No. 647,674. Patented Apr. 17, 1900.

S. J. HORCHELER.

SCREEN FOR WINDOWS.

(Application filed Dec. 15, 1899.)

(No Model.)

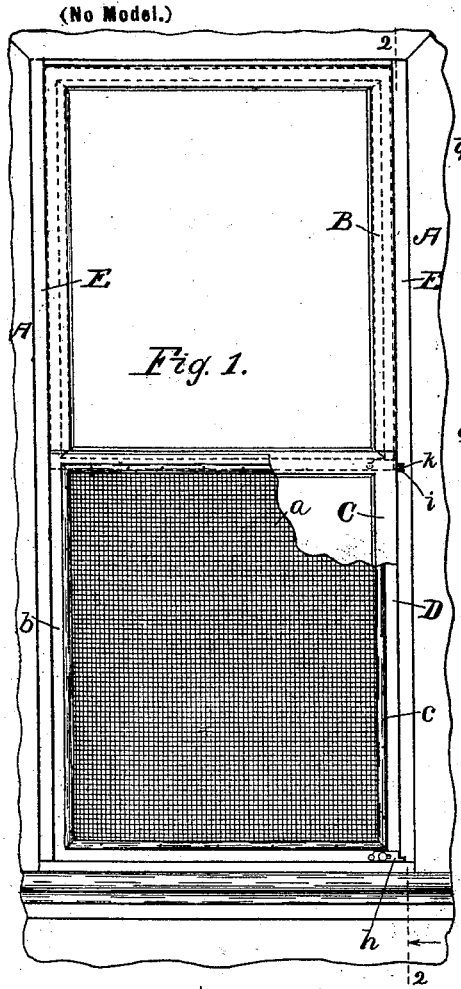

Fig. 1.

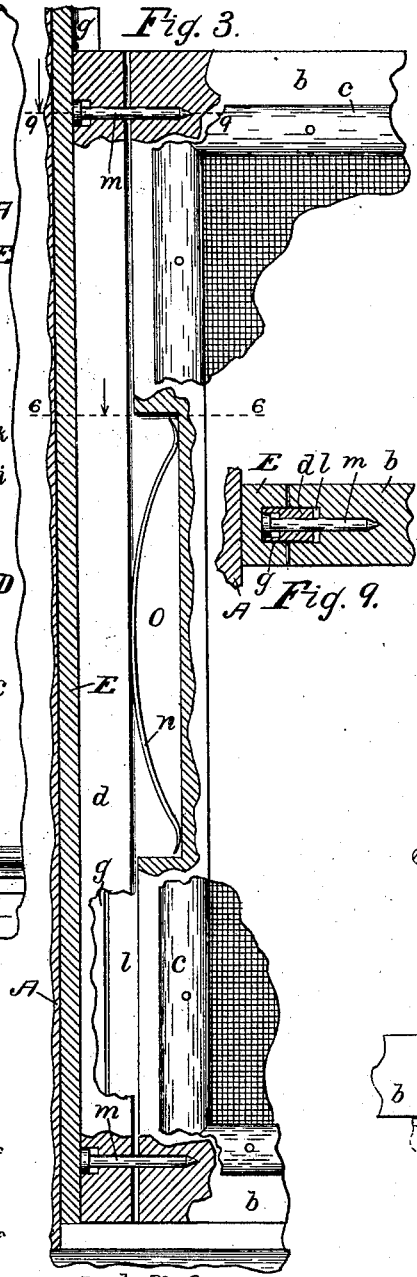

Fig. 3.

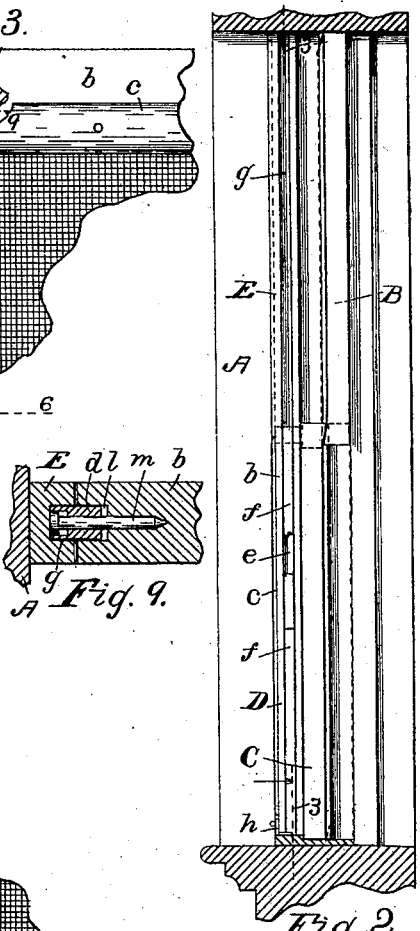

Fig. 2.

Fig. 9.

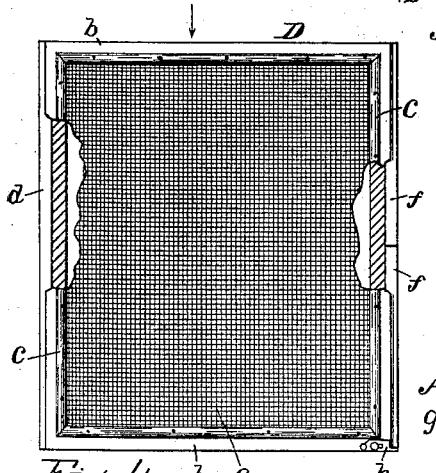

Fig. 4.

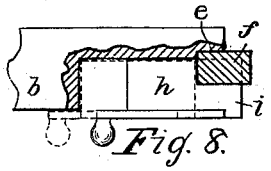

Fig. 8.

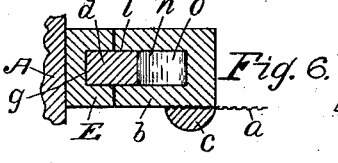

Fig. 6.

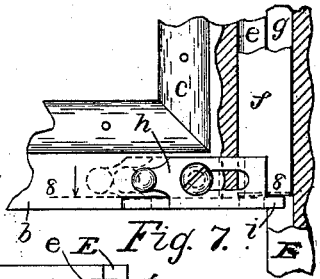

Fig. 7.

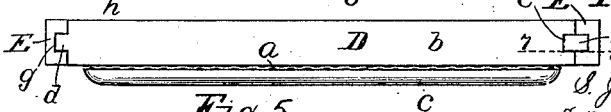

Fig. 5.

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UNITED STATES PATENT OFFICE.

SOLOMON J. HORCHELER, OF ROCHESTER, NEW YORK, ASSIGNOR TO JULIA M. HORCHELER, OF SAME PLACE.

SCREEN FOR WINDOWS.

SPECIFICATION forming part of Letters Patent No. 647,674, dated April 17, 1900.

Application filed December 15, 1899. Serial No. 740,467. (No model.)

To all whom it may concern:

Be it known that I, SOLOMON J. HORCHELER, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Screens for Windows, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My invention is a shiftable window-screen with associated parts, the same being hereinafter fully described, and more particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a front elevation of the inside of a window with my improved screen in place, parts being broken away and the screen shown in two positions by full and dotted lines. Fig. 2 is a side elevation of the window and the screen seen as indicated by arrow in Fig. 1, the vertical section being on the dotted line at the point of the arrow, parts being broken away. Fig. 3 a front elevation of a portion of the screen and associated parts, parts being broken away and longitudinally sectioned, as on the dotted line 3 3 in Fig. 2. Fig. 4 shows the screen detached, with parts broken out and longitudinally sectioned to further show the form of the parts. Fig. 5 is an upper edge view of the screen seen as indicated by arrow in Fig. 4. Fig. 6 is a cross-section of a part of the screen and associated parts, taken on the dotted line 6 6 in Fig. 3. Fig. 7 is a front elevation of parts at the lower right-hand corner of the screen, further showing the form and relation of the parts, the section being as on the dotted line 7 in Fig. 5. Fig. 8 further shows, in plan, the parts at the lower right corner of the screen, the section being on the broken dotted line 8 8 in Fig. 7. Fig. 9 is a horizontal section of parts, taken on the dotted line 9 9 in Fig. 3. Figs. 1, 2, and 4 are drawn to a scale about one-twelfth size, Fig. 5 to a scale about one-eighth size, and the remaining figures to a scale about one-half size.

In the drawings, A is the frame of a window of ordinary kind and form, B being the upper sash and C the lower sash.

D, Figs. 4 and 5, is my improved screen, consisting of a rectangular frame *b*, provided with a perforated sheet *a*, as of wire-cloth, held to the frame by any convenient means, as a molding *c*. This frame is provided with a tongue *d*, which may be either a part of the frame itself, as indicated in Fig. 5, or a separate piece, as indicated in Figs. 4 and 6, said tongue when made of a separate piece being inserted in a longitudinal groove *l* in the side of the frame and made either rigid with the frame or movable therein. At its opposite edge the frame is formed with a longitudinal groove *e*, in which to receive a loose or removable tongue *f*, which may be in a single piece or in sections, as shown in Figs. 2 and 4.

E E are a pair of similar strips or bars secured to the window-casing A opposite each other at the sides of the screen, their opposing faces being formed with vertical grooves *g g*, in which to receive the tongues *d* and *f*, the construction being such that the screen may be moved vertically in said strips to cover either the upper or the lower part of the window, as may be desired.

In placing the screen it is put between the strips E E, with the tongue *d* in a groove *g*, the loose tongue *f* being first removed and afterward dropped into the space formed by the combined adjacent grooves *e g*. The tongue *f* may be in a single piece having a length equal to that of the screen-frame *b*, but frequently it is more convenient to have it in two parts or sections, as shown, dropping one after the other into place.

A simple sliding catch *h*, Figs. 7 and 8, at the lower right-hand corner of the frame *b* is provided to enter the groove *e* to prevent the tongue *f* from dropping out of place when the screen is raised in the strips E E. This catch also serves to form a stop for the screen when in its upper position, as shown by dotted lines in Fig. 1. The catch is formed with a projecting end *i*, which enters a cross-kerf *k* in the adjacent strip E, thus holding the screen to place when raised. For shifting the screen vertically the catch is drawn out of the kerf, and to remove the tongue *f* the catch is drawn still farther to the left, its three positions being shown by full and dotted lines in Fig. 7. The tongue *f* is allowed to drop out of the screen when it is wished to remove the latter from the window, the screen being raised high for the purpose.

I sometimes prefer to construct these screens with the tongue *d* movable in the groove *l* in the screen-frame, as shown in Figs. 3, 6, and 9. In this case I mount the tongue movably on simple holders *m*, rigid in the frame *b*, so as to move laterally toward or from the frame, placing in the latter a spring *n* of some convenient form or kind, either elliptical or spiral, to bear against the inner face of the tongue. The spring is inserted in a chamber *o* in the frame *b*, so as to press the tongue at a point about midway of its length, as shown. The action of the spring serves to hold the tongue firmly against the adjacent strip E at the bottom of the groove *g*, constituting a friction to hold the screen in any position of vertical adjustment.

When the lower sash is raised, as shown by dotted lines in Fig. 2, the screen is down, as shown in full lines, and when the upper sash is down, as shown by dotted lines, the screen is raised to the top of the window. In either case one of the horizontal rails of the frame *b* of the screen is in contact with a horizontal rail of the lower sash, said sash and the frame never being separated or moving entirely away from each other.

What I claim as my invention is—

1. A screen for windows, comprising a frame and perforated sheet held thereby, the frame having an open-ended groove at one side and a tongue at either side thereof one of which is removable from the frame endwise through the open end of the groove, and means for temporarily closing one end of said groove to form a stop for one end of said removable tongue, substantially as shown and described.

2. A screen for windows, comprising a frame and perforated sheet secured thereto, with a tongue at each of two opposite sides thereof, one tongue being permanently attached to the frame, and the other removable therefrom, and a slidable holder for said removable tongue, said holder being disconnected from the tongue, substantially as shown and described.

3. A screen for windows, consisting of a frame grooved at two opposite sides, a perforated sheet held by the frame, a tongue in one groove adapted to have lateral motion therein, a spring to control said tongue, and a removable tongue formed in sections in the other groove, with a holder for said sections movable to close the end of the groove to limit the movement of the tongue therein, and grooved side bars or strips to engage said tongues, substantially as shown and described.

In witness whereof I have hereunto set my hand this 9th day of December, 1899, in the presence of two subscribing witnesses.

SOLOMON J. HORCHELER.

Witnesses:
E. B. WHITMORE,
M. L. WINSTON.