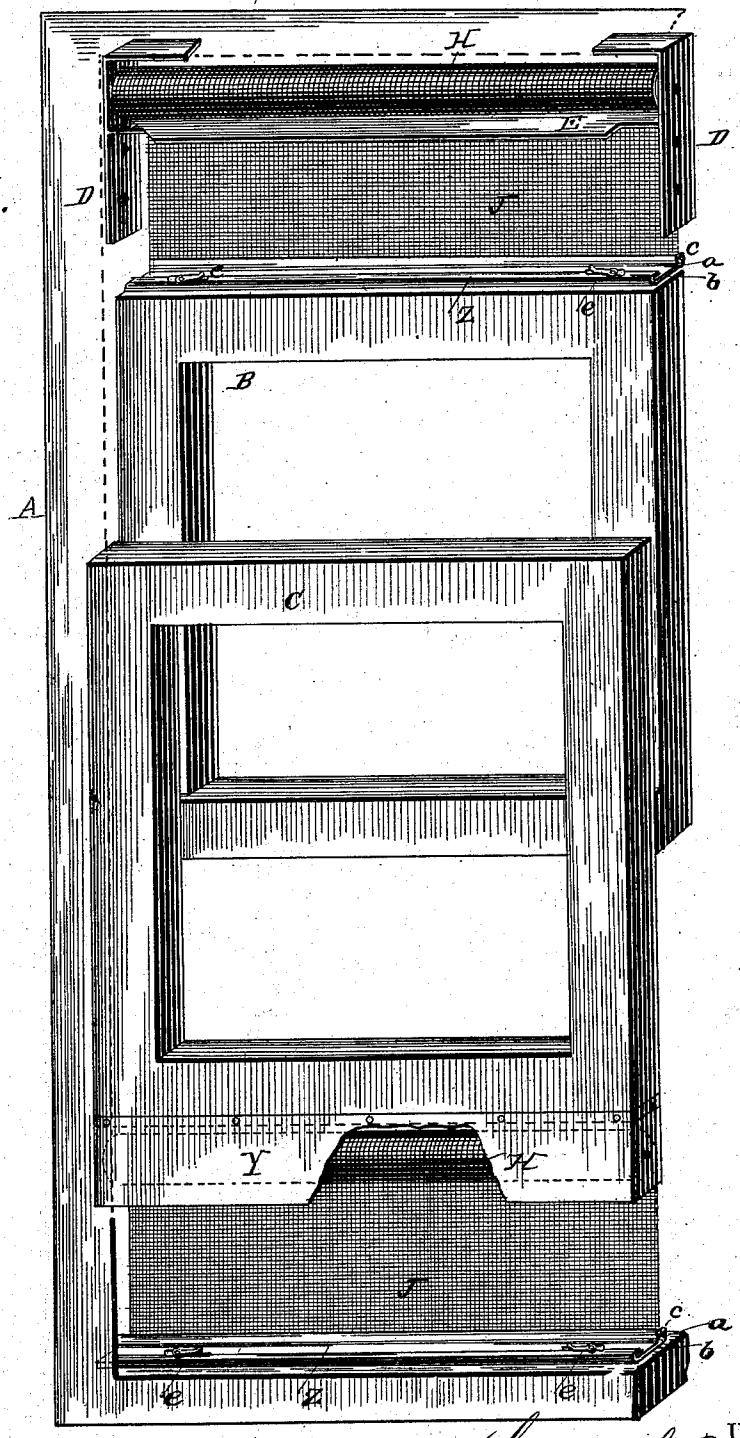
(No Model.) 2 Sheets—Sheet 1.

G. L. REYNOLDS.

WINDOW SCREEN.

No. 293,082. Patented Feb. 5, 1884.

Fig. 1.



WITNESSES:

Fred. G. Dieterich.

Wm. Fecher

INVENTOR.

George L. Reynolds

By Louis Bagger & Co.

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

G. L. REYNOLDS.

WINDOW SCREEN.

No. 293,082. Patented Feb. 5, 1884.

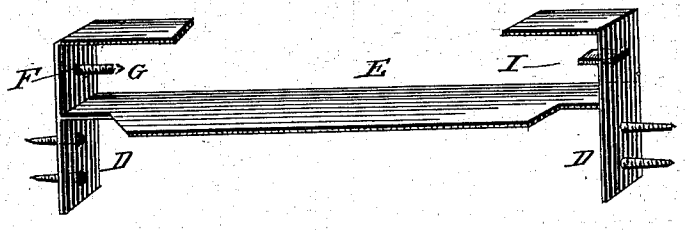


Fig 2.

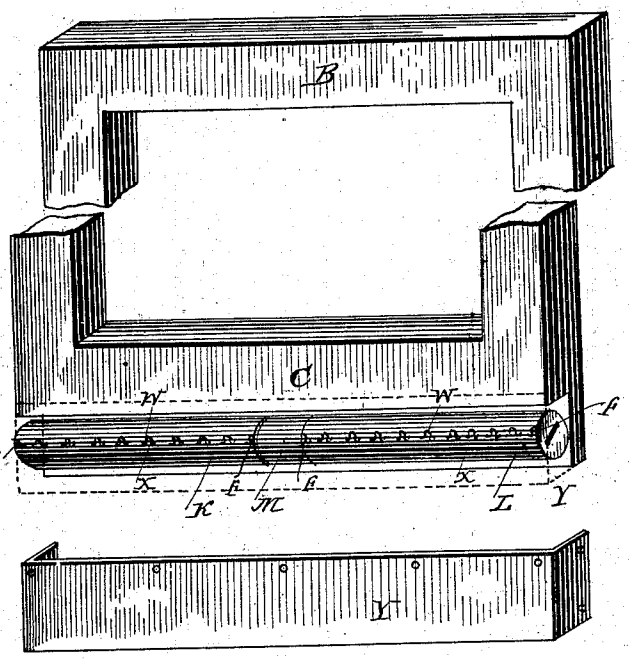


Fig. 3.

Fig. 4.

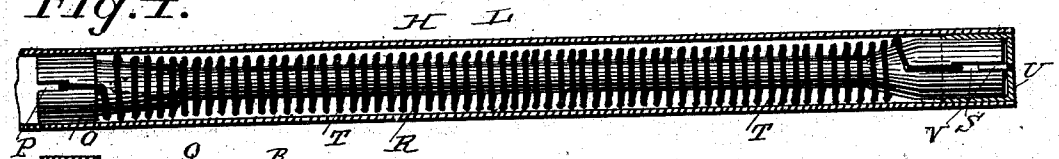
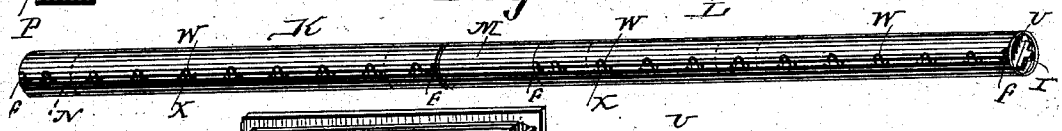


Fig. 5.



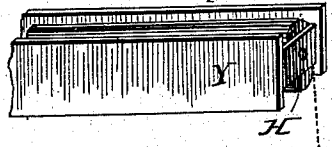


Fig. 6.

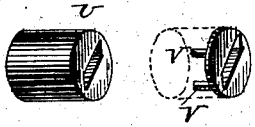
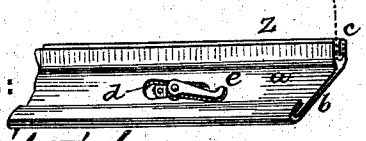
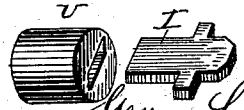


Fig. 7.





WITNESSES:

Fred. G. Dieterich.

Wm. Fecher

INVENTOR.

George L. Reynolds

By Louis Bagger & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

GEORGE L. REYNOLDS, OF ORANGE VALLEY, NEW JERSEY.

WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 293,082, dated February 5, 1884.

Application filed November 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. REYNOLDS, of Orange Valley, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Window-Screens; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of a window frame and sashes provided with my improved roller-screens. Figs. 2 and 3 are detail views of the frames for the upper and lower rollers. Fig. 4 is a longitudinal vertical section of the roller. Fig. 5 is a view of the outside of the same, and Figs. 6 and 7 are detail views.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to roller-screens for windows adapted to have the rollers journaled in the upper end of the window-frame and in the lower end of the lower sash, and having the lower ends of the screens secured to the upper end of the upper sash and to the lower end of the frame, being an improvement upon the window-screen for which Letters Patent No. 268,125 were granted to me on the 28th day of November, 1882; and it consists in the improved construction and combination of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the window-frame; B, the upper, and C the lower sash, which may be of any desired construction and pattern, and which may be provided with any approved construction of sash-balance.

A frame consisting of two side pieces, D, secured to the inner sides of the window-frame, and a cross-piece, E, secured at its ends to the middle of the side pieces, is secured in the upper end of the frame, and is provided at one end with a perforation, F, in which a pivot, G, secured in one end of the spring-roller H, turns in the upper portion of one of the side pieces, while the upper end of the other side piece is provided with an inwardly-projecting flat lug, I, which is adapted to enter a corresponding recess in the other end of the spring-roller, the roller turning in the space between the upper end of the frame and the cross-piece, and the screen J passing down upon one side of the cross-piece.

The roller consists of two sleeves, K and L, of sheet metal, united by means of a round stick, M, inserted into their ends, and the one K of the sleeves has a block, N, inserted into its outer end, into which the end of the pivot G is secured, while the other sleeve contains the spring mechanism. This spring mechanism consists of a short spindle, O, having a traverse slot or recess, P, in one end, and forming a socket, Q, in the other end. The reduced end of a spindle, R, fits and turns in this socket, while the other end of the spindle, which is longer than the socketed spindle, has a transverse slot or recess, S, into which slot one end of the spiral spring T is inserted, while its other end is inserted into the slot in the end of the short spindle, so that the spring may be wound or unwound upon the long spindle by turning the same. A cap or socket, U, fits upon the end of the long spindle, and has a transverse slot in its head, into which the flat lug I at the upper end of the supporting-frame fits, and has two inwardly-projecting lugs, V, one at each end of the slot, which project into the transverse slot in the end of the long spindle, so that the spindle may be held from turning, while the roller and the short spindle, which are secured inside the sleeve, are revolved by the screen, which is wrapped around the roller in such a manner that the spring will be wound when the screen is drawn down, reversing the roller, when the screen is allowed to be rolled up again. The sleeves have a series of slots or holes, W, forming tongues X, projecting into the slots and all pointing in one direction, as shown in Fig. 5, and the screen-cloth is secured to the roller by turning all the tongues outward, placing the upper edge of the screen upon the roller, with the tongues projecting through the meshes of the screen, and thereupon bending the tongues back again in their former position, when they will hold the upper edge of the screen perfectly secure. The roller for the

lower screen is journaled in a casing, Y, at the lower edge of the lower sash, which casing may either be rectangular, formed of sheet metal, and secured to the lower end of the sash, inclosing the roller from four sides, the roller being journaled in the same manner as the upper roller in the end pieces of the frame, or the casing may be only covering one side and the ends when the lower end of the sash is cut away to form a recess, one side of which projects downward, forming one side of the frame, inside which the roller is journaled. The lower edge of the screens is secured in a flat bar, Z, consisting of an upper and a lower strip, *a* and *b*, the outer edges of which are doubled inward, securing them together, while the inner edges are bent upward, and the edge *c* of the lower strip doubled downward again, with the lower edge of the screen doubled under the same and clamped by it. The flat bar formed by these two strips is provided with two or more longitudinal slots, *d*, decreasing in width toward one end, adapted to receive turn-buttons *e*, which may pass through the slots and be turned to bear across them, and which are pivoted upon the upper edge of the upper sash and upon the lower end of the frame, serving to hold the lower edges of the screens fast, while the screens may be rolled upon and unrolled from their respective rollers as the sashes are raised or lowered, the screens covering the space left open by the sashes, and thus preventing flies and other insects from entering through the windows while the windows may be opened allowing fresh air to enter. The ends of the sleeves forming the rollers are provided with tongues *f*, being in a line with the tongues in the perforations, which tongues serve to hold the screen in the same manner as the other tongues at the ends of the rollers.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. A roller for screens or curtains, consisting of one or more sheet-metal sleeves having a series of slots or perforations having tongues projecting from one edge of the said slots or perforations and pointing in one direction across the roller, as and for the purpose shown and set forth.

2. The combination of a tubular roller, a short spindle secured inside the tubular roller and forming a socket at one end and having a transverse slot in the other end, a long spindle turning with its reduced end in the socket of the short spindle and having a transverse slot in its other end, a spiral spring wound around the spindles and having its ends inserted into the transverse slots, a cap or socket having a transverse slot in its head fitting over the end of the long spindle, and having two inwardly-projecting lugs projecting into the transverse slot of the spindle, and a flat lug secured to the window-frame and projecting into the slot in the cap, as and for the purpose shown and set forth.

3. The bar at the lower edge of a screen, consisting of two flat strips of metal united at their inner edges by being doubled back together, having their outer edges bent upward, and having the outer edge of the lower strip doubled downward again, in combination with the lower edge of a screen or curtain inserted between the outer edges of the strips and doubled under the outer doubled edge of the lower strip, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

GEO. L. REYNOLDS.

Witnesses:
JOHN MCLORIMAN,
J. C. NETTLESHIP.