Aug. 18, 1925. 1,550,237

A. H. BECKMAN

ROLLING SCREEN

Filed Aug. 23, 1924 2 Sheets-Sheet 1

Fig. 1.

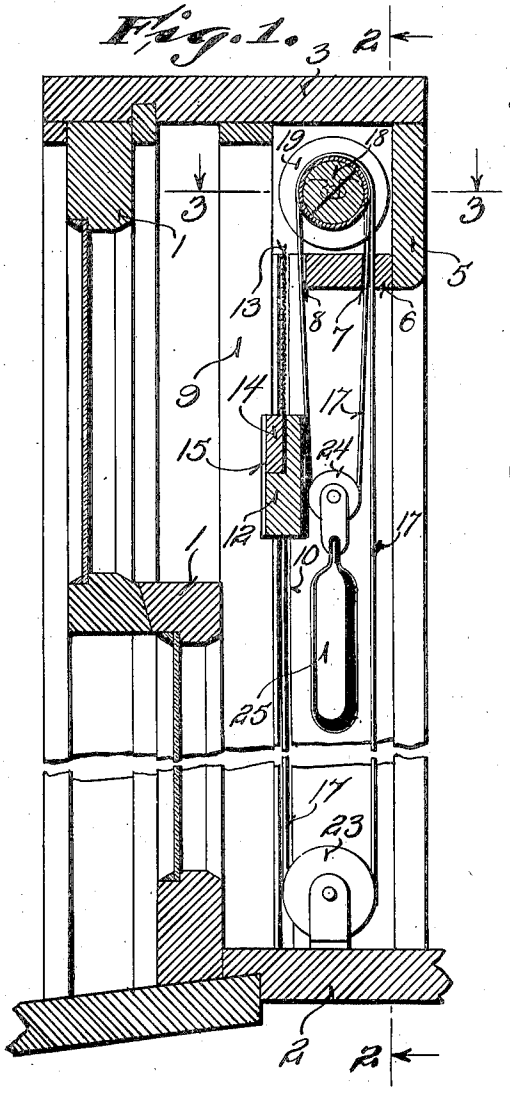
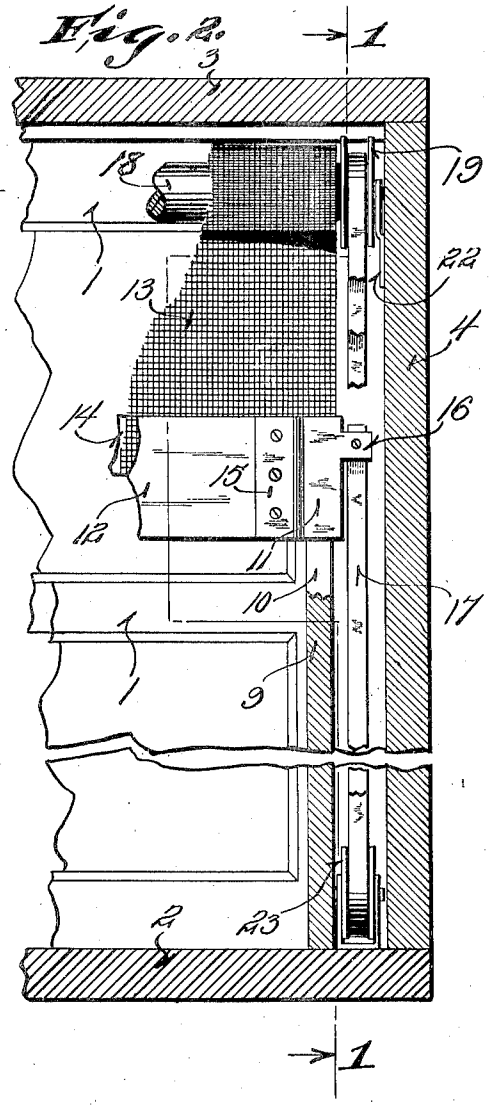


Fig. 2.



Witness!
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Filed Aug. 23, 1924 2 Sheets-Sheet 2

Fig. 3.

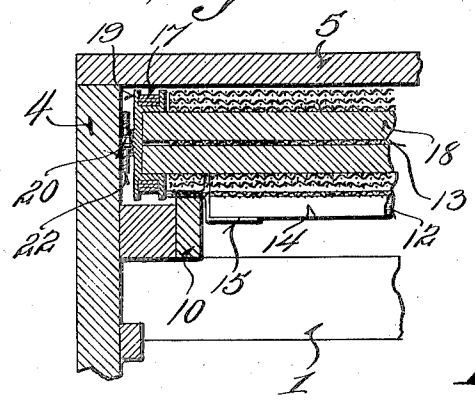


Fig. 4.

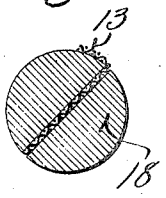


Fig. 5.

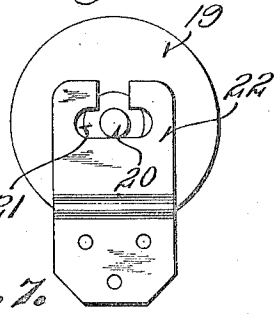


Fig. 7.

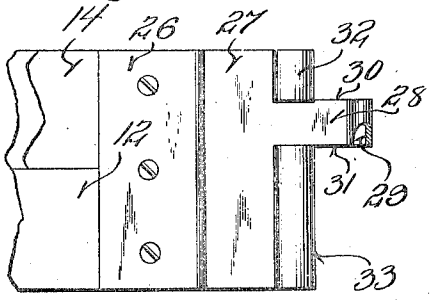
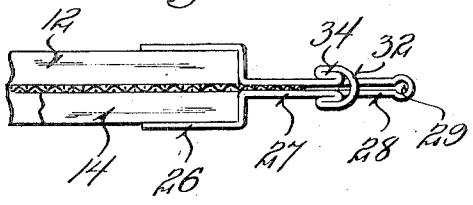


Fig. 6.



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Patented Aug. 18, 1925. 1,550,237

UNITED STATES PATENT OFFICE.

AUGUST H. BECKMAN, OF MADISON, WISCONSIN.

ROLLING SCREEN.

Application filed August 23, 1924. Serial No. 733,768.

To all whom it may concern:

Be it known that I, AUGUST H. BECKMAN, a citizen of the United States, and resident of Madison, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Rolling Screens; and I do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to rolling screens.

Objects of this invention are to provide a rolling screen which may be readily applied to windows, which is so constructed that it may be easily operated from the inside of the window, and which permits the raising and lowering of the screen with the same facility as the operating of the window.

In screens as heretofore constructed it has been the customary practice to provide a sliding panel, but as is well known, this construction is highly unsatisfactory as the guides for the panel frequently bind and as it is impossible to maintain them in good working condition. Further than this, they are unsightly and detract from the neat appearance of the windows.

This invention provides a rolling screen for windows which is of attractive and pleasing appearance, which is compact, and which is highly serviceable in operation.

Embodiments of the invention are shown in the accompanying drawings, in which:—

Figure 1 is a vertical sectional view through a window equipped with a rolling screen, such view corresponding to a section on the line 1—1 of Figure 2.

Figure 2 is a sectional view on the line 2—2 of Figure 1.

Figure 3 is a fragmentary horizontal sectional view on the line 3—3 of Figure 1.

Figure 4 is a transverse sectional view through the screen roller.

Figure 5 is a detail of one of the hangers showing the trunnions in position and showing the end of the roller.

Figure 6 is a plan view of a modified form of end clip for the bottom bar of the screen.

Figure 7 is an elevation of the structure shown in Figure 6.

The drawings show a conventional type of window having sashes 1 and a window sill 2. It is preferable to provide this device when the windows are initially made, and under these condition the upper portion 3 of the window frame is extended inwardly. However, in old styles of windows where this device is applied an additional member 3 is provided and secured in place. This additional member may be positioned either above the top of the window casing or directly in front of it, as shown in Figure 1. Sides 4 are provided, as shown in Figure 2, and a front, upper, downwardly extending strip 5 is secured in position, as shown in Figure 1. A horizontal bottom 6 is provided which completes the boxlike compartment at the top, as shown clearly in Figure 1. This bottom is provided with a slot 7 adjacent its forward side and with a slot 8 adjacent its rear edge. A vertical partition 9 (see Figure 2) is provided on each side of the window casing inwardly of the wall 4. This partition 9 is provided with a slot 10 through which the narrow portions 11 of the end clips for the bottom bar 12 of the screen project. The bottom portion of the screen 13 is secured to the bottom bar 12 and is preferably clamped between such bottom bar and a strip 14, as shown in Figure 1. The end clips are provided as stated, with a narrow or thin portion 11 and are further provided with inwardly extending plates 15 adapted to grip the ends of the bottom bar 12 between them, and to be secured thereto by means of screws or bolts, as shown in Figure 2. These end clips are provided with outwardly extending tongues 16 within which the upper ends of straps 17 are secured, the purpose of such straps being hereinafter described. The screen 13 is wound upon a roller 18. This roller is preferably split, as may be seen from Figures 1 and 4, and the upper end of the screen is secured between the half sections of the roller, the sections being secured together in any desired manner. The ends of the roller, (see Figure 3) are provided with small drums 19, which fit over such ends and aid in holding the half sections of the roller together. These drums are provided with outwardly projecting trunnions 20 which are received in horizontal slots 21 of hangers 22. (See Figures 3 and 5.) The purpose of the elongated slots is to permit lateral shifting of the roller as the screen unwinds, so as to prevent any sharp angle being formed in the screen adjacent the roller. The screen, it will be noted, passes through the slots 10 and 8, and consequently free motion of the roller is desirable to prevent sharp bending of the screen.

The strap 17 passes downwardly from the end clips of the bottom bar 12 of the

screen around pulleys 23 and from thence passes upwardly over the drums 19. From thence the strap passes downwardly and is looped through a pulley 24 (see Figure 1) such pulley being urged downwardly by means of a weight 25 or a spring in any suitable manner. The straps 17 pass upwardly and are secured to the drums 19. Thus when the screen is raised, the strap 17 is pulled upwardly with the bottom bar 12 of such screen and consequently the straps are unwound from the drums 19 thus winding the screen up. The screen will stay at any place where it is set, and may be most easily raised and lowered as occasion demands. There is no possibility of improper manipulation of the screen for the reason that the winding and unwinding operations are accomplished by wholly automatic means and the operator is merely required to raise and lower the screen as he desires.

In the form of clip shown in 6 and 7 substantially the same construction is followed as that previously described. In this form, the end bars are similarly gripped between the rearwardly extending arms 26 of the clip and a narrow portion 27 is provided corresponding to the portion 11 (see Figure 2) previously described. This clip is intended for use with a cord instead of the flat strap, as shown in 17, Figure 2. It is consequently provided with an outwardly projecting tongue 28 provided with an eyelet portion 29 adapted to receive such cord. A convenient way of making this clip is to form it from a single flat strip of sheet metal and to cut two slots in the metal to provide the faces 30 and 31 of the tongue.

The upper and lower portions at the fold of this strip, as indicated at 32 and 33 (see Figures 6 and 7) are pressed inwardly and are folded, as indicated at 34 (see Figure 6) to provide additional strength and reinforcement for the clip.

It will thus be seen that a rolling screen has been provided which may be most easily operated, which will permit the raising and lowering of the screen, which will insure the automatic winding and unwinding of the screen, which will prevent sharp bends being formed in such screen and which is a relatively simple and reliable construction.

Although the invention has been described in considerable detail, it is to be understood that the invention may be variously embodied and is, therefore, to be limited only as claimed.

I claim:

1. The combination of a window having a casing, a housing mounted adjacent the upper portion of said casing, a roller positioned within said housing, a screen attached to said roller, a bottom bar secured to said screen, a strap extending downwardly from said bottom bar and passing around a pulley located adjacent the lower portion of said casing, said strap extending upwardly and being attached operatively to said roller and having a loop formed therein, and a take up member located within said loop and adapted to keep said strap taut and to accommodate any variation in length thereof during winding and unwinding operations.

2. The combination of a window having a casing, a pair of side walls positioned inwardly of said casing and having slots therethrough, a housing located adjacent the upper portion of said casing, a transversely positioned roller mounted within said housing, a screen extending through said slots and wound about said roller, a pair of drums carried by the outer end of said roller, straps wrapped around said drums and having a looped portion, a take up member in said looped portion, said straps continuing downwardly and passing around bottom pulleys, and extending upwardly, the upper ends of said straps being attached to clips carried by the bottom portion of said screen and projecting through the said slot.

In testimony that I claim the foregoing I have hereunto set my hand at Madison, in the county of Dane and State of Wisconsin.

AUGUST H. BECKMAN.