating said bar for deflecting an edge portion of the screen over said rounded surface of said wall at an angle relatively to the body of the screen for retaining said edge portion between said wall and said bar.

3. A holder for roller screens having in combination, a locking bar having a longitudinal channel forming a free runway for an edge portion of the screen, means mounting said bar for rotation upon an axis extending parallel to an edge of the screen when extended, a longitudinal wall secured in a fixed position adjacent to and parallel with said bar over which wall the screen is adapted to slide, said bar having a rounded surface defining the entrance to said channel, and means for rotating said bar for impinging an edge portion of the screen between said wall and the rounded surfaces of said bar.

4. A holder for roller screens having in combination, a casing adapted to be secured in fixed position parallel to an edge of the screen when extended, said casing having a longitudinal bore and a longitudinal slot forming an entrance to the bore, a locking bar mounted for rotation within said bore, said bar having a longitudinal channel adapted for receiving an edge portion of the screen, and means for rotating said bar into engagement with an edge portion of the screen for deflecting the latter within the casing at an angle relatively to the main surface of the screen for retaining said edge portion relatively to the casing.

5. A holder for roller screens having in combi-

nation, a casing adapted to be secured in a fixed position extending parallel to an edge of the screen when extended, said casing having a cylindrical bore and a longitudinal slot adapted for receiving an edge portion of the screen, said casing having a rounded wall defining said slot over which wall the screen is adapted to slide, a locking bar mounted for rotation within said bore, said bar having a longitudinal channel forming a free runway for an edge portion of the screen, and means for rotating said bar into a radial position for impinging said edge portion against the inner cylindrical surface of the casing.

6. A holder for roller screens having in combination, a casing adapted to be secured in a fixed position parallel with an edge of the screen when extended, said casing having a longitudinal bore and a slot adapted for receiving an edge portion of the screen, a locking bar mounted within said bore, said bar having a rounded surface extending parallel with said slot, means upon said bar for rotating the latter for engaging said edge portion between the casing and said rounded surface of the bar and deflecting said edge portion relatively to the main surface of the screen, a rigid strip secured upon the free end portion of the screen, said strip having an end thereof occupying the casing, and said bar having a reduced lower end portion adapted for engaging and pressing the end of the strip into engagement with the casing without deflecting said strip when the bar is rotated for engaging said edge portion of the screen.

7. A holder for roller screens having in combination, a casing adapted to be secured in a fixed position parallel with an edge of the screen when extended, said casing having a longitudinal slot adapted for receiving an edge portion of the screen, a locking bar mounted for rotation within the casing, a handle upon said bar for rotating the latter for engaging said edge portion within the casing, said casing having a lateral slot adapted to be occupied by the handle, a rigid strip secured upon the free end of the screen, and means upon said strip adapted for interlocking with the handle when said bar is in engagement with the screen.

8. A holder for roller screens comprising, a casing adapted to be secured in a fixed position parallel to an edge portion of the screen when extended, a bearing upon the casing upon which the roller of the screen is mounted for rotation, said casing having a longitudinal bore and a slot forming an entrance to the bore for an edge portion of the screen, a locking bar mounted for rotation within said bore, said bar having a longitudinal channel for receiving an edge portion of the screen, means for rotating said bar into engagement with said edge portion, said bar terminating at its upper end below the roller, a rigid strip secured upon the end of the screen opposite to the roller, means associated with the casing forming a stop located adjacent to the roller, a part upon said strip adapted for engagement with said stop, and said stop positioned relatively to said part when the screen is rolled upon the roller to the elevated position for retaining said rigid strip within said channel of the locking bar.

9. A holder for roller screens comprising, a casing adapted to be secured in a fixed position parallel to an edge portion of the screen when extended, a bearing upon the casing upon which the roller of the screen is mounted for rotation, said casing having a longitudinal slot adapted for receiving an edge portion of the screen, a locking bar mounted for rotation within said casing adapted for engaging said edge portion, a cover having members extending along the top and rear sides of the roller, means detachably securing the cover upon the casing, a valance forming a front wall of said cover, and means detachably securing the valance to the top member of the cover.

10. A holder for roller screens comprising, a casing adapted to be secured in a fixed position parallel to an edge portion of the screen when extended, a bearing upon the casing upon which the roller of the screen is mounted for rotation, said casing having a longitudinal bore and a slot forming an entrance to the bore for an edge portion of the screen, a locking bar mounted for rotation within said bore, said bar having a longitudinal channel for receiving an edge portion of the screen, means for rotating said bar into engagement with said edge portion, said bar terminating at its upper end below the roller, a cover adapted for encasing the roller, means detachably securing the cover upon the casing, a rigid strip secured upon the end of the screen opposite to the roller, said strip having an end extending into said casing, and a finger grip secured upon said strip and adapted for engagement with said cover when the screen is rolled upon the roller to the elevated position and adapted for retaining the end of said strip within said casings.

11. A holder for roller screens having in combination, a casing adapted to be secured in fixed position, parallel with an edge of the screen when extended, said casing having a longitudinal bore and a slot forming an entrance to the bore for an edge portion of the screen, a locking bar mounted for rotation within said bore, a radially extending handle upon said bar adapted for rotating the latter into engagement with said edge portion, a finger grip, means securing the finger grip upon the free end of the screen, said handle positioned upon said bar for extending over said finger grip when the screen is in the lowered position relatively to the casing, and means upon said finger grip adapted for engagement with said handle and tending to hold the latter and said locking bar against rotation.

WINFIELD J. STARR.