A. B. HILL.

WINDOW SCREEN.

APPLICATION FILED JULY 10, 1908.

936,895.

Patented Oct. 12, 1909.

2 SHEETS—SHEET 1.

FIG. 2.

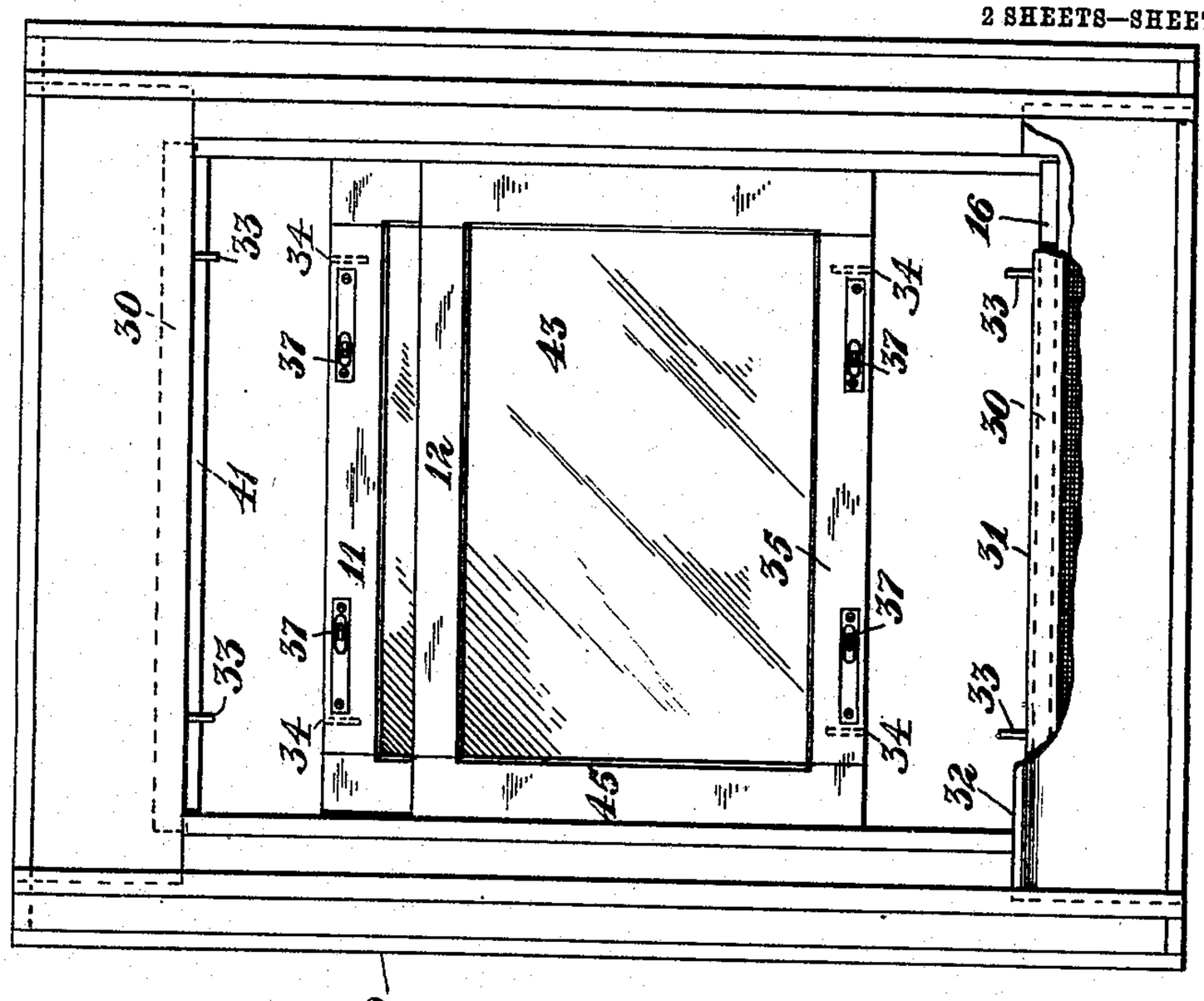

FIG. 1.

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2 SHEETS—SHEET 2.

FIG. 5.

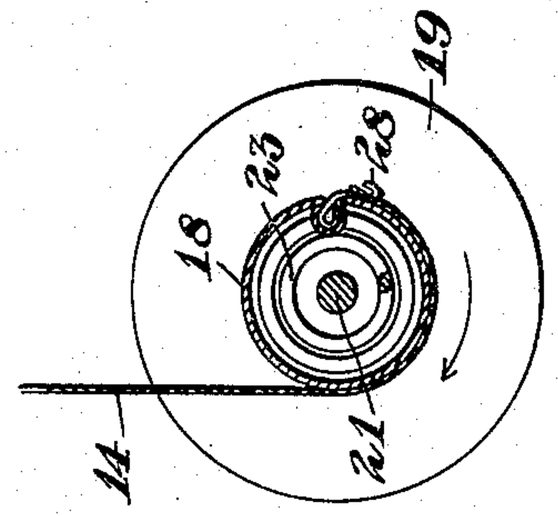


FIG. 7.

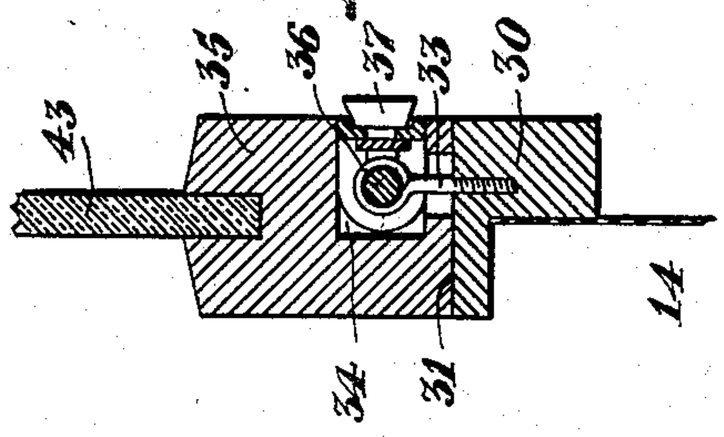


FIG. 6.

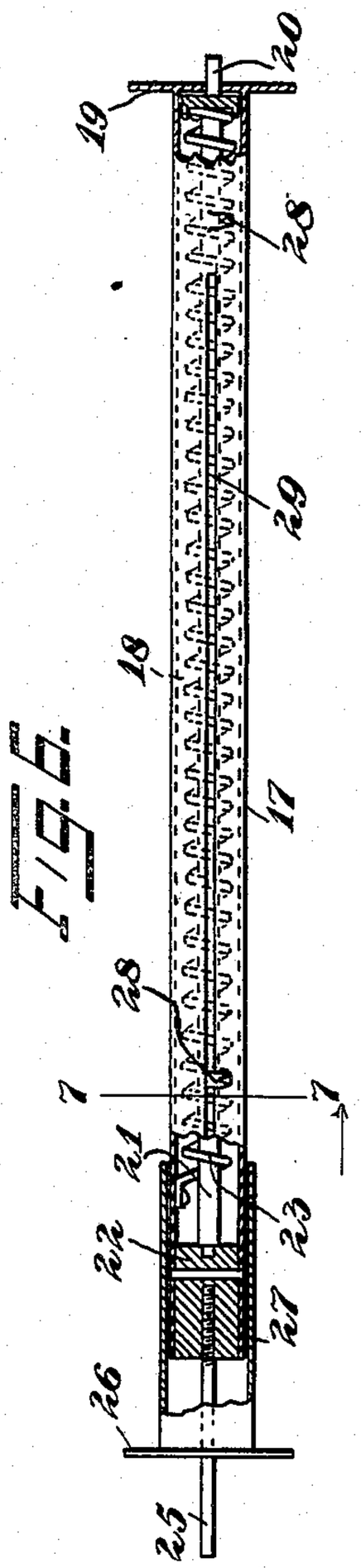


FIG. 4.

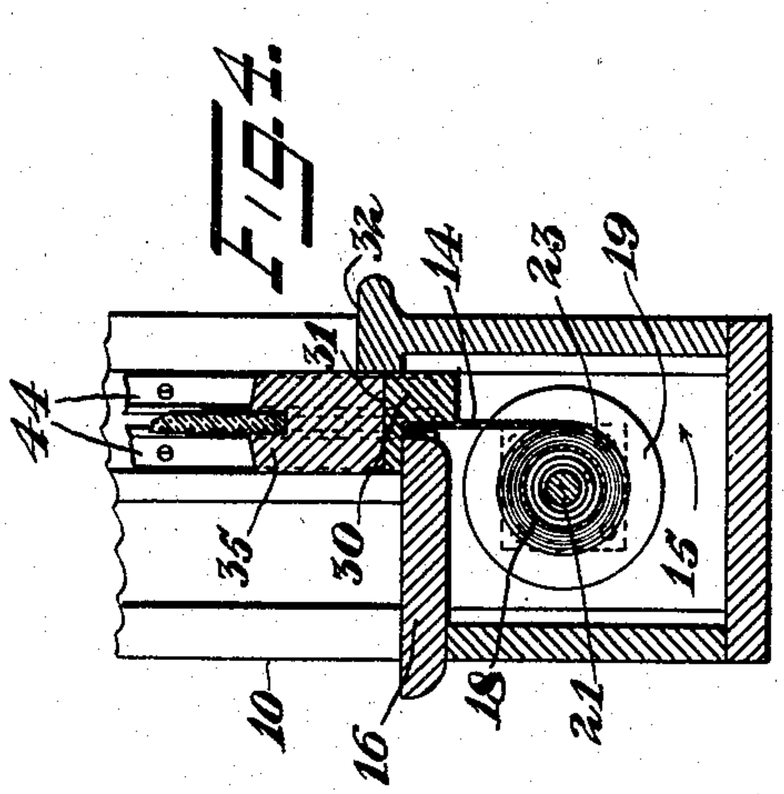
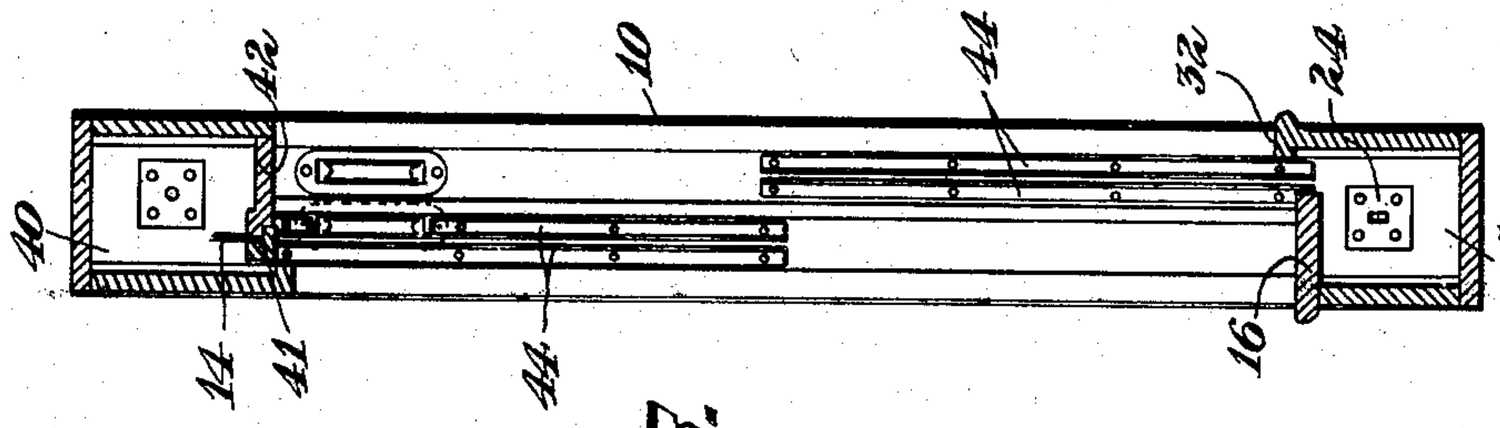


FIG. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

ALEXANDER B. HILL, OF HOBOKEN, NEW JERSEY.

WINDOW-SCREEN.

936,895. Specification of Letters Patent. Patented Oct. 12, 1909.

Application filed July 10, 1908. Serial No. 442,810.

To all whom it may concern:

Be it known that I, ALEXANDER B. HILL, a citizen of the United States, residing at the city of Hoboken, county of Hudson, and State of New Jersey, have invented certain new and useful Improvements in Window-Screens, of which the following is a full, clear, and exact specification.

My invention relates to window screens and has for an object to provide improved means whereby a screen which is normally housed within the window casing may be attached or detached to or from the sash rails of the window.

One object of the present invention is to have the screen entirely concealed at such times as it is disconnected from the window sash, and such concealment will exist not only when the sash is closed but also when it is open.

In the drawings accompanying and forming a part of this specification, Figure 1 is an elevation, partly broken away, of a window equipped with my present improvement. In this view the window sashes are both shown in open positions and the screens stretched across the openings; Fig. 2 is a view similar to that shown in Fig. 1, but showing the screens concealed within the window casing; Fig. 3 is a section taken on the line 3—3 of Fig. 1, looking toward the right; Fig. 4 is an enlarged cross section of the rail of the lower sash and the lower part of the window casing showing the window in a closed position; Fig. 5 is a cross sectional view of the lower rail of the lower sash taken through the fastening device which fastens the sash rail to the screen; Fig. 6 is a detail of a form of roller for the screen, and Fig. 7 is a cross section of the screen roller and a portion of a screen taken on the line 7—7 of Fig. 6.

A window casing of conventional form is illustrated at 10 in which are hung upper and lower sashes 11 and 12 respectively. These sashes are shown as supported by weights 13, 13 in a convenient or conventional manner. The screen 14 which is adapted for securement to the lower sash, for covering the opening produced by the raising of the lower sash, will be housed in a suitable space 15 below the window sill 16 and inside of the casing. The screen will be of any suitable construction, preferably of some wire fabric, and will be mounted upon a roller designated in a general way by 17. Preferably the rollers for the screens will not be provided with dogs, as is customary in shade rollers, but will be unhampered by any stopping device.

In the present illustration the roller is shown as having a metallic casing 18 carrying a flange 19 at one end for controlling the edge of the screen and through said flange 19 or the end which it constitutes will pass the squared end 20 of the spring rod 21. This rod is shown as having a bearing in a block 22 at the other end of the casing 18. The coiled spring 23 will be fastened to the casing 18 at one end, and the other end will be fastened to the rod 21 adjacent to its end 20. The squared end 20 of the spring rod will enter into a suitably shaped socket at one end of the window, as for instance the socket 24. The other end of the screen roller will be supported by a journal 25 which may pass through a hole bored in the other end of the window casing. This journal 25 may have screw threaded engagement with the block 22 so that it may be adjusted to vary its length. The flange 19 will engage one side or end of the screen and the flange 26 placed upon a sleeve 27 which telescopes upon the casing 18 will engage the other end or side of the screen. This telescopic member 27 is for the purpose of adjusting the roller to accommodate screens of various widths.

The screen will be fastened along one of its horizontal edges to the roller in some convenient manner, as for instance by engaging hooks 28 which run in an undercut slot 29 in the casing 18. Similar rollers may be used for the top and bottom screens.

The top of the screen at its free edge, that is, the edge which is parallel to that which is fastened to the roller will be fastened in some convenient manner to a rail 30 which, when the screen is rolled up, will closely conform to the contour of the window sill. In the present instance its top face 31 is just slightly above the top face of the sill at its outer portion, but is below the top of the inner sill 32 a sufficient distance to provide the proper rabbet below the lower face of the sash rail. When it is desired to connect the screen to the window sash so that the screen will be drawn across the opening left

by raising the sash, suitable fastenings carried by the sash rail and by the rail 30 of the screen will be interengaged. In the present instance screw eyes 33 33 are carried by the rail 30 and these enter recesses 34 34 in underside of the lower rail 35 of the lower sash and are in such a position that when the two rails are in engagement each bolt 36 will upon being moved by means of its finger piece 37 pass through the eye of the screw eye 33. One or more of these fastening devices may be provided as occasion may demand. In the present illustration there are shown two for each screen.

The screen in connection with the lower sash has been described with particularity, and a similar screen will be employed for the upper sash and will be located in a suitable space 40 in the window casing above its upper cross piece, and the rail 41 which is connected with the upper screen will normally lie flush with the said cross piece 42 of the window casing.

It will be noted in Fig. 5 that the screen 14 and the glass 43 are substantially in the same plane. The screen will be guided in its movement by means of certain suitable guides, preferably metallic, illustrated at 44, and which guides extend into vertical longitudinal grooves provided in the side rails of the sash, such side rails being designated without preference by the reference character 45.

It will be apparent that both screens may be used at the same time in the manner illustrated in Fig. 1, or that neither screen need be used, or that either screen may be used. During the season of the year when it is desirable to use a screen whenever the window is open the fastening devices will be continually in engagement so that upon raising the window the screen will be drawn across the opening. During that time of the year when it is not desirable to use the screen the fastening devices will be left unfastened and the screens will then be concealed and protected from injury.

If when a window is open it is desired to remove the screen it merely becomes necessary to unfasten the fastening device when the spring on the roller will roll up the screen and draw in into its casing. The sash weights may be made heavy enough not only to control the window but also to hold it in position against the tension of the spring of the roller. If, however, this is found undesirable in certain constructions some means of locking the sash either to the casing, or one against the other may be employed.

The fastenings carried by the screen rails are herein shown as entering recesses in the sash rails and as projecting somewhat beyond the surfaces of the screen rails. This, of course, is shown as a convenient method of construction, but any other suitable means may be employed for attaching said parts together.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. The combination with a window casing having a slot therein, sashes adapted to work in said casing provided with recesses in their vertical edges, a roller, a fixed journal and an adjustable journal thereon for supporting said roller in said casing having its axis parallel with said slot, an adjustable roller section surrounding said adjustable journal, a rail adapted to rest upon said casing, a screen having its ends secured to said roller and rail, means for securing said rail to one of said sashes, a pair of guides secured upon the opposite vertical sides of said casing and extending into said recesses in the vertical edges of said sashes for receiving and guiding the opposite edges of said rail and screen, substantially as specified.

2. The combination with a window casing having a slot therein, sashes adapted to work in said casing having recesses in their vertical edges, guides for said sashes, a roller mounted in said casing having its axis parallel with said slot, an adjustable section arranged upon said roller, a rail adapted to rest upon said casing, a screen having one of its ends secured to said roller and adapted to roll upon said roller adjustable section, and its other end adapted to engage said rail, means for securing said rail to one of said sashes, a pair of guides secured upon the opposite sides of said casing intermediate the guides for said sashes, and extending into the recesses of the vertical edges of said sashes for receiving and guiding the opposite edges of said rail and screen, substantially as specified.

3. The combination with a window casing having receptacles at the top and bottom thereof, each having a longitudinal slot therein, sashes adapted to work in said casing having recesses in their vertical edges, guides for said sashes, adjustable rollers mounted in said receptacles having their axes parallel with the slots therein, rails adapted to rest against said casing and extending into the slots therein, screens each having one end secured to one of said rails and the other of its ends detachably secured to one of said rollers, means for securing each of said rails to one of said sashes, a pair of guides secured upon the opposite sides of said casing adjacent to each sash and extending into the vertical recesses in the opposite edges thereof for receiving and guiding the opposite edges of said rails and screens, substantially as specified.

4. The combination with a window casing having a slot therein, sashes adapted to work in said casing having recesses in their ver-

tical edges, guides for said sashes, a roller mounted in said casing having its axis parallel with said slot, a fixed bearing at one end of said roller, an adjustable bearing at the other end of said roller, an adjustable section disposed upon said roller and inclosing the adjustable bearing thereon, a rail adapted to rest upon said casing, a screen having one of its ends secured to said roller and adjustable section, and its other end secured to said rail, a pair of guides secured upon the opposite sides of said casing intermediate the guides for said sashes and extending into the recesses of the vertical edges of said sashes for receiving and guiding the opposite edges of said rail and screen, substantially as specified.

5. The combination with a window casing having a slot therein and sashes adapted to work in said casing, an adjustable roller mounted in said casing having its axis parallel with said slot, a rail adapted to rest upon said casing and partly enter said slot, a screen having its ends detachably secured to said roller and rail, and means for normally maintaining said screen retracted and said rail in position within said slot, substantially as specified.

Signed at the city of New York, in the county and State of New York, this seventh day of July, nineteen hundred and eight.

ALEXANDER B. HILL.

Witnesses:
CONRAD A. DIETERICH,
A. R. ANGUS.