J. C. SMITH.

WINDOW SCREEN.

APPLICATION FILED JAN. 6, 1914.

1,102,094.

Patented June 30, 1914.

Fig. 1.

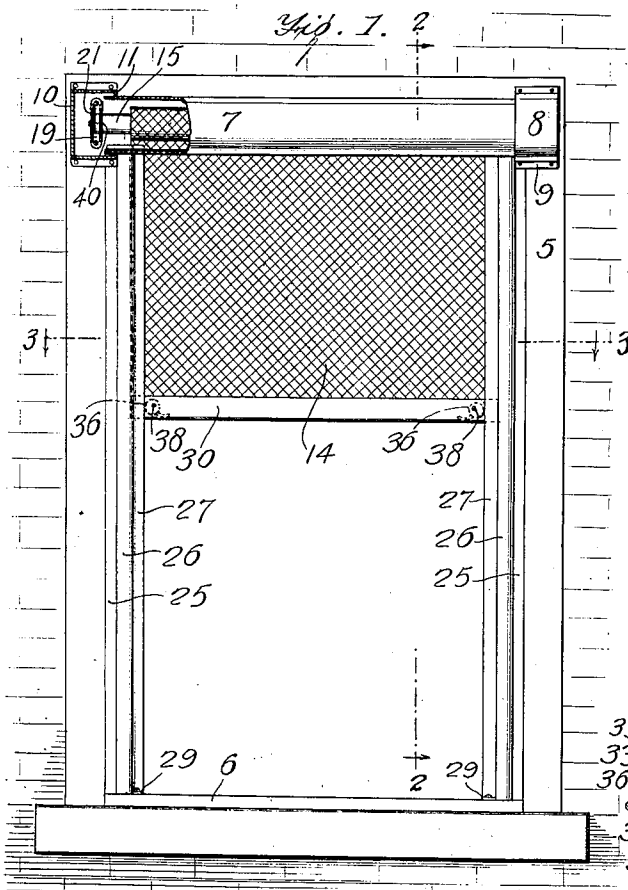


Fig. 2.

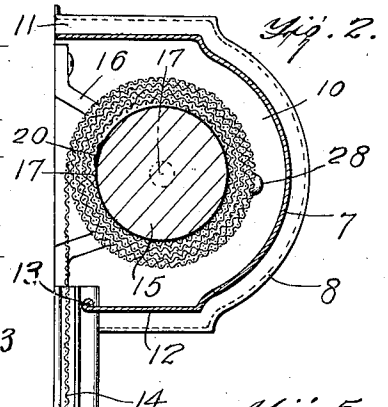


Fig. 5.

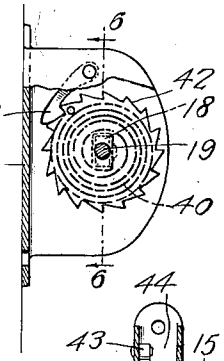


Fig. 6.

Fig. 3.

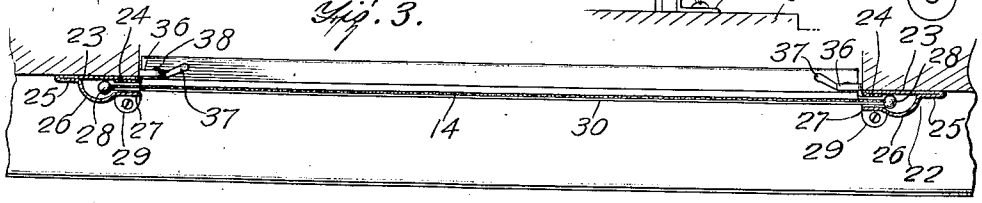
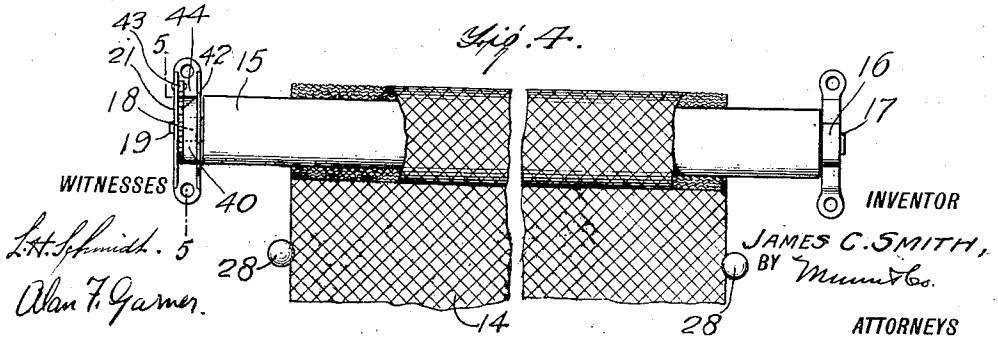


Fig. 4.



WITNESSES

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WINDOW-SCREEN.

1,102,094. Specification of Letters Patent. Patented June 30, 1914.

Application filed January 6, 1914. Serial No. 810,592.

To all whom it may concern:

Be it known that I, JAMES C. SMITH, a citizen of the United States, and a resident of Portland, in the county of Multnomah and State of Oregon, have made certain new and useful Improvements in Window-Screens, of which the following is a specification.

This invention relates to window screens, and one of the principal objects thereof is to provide a screen having a housing therefor to protect the screen from the elements, and also to provide means for guiding the edges of the screen as the same is raised or lowered.

Another object of the invention is to provide means for holding the screen in adjusted position.

A further object is to generally improve window screens of the housed type, and to provide a screen which will be comparatively simple, durable, efficient in operation, and inexpensive to manufacture.

With these and other objects in view which will become apparent as the description proceeds, the invention resides in the construction, combination and arrangement of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawing in which like characters of reference indicate like parts throughout the several figures, of which—

Figure 1 represents a front elevational view of a window casing showing a screen constructed in accordance with my invention in position thereon. Fig. 2 represents an enlarged vertical transverse sectional view taken on the line 2—2 of Fig. 1. Fig. 3 represents a horizontal enlarged sectional view taken on the line 3—3 of Fig. 1, and Fig. 4 represents an enlarged front elevational view of the roller and adjacent parts, portions being broken away. Fig. 5 represents an enlarged transverse sectional view taken on the line 5—5 of Fig. 4, looking from the left of the latter figure, and Fig. 6 represents a transverse sectional view taken on the line 6—6 of Fig. 5, looking in the direction of the arrows.

Referring more particularly to the drawing, 5 represents a window casing, and 6 the window sill, and there is shown at 7 a substantially semi-tubular housing composed of sheet metal or other suitable material, and secured to the top of the window casing on the outside thereof, by means of hollow metal caps 8 fitted over the ends of housing 7 and provided with flanges 9 by means of which the caps may be secured to the casing. The caps are each provided with an outer wall 10 disposed so as to prevent entrance of rain or snow into the ends of housing 7, said ends each projecting through an opening in the inner wall 11 of one of the caps, which opening is of the same shape as the housing, so that the housing may be secured in place, as will be readily understood.

The housing is disposed with the concaved side thereof directed toward the window casing, and the lower wall 12 of the housing is turned in or beaded, as at 13, at its inner edge, said beaded edge occurring in spaced relation with the window casing, and acting to prevent tearing or abrading of the window screen 14 should the same come in contact with the inner edge of wall 12 as the screen is raised or lowered.

The screen 14 is wound on a roller 15 positioned within the housing 7, in spaced relation to the window casing, so that the screen is free to move between the inner edge of the lower wall 12 of the housing, and the outer face of the casing, as illustrated in Fig. 2. The roller is supported at one end by means of a rounded pin 17 journaled in a bracket 16, and at the other end by a rectangular pin 18 which is reduced at its outer end and rounded at 19. The pin 18 extends through an enlarged opening 20 in one wall of a casing 21, through a smaller rounded opening in the other wall of which, the reduced end of the pin extends.

Positioned in the casing is a coil spring 40 bent at its inner end around the four sides of the pin 18 and secured by means of a nail or screw 41, and secured at its outer end to the inner face of the ratchet wheel 42, rotatably supported on the reduced end of pin 18, as shown in Fig. 6.

The ratchet wheel is provided so that by turning the same, relatively to the roller, the tension of the spring may be adjusted, and in order to hold the wheel in any adjusted position, a toothed latch or detent 43 is provided, which is pivoted to one wall of the casing 21 above the wheel, and by action of gravity engages the teeth of the wheel as they successively come opposite the detent. The walls of the casing are connected by a plate 44 provided with open-

ings for the reception of means whereby the casing may be secured to the window frame.

Disposed vertically along each outer edge of the window casing is a guide 22, formed of a strip of metal 23 secured to the window casing in any desired manner, the inner edge of the strip being bent upon itself as at 24, and the outer edge of the strip being bent upon itself as at 25 and then beaded or bulged outwardly as at 26, and then formed into a lip 27 extending in parallel spaced relation with the inner edge 24 of the strip, and between the lip and edge is adapted to extend one edge of the screen 14, and at intervals along said edge are provided a plurality of knobs or balls 28 which are disposed within the channel formed by the bulged portion 26 of the guide, and which are of a diameter greater than the distance apart of edge 24 and lip 27, so as to prevent the edge of the screen being withdrawn from the guide, when any undue pressure is exerted against the screen. It will of course be understood that each edge of the screen projects into one of the guides and that both edges are provided with the balls to prevent displacement of the screen. The upper ends of guides 22 extend through openings cut in the lower wall of the housing 7, and slightly into the housing, so that the edges of the screen are effectually protected throughout their length from rain or snow, and at the lower ends of the guides are ears 29 formed on each of the lips 27, and secured to the window sill 6 for holding the lower ends of the guides in position.

A hand hold 30 is secured to the lower edge of screen 14, and comprises a strip of material bent upon itself to form a right angular portion 31 extending substantially at right angles to the vertical plane of the screen, and a pair of vertical walls 32 and 33 which clamp between them the lower edge of screen 14, the wall 33 at its upper edge being turned over as at 34 to engage the upturned lower edge 35 of the screen, for securely holding the same in place. The hand hold 30 is of substantially the same length as the distance between the opposing edges of the two guide strips, and is provided at its opposite ends with a pair of eccentrically pivoted plates or disks 36 having arms 37 whereby the disks may be rotated on their pivots 38 for binding the disks against the inner edges of the window casing to hold the screen in adjusted position longitudinally of the strips, as will be readily understood, the disks 36 being pivoted on the inner wall 33 of hand hold 30.

The housing and guide strips have been shown as attached to the outer face of the window casing where they will not interfere with the window shades or curtains, but it will be understood that the disposition of the housing and strips may be varied without departing from the spirit of the invention.

Although I have described the preferred embodiment of my invention, I may desire to make such changes in its construction, combination and arrangement of parts, as do not depart from the spirit of the invention, and the scope of the appended claims.

I claim:—

1. The combination with a window casing, of a substantially semi-tubular housing secured to the outer face of said casing, caps closed at one end and open at the other, the ends of said housing extending into the open ends of said caps, said caps secured to said window casing for holding the housing in place, the lower edge of the housing occurring in spaced relation to the window casing, a roller pivotally supported within the housing, a screen on the roller, guides into which the edges of said screen extend, a hand hold on the lower edge of said screen and extending between the guide strips, and means carried by said hand hold for frictionally engaging said casing to hold the screen in adjusted position longitudinally of the guide strips.

2. The combination with a window casing, of a substantially semi-tubular housing secured to one surface thereof, a roller pivotally supported within said housing, a screen carried by said roller, guide strips secured to the casing in spaced relation, and at right angles to said housing, the upper ends of said guide strips extending into said housing, said strips each comprising a strip of material bent upon itself to form spaced lips, and bulged to form a channel, said channel extending longitudinally of the strip, the edges of said screen extending between said spaced lips, and a plurality of balls connected to the edges of the screen and positioned within the channels, for preventing displacement of the screen laterally of the guide strips.

3. A device of the class described comprising a housing, guide strips associated therewith, a screen supported within the housing, the edges of said screen extending into said guide strips, a hand hold on the lower edge of said screen and extending between the guide strips, said hand hold comprising a strip of metal bent upon itself to form a portion at right angles to the plane of the screen, said strip providing spaced walls adapted to clamp the lower edge of said screen between them, one of said walls provided with a turned over portion, said screen having its lower edge turned over to engage the edge of the first said turned over portion, and means carried by one of said spaced walls for locking the hand hold in adjusted position longitudinally of the guide strips.

4. A device of the class described com-

prising a housing, a screen supported within the same, guide strips into which the edges of said screen are adapted to extend for protecting said edges, means for preventing the lateral displacement of said screen from said guide strips, a hand hold disposed to operate between the guide strips and means carried by the hand hold for holding said screen in adjusted position longitudinally of the strips.

5. A device of the class described comprising a substantially semi-tubular housing, caps closed at one end and open at the other and being open on their inner sides and provided with outwardly disposed flanges whereby they may be secured to a support, the ends of said housing adapted to extend into the open ends of the caps, one edge of said housing occurring in spaced relation to said support, guide strips, said strips extending at one end into said housing, the said strips being open along one edge to receive the edges of a screen.

6. A device of the class described including a housing, a roller, a bracket secured within the housing for supporting one end of the roller, a casing secured within the housing, and having a pair of spaced walls, a pin carried by the opposite end of the roller, said pin being squared adjacent said roller and extending through an enlarged opening in the inner wall of the casing, the outer end of the pin being reduced and rounded, and journaled in the outer wall of the casing, a coiled spring bent about and secured to the squared portion of said pin at one end, a ratchet wheel rotatably supported on the rounded portion of the pin adjacent the outer wall, the opposite end of said spring being secured to said ratchet wheel, and a detent pivoted to the outer wall of the casing and adapted to engage said ratchet wheel whereby the tension of the spring may be adjusted.

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Witnesses:
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