

July 7, 1925.

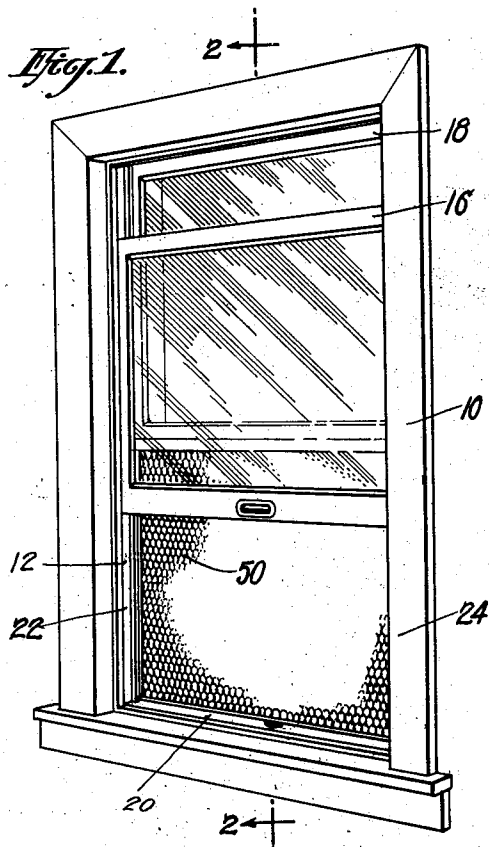
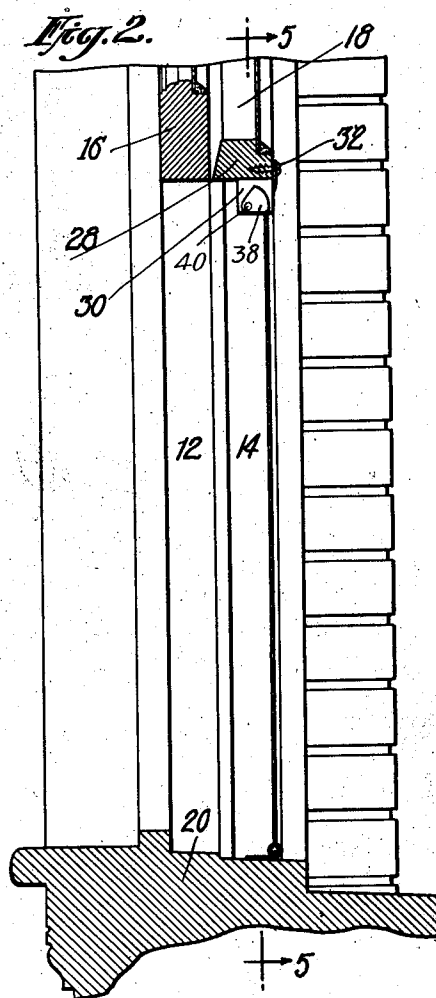
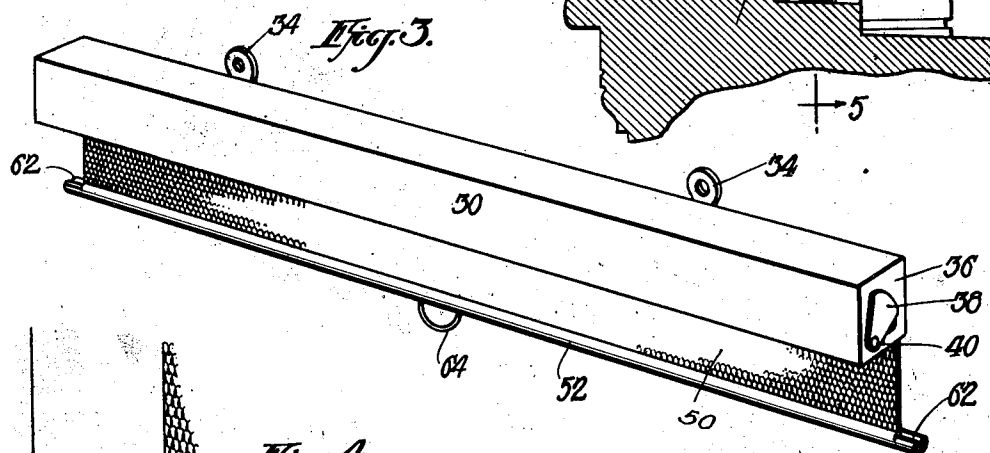
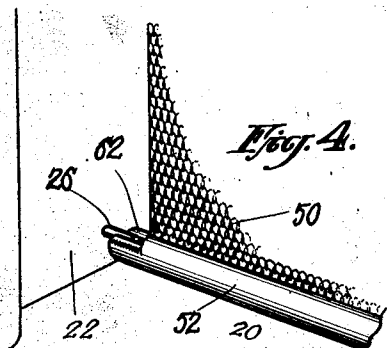
1,544,702

J. TRIFARI

ROLLER SCREEN

Filed Oct. 19, 1922

2 Sheets-Sheet 1



INVENTOR.
JOSEPH TRIFARI.

BY
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ATTORNEY.

July 7, 1925.

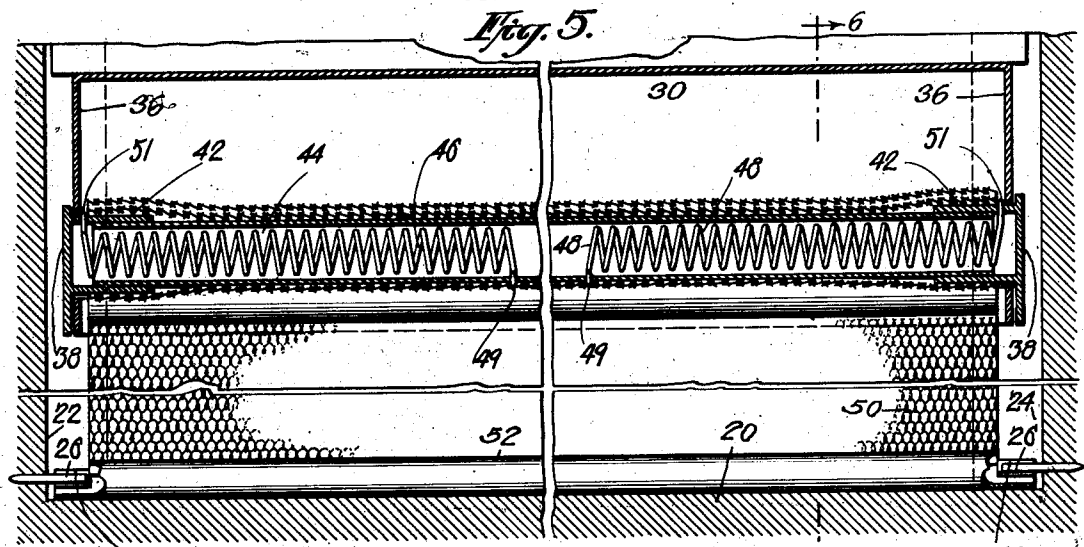
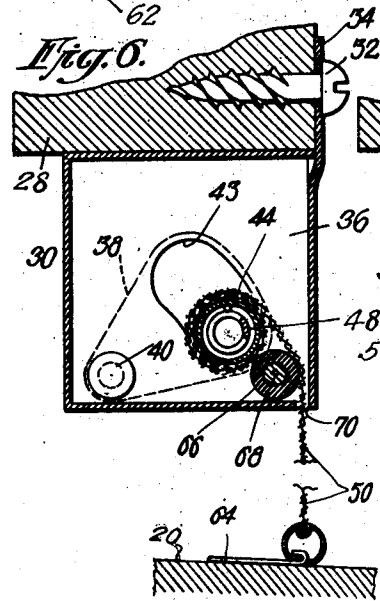
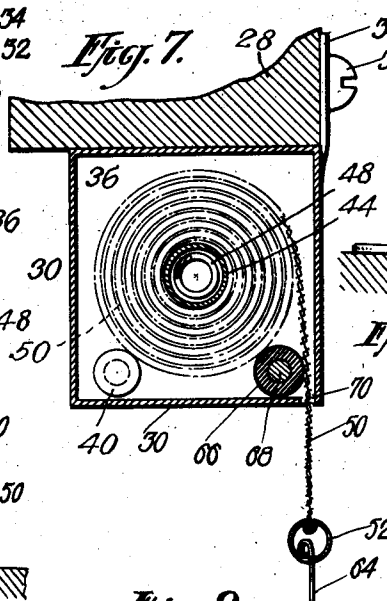
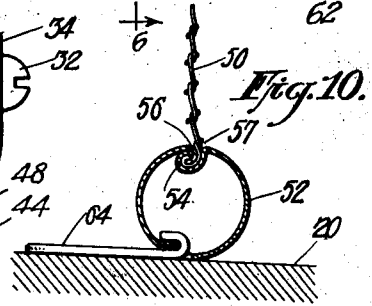
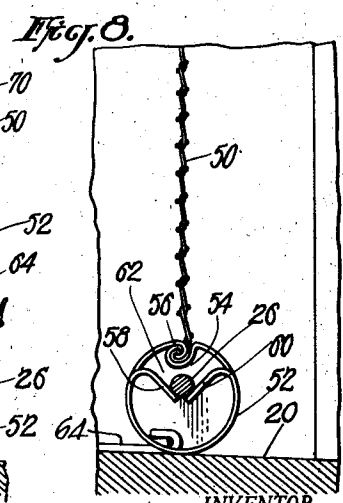
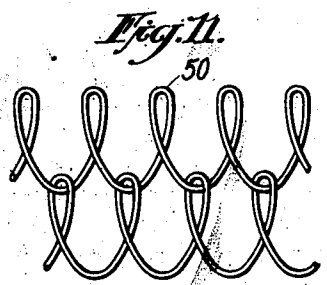
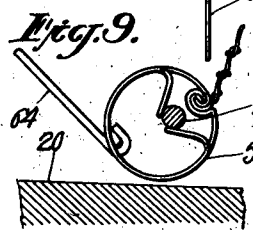
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J. TRIFARI

ROLLER SCREEN

Filed Oct. 19, 1922

2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

JOSEPH TRIFARI, OF NEW YORK, N. Y.

ROLLER SCREEN.

Application filed October 19, 1922. Serial No. 595,483.

To all whom it may concern:

Be it known that I, JOSEPH TRIFARI, a subject of the King of Italy, and resident of the city, county, and State of New York, have invented certain new and useful Improvements in Roller Screens, of which the following is a specification.

This invention relates to window screens and particularly to an improved type of screen adapted to be wound or unwound at will as occasion requires. The screen is provided with an improved supporting housing which is adapted to enclose a spring actuated roller, the housing being provided with means for securing it to a window sash.

An embodiment of the invention is illustrated in the accompanying drawings in which Fig. 1 is a perspective view of a window frame showing a double hung window having a roller screen secured to the underside of the outer sash.

Fig. 2 is a section on a larger scale on line 2-2 of Fig. 1, the inner sash however being raised to a higher position.

Fig. 3 is a perspective view showing a unitary structure embodying my invention.

Fig. 4 is a detail perspective illustrating a portion of the mesh fabric of the flexible screen and the pull-bar secured to the lower end of the fabric and the means for holding the screen in closed position.

Fig. 5 is a section on line 5-5 of Fig. 2 at an enlarged scale, parts being broken away.

Fig. 6 is an enlarged cross-section through the housing on line 6-6 of Fig. 5 showing a roller screen unwound.

Fig. 7 is a view similar to view 6 showing the screen wound on the roller.

Fig. 8 is a detail showing the pull-bar secured to the screen fabric and illustrating a securing notch formed in said pull-bar.

Fig. 9 is a detail of the pull-bar showing the position it assumes when being disengaged from its holding-pins.

Fig. 10 is a section of the pull-bar showing a finger-ring in the position it assumes when said pull-bar is held in the position illustrated in Fig. 4.

Fig. 11 is a magnified view of a portion

of interlaced fabric suitable for use in screens of this type.

Referring to the drawings, 10 designates a window frame as a whole having the usual guides 12 and 14 in which the inner and outer window sash 16 and 18 travel. The window frame is provided with the usual sill 20 and upright frame members 22 and 24. Secured to the lower ends of the members 22 and 24 are outward projecting pins 26 which are adapted to engage a pull-bar hereinafter described so as to hold the screen in a closed position against the action of a spring actuated roller.

To the lower side of the cross piece 28 of the outer sash 18, I secure a housing 30 by means of screws 32 which pass through holes in ears 34 formed on the housing. To each end wall 36 of the housing is pivotally secured a member 38, each member being pivoted on a stud 40 passing through the wall of the housing. Each swinging member 38 is provided with an inwardly extending sleeve portion 42 adapted to form a bearing for the spring actuated roller 44. The inwardly extending sleeves 42 pass through slots 43 formed in the end walls 36 of the housing as shown in Figs. 5 and 6. The roller 44 is of tubular formation as best shown in Figs. 5 to 7 and encloses a pair of springs 46 and 48. The inner ends of each spring are anchored at 49 to the roller and the outer ends 51 of each spring are anchored to the tubular extensions 42 of the members 38.

A flexible screen 50 is secured at one end to the roller 44 and to the free end of this screen is secured a pull-bar 52. This pull-bar is formed of sheet metal rolled into a tube which may be round in cross-section as shown although said bar could be of other shapes if desired. The longitudinal edges 54 and 56 of the bar are crimped over as in Fig. 10 so as to form a seam 57 which will securely pinch or clamp the lower end of the screen 50 thereto. At each end a pair of prongs 58 and 60 are bent inwardly so as to form a notch 62 which is adapted to engage the pins 26 carried by the window frame. When the screen is closed the under-

side of the pull-bar 52 is adapted to contact with the upper surface of the window sill 20 as clearly shown in Fig. 8. A finger ring 64 is pivotally secured in a suitable opening formed in the pull-bar and provides a convenient grip for manipulating the screen. When the screen is wound up on the roller the finger ring hangs down vertically as shown in Figs. 3 and 7 and when the screen is extended or held in closed position by the pins 26 said finger ring is swung around to a substantially horizontal position to rest on the window sill as shown in Fig. 10. When it is desired to open or roll up the screen the finger ring 64 will be pulled so as to rock the pull-bar to the position shown in Fig. 9 which will permit its notched ends to be disengaged from the pins 26. When thus disengaged the torsion in the springs 46 and 48 will cause the roller 44 to revolve in the proper direction to wind the flexible screen thereon.

Within the housing 30 is located a guide roller 66 mounted on a spindle 68. This roller is adapted to align the screen with an opening 70 formed in the underside of the housing. Regardless of the amount of screen fabric wound on the roller, the screen will move in a practically vertical line through said opening. This roller is also adapted to co-act with the screen fabric wound on the roller in such a way that a braking action will be exerted when the fabric is wound or unwound from the roller. The diameter of the roll of screen wound on the spring actuated roller will of course vary when the screen is pulled down and rolled up. As shown in Fig. 6 the fabric is practically all unwound from the roller whereas in Fig. 7 it is almost completely wound up on the roller. As the diameter of the rolled fabric changes the pivoted members 38 will swing on their studs 40 thereby permitting the periphery of the rolled fabric to always engage the guide roller 66. As thus arranged it will be apparent that when a person grasps the finger ring and pulls down the bar 52 there will be a braking action exerted on the rolled screen and it will also be understood that this pulling down motion will tend to wind the springs 46 and 48 to store a certain amount of torque therein. When the screen is fully pulled down the bar 54 will be rocked slightly so as to engage its notched ends with the pins 26 and the finger ring 64 will be turned so as to lie flat on the window sill. The tension of the springs will hold the fabric taut and thus securely position the screen in its operative position. When it is desired to raise the screen it is only necessary to pull the finger ring 64 so as to disengage its notched ends from the pins 26 whereupon the springs 46 and 48 will cause the roller to wind up the screen. During this winding up the operator will be

holding the finger ring 64 and it will be appreciated that due to the pivotal mounting of the members 38, the wound fabric will bear on the roller 66 so that a braking action will be exerted during the winding, thus preventing the screen from springing up too quickly which might tend to jam or injure the fabric.

Although I have described with great particularity the details of the embodiment of the invention herein shown, it is not to be construed that I am limited to such construction as changes in arrangement and substitution of equivalents may be made by those skilled in the art without departing from the invention as defined in the appended claims.

What I claim is:—

1. In a device of the class described a housing, a guide roller, a spring actuated roller having a screen wound thereon said roller being carried by bearings pivoted to said housing so that as the screen is wound or unwound the bearings swing freely and move the screen on said roller into contact with said guide roller so as to exert a braking action on the rolled screen.

2. In a device of the class described a screen mounted on a spring actuated roller, means for rotatably supporting said roller, said screen having a notched pull-bar attached to one end, and fixed pins extending in the same direction as the bar and adapted to engage in said notches in the pull-bar to prevent the screen from being pulled up by said spring roller.

3. In a device of the class described a screen mounted on a spring actuated roller, means for rotatably supporting said roller, said screen having a pull-bar attached to one end, and fixed pins extending in the direction of the axis of the bar adapted to engage axial notches in the pull-bar to prevent the screen from being pulled up by said spring roller and means for rocking said pull bar on its axis so as to disengage its notched ends from said pins.

4. In a device of the class described a screen secured at one end to spring actuated roller, means for rotatably supporting said roller on a window sash, a pull-bar secured to the lower end of said screen and adapted when the screen is closed to engage the window sill, pins secured to the window frame adapted to engage axial notches formed in the opposite ends of said pull-bar, and a finger ring pivotally secured to said pull-bar adapted to rock the pull-bar to disengage it from said pins.

5. In a device of the class described, a flexible screen, a spring actuated roller to which the screen is secured at one end, a supporting structure for the roller, a guide roller, freely movable bearings for said spring actuated roller adapted to permit the

spring actuated roller and the screen wound thereon to engage the guide roller to exert a braking action thereon to prevent the screen from winding or unwinding too rapidly. 5

6. In a device of the class described, a flexible screen comprising an interlaced wire fabric, having a pull-bar secured to one end, said pull-bar being made of sheet metal of

tubular cross-section having a seam crimped 10 to secure the fabric thereto, and having inwardly bent prongs at each end adapted to form a notch for engagement with a securing pin to hold the screen in closed position.

In witness whereof, I have hereunto signed 15 my name.

JOSEPH TRIFARI.