E. JOHNSON.

WINDOW SCREEN.

APPLICATION FILED JUNE 1, 1915.

1,172,800.

Patented Feb. 22, 1916.

3 SHEETS—SHEET 1.

Fig. 5.

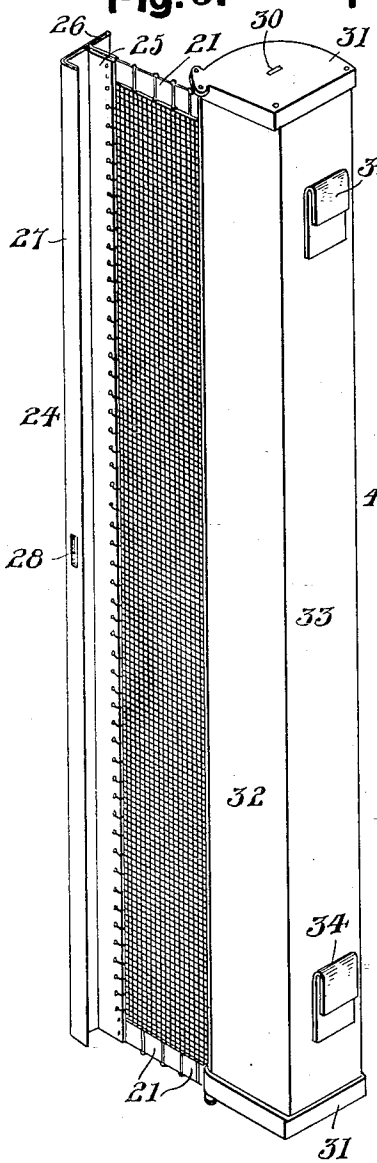


Fig. 4.



Fig. 3.

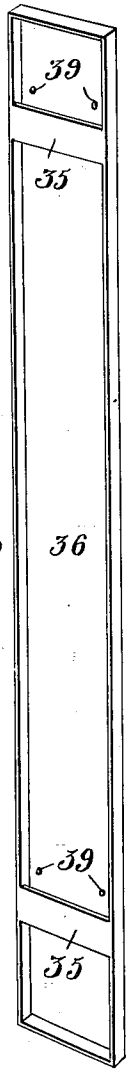


Fig. 1.

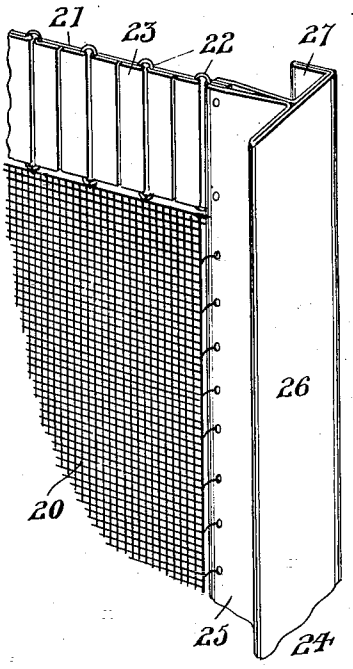
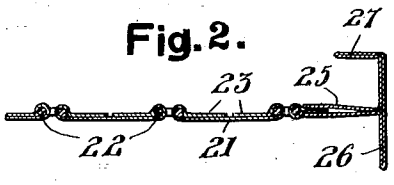


Fig. 2.



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3 SHEETS—SHEET 2.

Fig. 8.

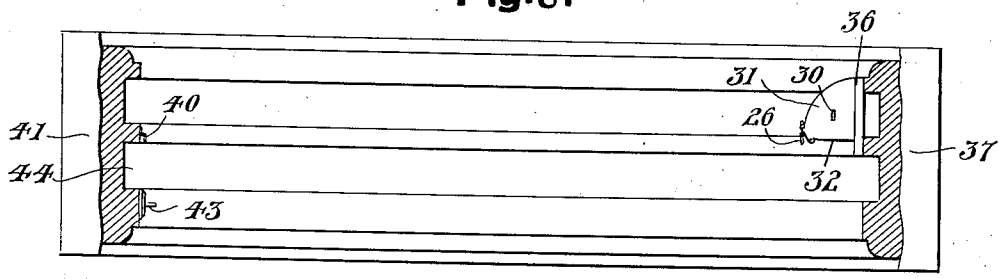


Fig. 9.

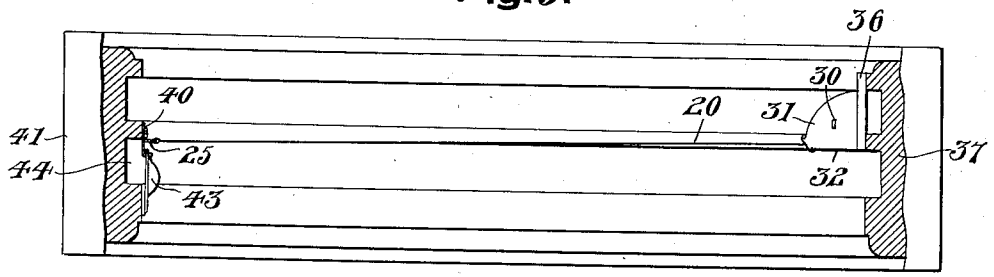


Fig. 10.

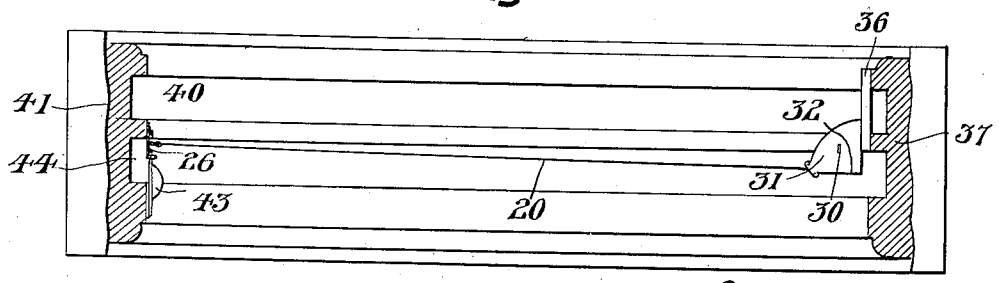


Fig. 7.

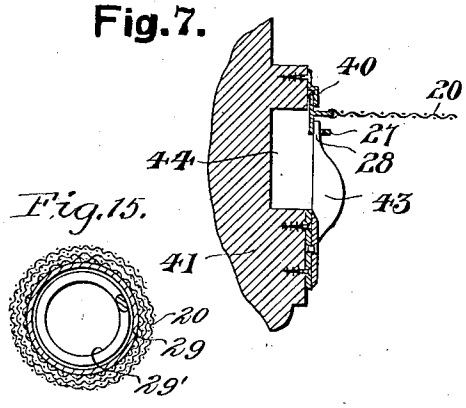
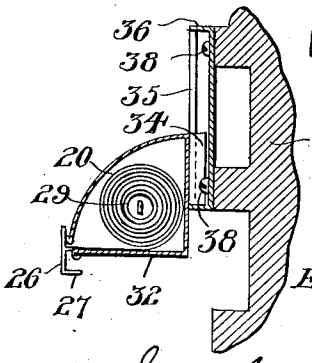


Fig. 15.

Fig. 6.



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3 SHEETS—SHEET 3.

Fig. 11.

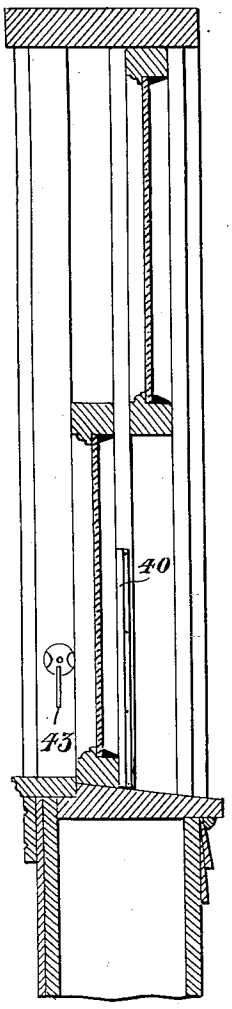


Fig. 12.

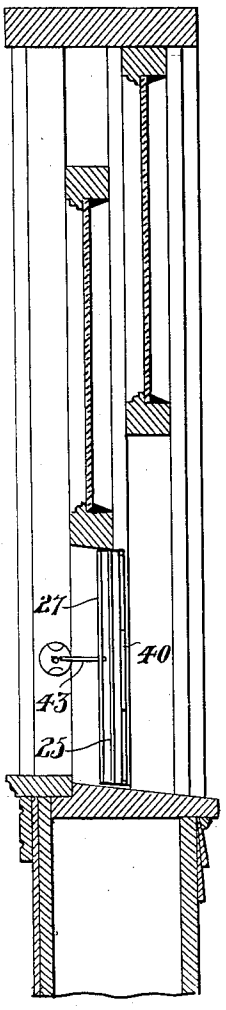


Fig. 13.

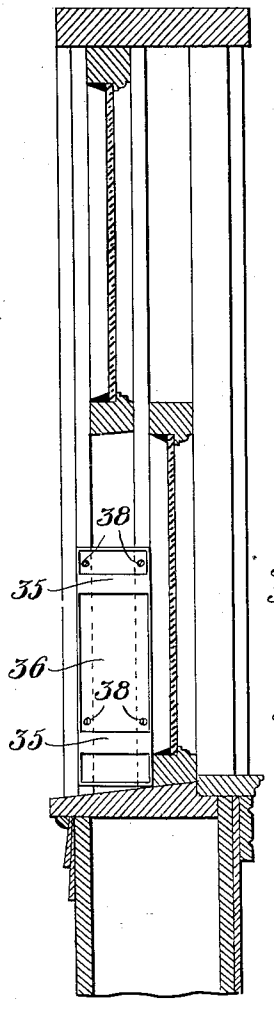
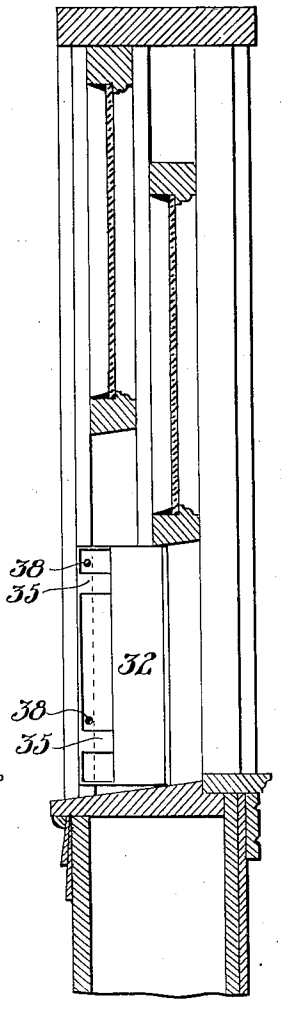


Fig. 14.



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UNITED STATES PATENT OFFICE.

EDWARD JOHNSON, OF SAGAMORE, PENNSYLVANIA.

WINDOW-SCREEN.

1,172,800. Specification of Letters Patent. Patented Feb. 22, 1916.

Application filed June 1, 1915. Serial No. 31,421.

To all whom it may concern:

Be it known that I, EDWARD JOHNSON, a citizen of the United States, residing at Sagamore, in the county of Armstrong and State of Pennsylvania, have invented certain new and useful Improvements in Window-Screens, of which the following is a specification.

The present invention relates to roller window screens which may be left in the window or removed in an instant if so desired. They fill the opening completely and form a stop for the raised lower sash if attached to the bottom part of the window but they may equally well be used for the upper half.

In the accompanying drawings, one embodiment of my invention is illustrated.

Figure 1 shows a portion of the outer end of the screen; Fig. 2 a sectional view of Fig. 1; Fig. 3 in smaller scale one of the fixtures in perspective elevation; Fig. 4 a similar view of another fixture; Fig. 5 a perspective view of the casing with the curtain partly drawn out; Fig. 6 a horizontal section of one side of the window frame with the screen casing attached; Fig. 7 a similar view of the opposite side of the frame; Fig. 8 a horizontal section of a window frame with the screen in place but rolled up; Fig. 9 a similar view to the previous one with the blind drawn across; Fig. 10 is a similar view to the previous one, but with the screen casing drawn inward; Fig. 11 a vertical section of a window looking to the left and the window closed; Fig. 12 a similar section showing the lower sash raised and resting on the screen; Fig. 13 a vertical section corresponding to Fig. 11 looking to the right, and, Fig. 14 a similar view corresponding to Fig. 12 and looking to the right. Fig. 15 shows a detail view of the spring actuated roller.

In the following, the screen will be described as being attached to the lower half of the window and drawn out to the left. I do however, not limit my invention to this particular application, as the screen may equally well work from left to right, up and down or down and up, and may also be used for the upper sash.

Describing first Figs. 1 to 7, the screen netting 20 is suspended between a top and a bottom chain 21 of simple construction, such for instance, as alternating wire loops 22 and plate links 23. The chains 21 as well as the netting 20 are secured in any suitable manner at the outer ends to the stem 25 of a rail 24, which is provided with a transverse L-shaped face plate 26, having a back-turned flange 27 with a longitudinal slit or key-hole 28. The inner ends of the netting 20 and the chains 21 are attached to a roller 29, which in the usual manner, is provided with a coiled spring 29′ see Fig. 15 for rolling up the screen. The roller 29 is preferably provided with ball-bearings and its journals are keyed in slits 30 in the end plates 31 of the casing 32.

The back 33 of the casing has an upper and a lower hook 34 on which the casing is suspended from the transverse strips 35 on the frame plate 36, which is approximately of the same width as the back 33 of the casing and permanently fixed to the right side 37 of the window frame by means of screws 38 or the like, see Figs. 6 and 13. The frame plate 36 is flanged on all sides so as to fit closely to the back 33 of the casing, when the latter is in place and the window closed. The hooks 34 are narrower than the back 33 and placed nearer the outer edge thereof in order to permit displacement inward of the casing 32. It will be noted that the holes 39 for the screws 38 are so positioned, that the screw heads will form stops for the hooks when the casing is either in its outermost or innermost position, but that the screw heads will permit the raising and unhooking of the casing 32 from the frame plate 36 when drawn half-way over. Consequently, when the sash is down and latched, the screen-casing is also secured in position and cannot be removed by any unauthorized person. The sash must first be raised and the casing drawn half-way in, when it will be possible to take it away from the window.

In Fig. 4 is shown the left side frame plate or locking plate 40 which is permanently attached by screws or otherwise to the left side of the window frame 41, see Figs. 7 and 11. This plate is of Z-shaped cross-section and it is secured in the frame 41 in such a manner that one of its flanges 42 forms an open vertical channel with the frame and faces inward. When the screen is drawn across, the straight edge of the face plate 26 is inserted in the channel under the flange 42. This will retain the screen in its unfolded position against the action of the roller spring, but in order to securely lock the screw in this position, I

provide a latch 43, see Figs. 7, 11 and 12, here shown in the form of a swivel latch, but might just as well be a draw bolt or any other kind of latch. The latch 43 is fastened on the inside and the locking plate 40 on the outside of the guide-way 44 for the lower sash, so as not to interfere with the free movement of the sash. When the screen has been drawn across and the face plate 26 inserted in the channel, the latch 43 is swung around so that it enters the key-hole 28, thus preventing the face-plate from slipping out of its channel.

In Fig. 8, the screen parts are shown in position with the screen rolled up and the casing pushed out as when the window is closed.

In Fig. 9 the lower sash has been raised and the screen drawn out and fastened to the left side of the frame. The casing 32 has however, not been shifted.

In Figs. 10, 12 and 14, the screen is shown in its full operating position with the sash resting on top of the drawn-in casing 32 as well as on the face plate 26, the upper chain 21 running closely under the bottom of the sash.

What I claim as new is:—

1. A window screen comprising a spring-actuated roller, a chain attached to each end of the roller, a face plate connecting the free ends of said chains, and a netting stretched between said roller, chains and face plate.

2. A window screen comprising a casing, a spring-actuated roller in said casing, a chain attached to each end of the roller, a face plate connecting the free ends of said chains, a netting stretched between said roller, chains and face plate, a frame-plate secured to the window frame, and means on said casing for slidably attaching the casing to the frame-plate.

3. A window screen comprising a casing, a spring-actuated roller in said casing, a chain attached to each end of the roller, a face plate connecting the free ends of said chains, a netting stretched between said roller, chains and face plate, a frame-plate secured to the window frame, and means on said casing for slidably attaching the casing to the frame-plate, said means consisting of hooks on one of said connecting members and transverse straps on the other.

4. A window screen comprising a casing, a spring-actuated roller in said casing, a chain attached to each end of the roller, a face plate connecting the free ends of said chains, a netting stretched between said roller, chains and face plate, a frame-plate secured to the window frame, and means on said casing for slidably attaching the casing to the frame-plate, said means consisting of hooks on one of said connecting members and transverse straps on the other, said hooks being narrower than the length of the straps in order to permit a central and two extreme positions of the casing relative to said frame-plate.

5. A window screen comprising a casing, a spring-actuated roller in said casing, a chain attached to each end of the roller, a face plate connecting the free ends of said chains, a netting stretched between said roller, chains and face plate, a frame-plate secured to the window frame, means on said casing for slidably attaching the casing to the frame-plate, said means consisting of hooks on one of said connecting members and transverse straps on the other, said hooks being narrower than the length of the straps in order to permit a central and two extreme positions of the casing relative to said frame-plate, and latching members engaging with said hooks and preventing the removal of the casing when in either one of the extreme positions.

6. A window screen comprising a spring-actuated roller, a chain attached to each end of the roller, a face plate connecting the free ends of said chains, and a netting stretched between said roller, chains and face plate, said chains being composed of alternate wire-loops and plate links.

7. A window screen comprising a casing, a spring-actuated roller in said casing, a chain attached to each end of the roller, a face plate connecting the free ends of said chains, a netting stretched between said roller, chains and face plate, a frame-plate secured to the window frame, means on said casing for slidably attaching the casing to the frame-plate, said casing being secured to one side of the window-frame, and a locking plate on the opposite side thereof, said face-plate and said locking plate being provided with inter-locking members.

8. A window screen comprising a casing, a spring-actuated roller in said casing, a chain attached to each end of the roller, a face plate connecting the free ends of said chains, a netting stretched between said roller, chains and face plate, a frame-plate secured to the window frame, means on said casing for slidably attaching the casing to the frame-plate, said casing being secured to one side of the window-frame, a locking plate on the opposite side thereof, said face-plate and said locking plate being provided with interlocking members, and a latch on the window frame engaging with said face-plate when interlocked with said locking plate upon the screen being stretched across the window.

9. A window screen comprising a casing, a spring-actuated roller in said casing, a chain attached to each end of the roller, a face plate connecting the free ends of said chains, a netting stretched between said roller, chains and face plate, a frame-plate secured to the window frame, and means on

said casing for slidably attaching the casing to the frame-plate, said casing constructed to support the window sash upon being slid into the path of the sash.

10. A window screen comprising a casing, a spring-actuated roller in said casing, a chain attached to each end of the roller, a face plate connecting the free ends of said chains, a netting stretched between said roller, chains and face plate, a frame-plate secured to the window-frame, means on said casing for slidably attaching the casing to the frame-plate, said casing being secured to one side of the window-frame, and a locking plate on the opposite side thereof, said face-plate and said locking plate being provided with interlocking members, said face-plate constructed to support the window sash upon being locked with said locking-plate.

In testimony whereof I affix my signature in presence of two witnesses.

EDW. JOHNSON.

Witnesses:
JAMES HESSION,
SAM GUSTAFSON.