(No Model.) 2 Sheets—Sheet 1.

S. J. VANCE.

WINDOW SCREEN.

No. 336,178. Patented Feb. 16, 1886.

Fig. 1.

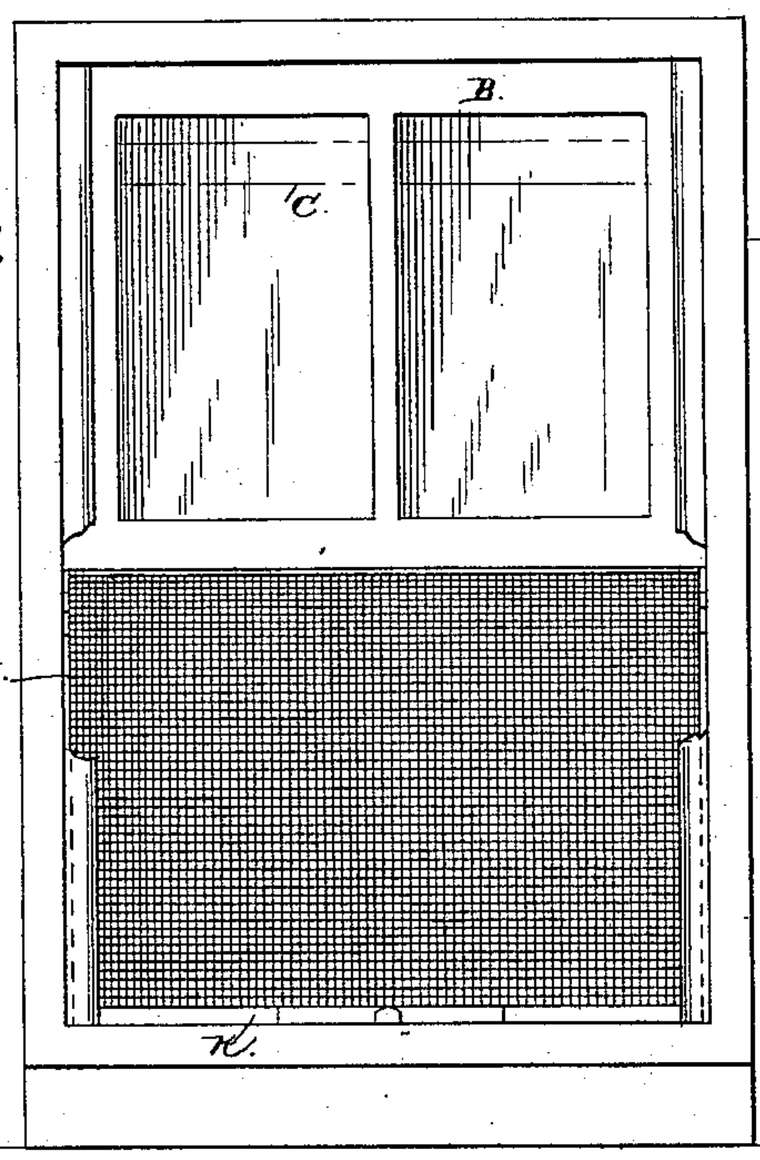
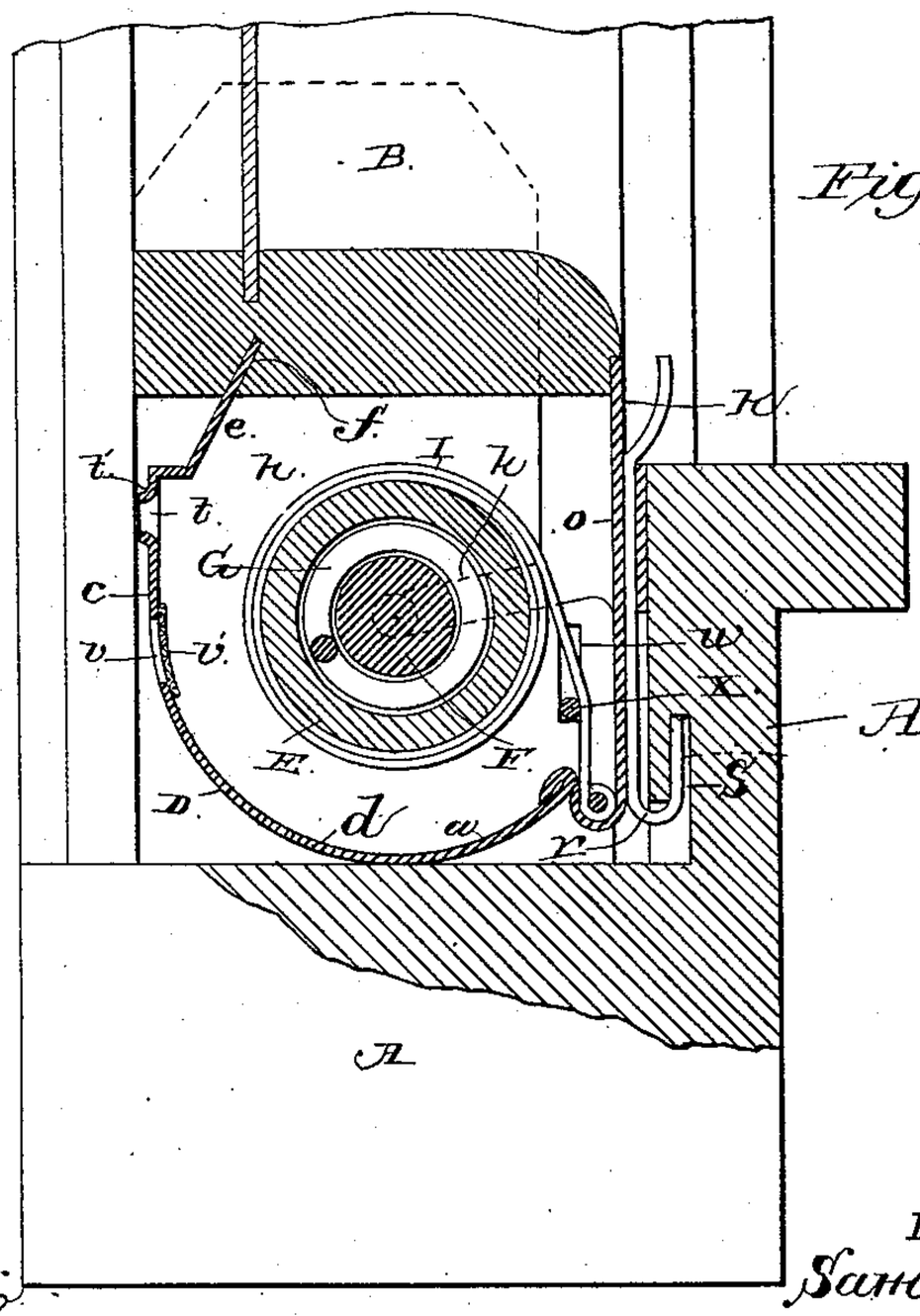


Fig. 2.



WITNESSES

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His Attorneys

(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

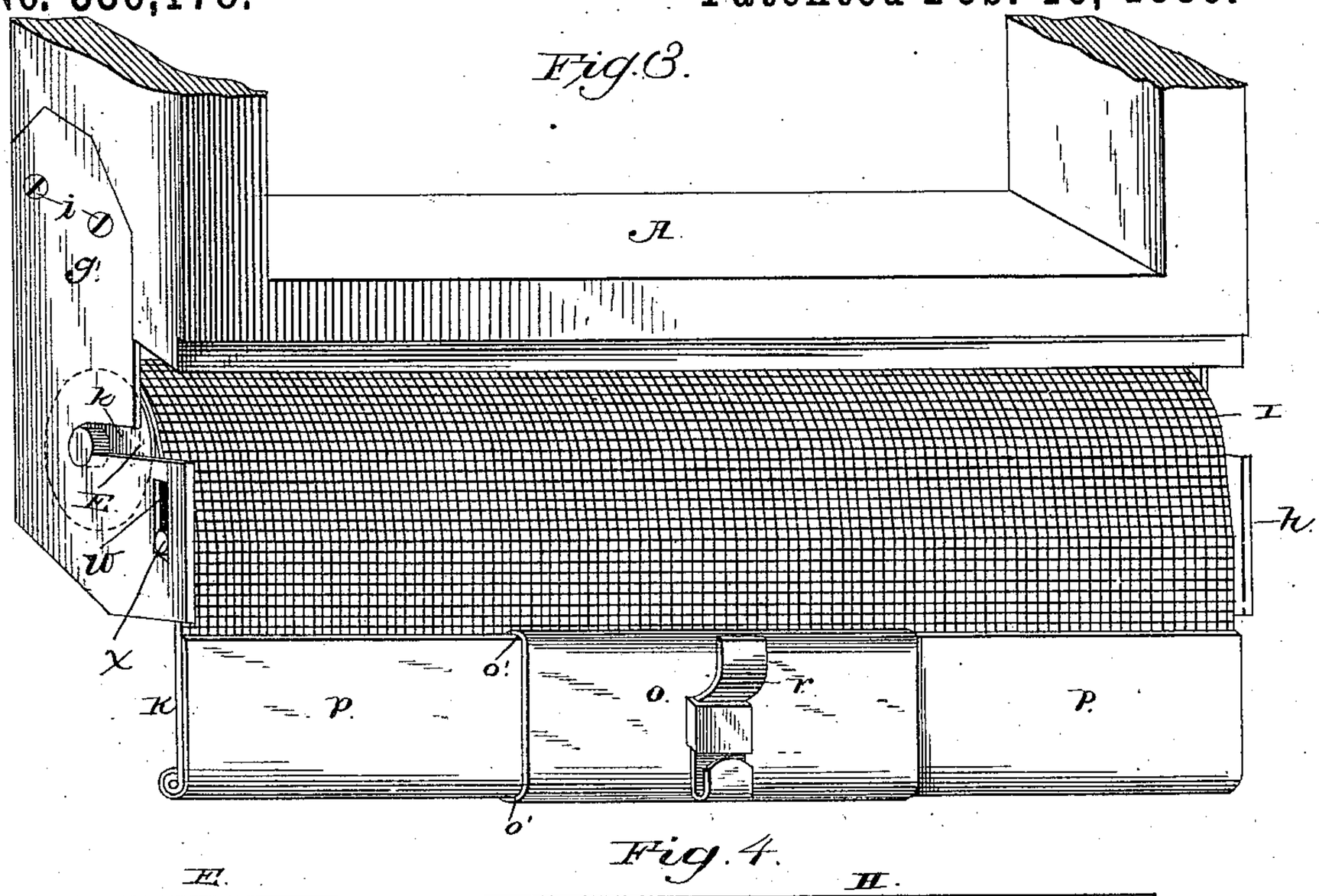


Fig. 4.

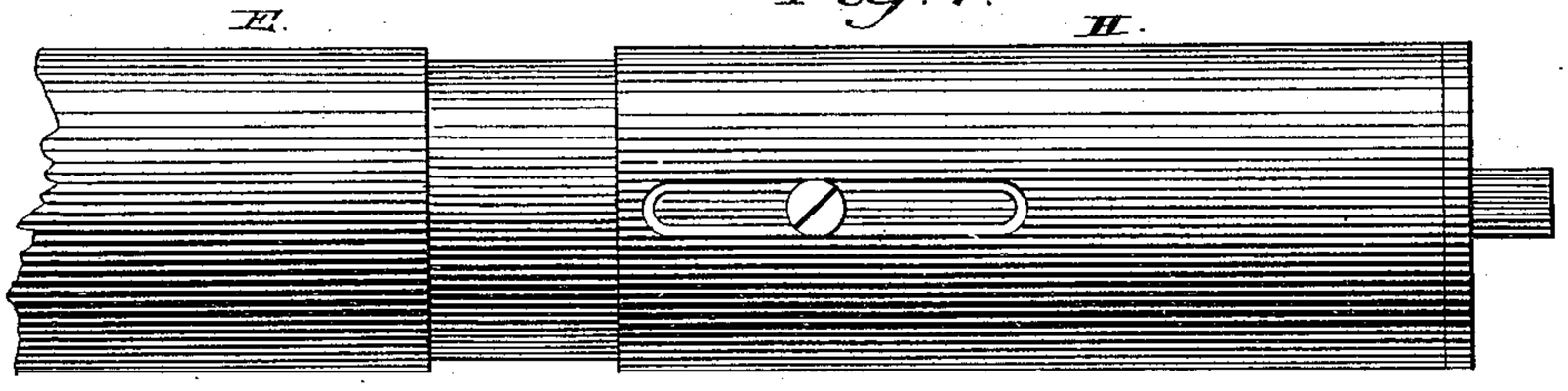


Fig. 5

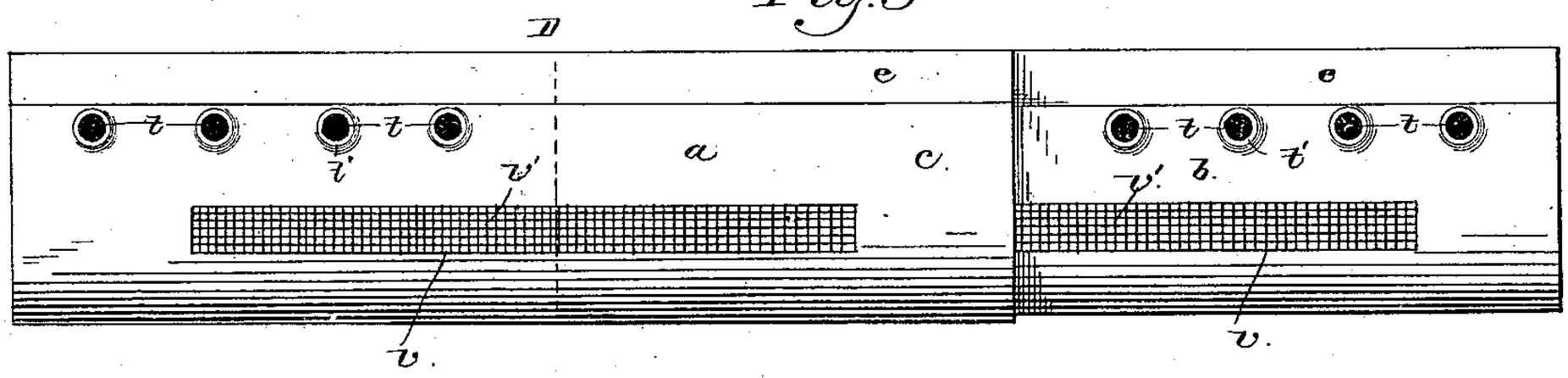
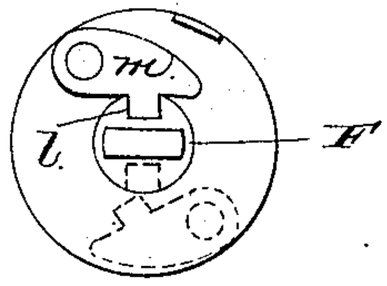


Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

SAMUEL J. VANCE, OF MACOMB, ILLINOIS.

WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 336,178, dated February 16, 1886.

Application filed August 7, 1885. Serial No. 173,864. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL J. VANCE, a citizen of the United States, residing at Macomb, in the county of McDonough and State of Illinois, have invented a new and useful Improvement in Window-Screens, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improvement in window-screens; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation of a window with one of my improved screens applied thereto. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a detailed perspective view of the window-sash and the screen attached thereto. Fig. 4 is a side view of portion of roller. Fig. 5 is a rear view of inclosing-case, and Fig. 6 is an end view of roller.

A represents a window-frame, which is of the usual construction and has the sliding sashes B and C. The sill of the window-frame has a vertical flange, A′, on its inner side, and in the lower side of the flange is a recess, S, extending to the outer side of the flange. To the bottom of the inner sash, B, is attached a roller and screen-case, D, which is made in two sections, *a b*, bent so as to form the vertical back *c* and the curved bottom *d*. These sections are constructed of sheet metal, and are telescopic or adjustable, the section *b* sliding on section *a*.

In order to apply the case to the window-sash, the sections are drawn out so as to equal the width of the window-sash, and the upper portions of the backs of the two sections are bent inwardly and upwardly, as at *e*, to form oblique tongues that enter an oblique groove, *f*, made near the lower side of the sash, as shown at Fig. 2.

The back of the case is provided with an offset, so that it is out of contact with the rear side of the sash and at a slight distance therefrom, and at the upper portion of the back a series of openings, *t*, are punched from the inner side, so as to have partly-conical flanges *t′* projecting from the rear side of the back. Below these openings is a long slotted opening, *v*, which is covered with wire-gauze *v′*, so as to admit light to the interior of the case beneath the sash, but to prevent flies from entering from the outside. The flies in the room, attracted by the lighted case under the sash, will enter the case and pass out through the openings *t*, which admit of ready egress. Flies on the outside will be prevented from entering the said openings by reason of the partly-conical flanges, and on account of the darkened appearance of the interior of the case from the outside.

The ends *g* and *h* of the case are formed separately of cast or other suitable metal, and are secured to the lower portions of the sides of the sash by means of screws *i*. These ends are recessed in the sides of the sash, and are provided with upwardly and outwardly extending diagonal slots *k*. In one of these slots is journaled one end of the roller E, by means of a projecting shank that enters the slot, and in the other slot is secured the square projecting end of the spring-rod F in the roller, around which is coiled the winding-spring G. Near the square end of the rod F is a notch, *l*. A dog, *m*, is pivoted to the end of the roller and drops in the notch to hold the roller after the spring has been wound up preparatory to securing it under the sash. As it is desired that this dog shall not interfere with rolling and unrolling the screen after it is put in the window, it is so arranged that the notched side of the spring-rod will be down, when, upon the first movement of the roller, the dog drops out of the notch and becomes disengaged from the spring-rod. On one end of the roller is a metallic telescopic extension, H, which may be moved in or out to adjust the length of the roller, so as to make it correspond to the width of the sash.

To the roller E is secured the upper end of a screen, I, the lower end of which is secured to the sectional extensible metallic plate K, which is formed in three sections, *o* being the central section, and *p* representing the end sections, which slide in ways *o′*, formed on the rear side of section *o*, at the upper and lower edges thereof. The plate K may be caused to fit a window of any ordinary width by drawing out or retracting the sections *p*. The plate K, when the screen is rolled up, forms the front side of the case D.

The front sides of the end pieces, *g* and *h*, of

the case are provided with vertical slots *w*, in which work the reduced ends of a horizontal rod, *x*, in front of the roller. This rod bears on the outer side of the screen, and is for the purpose of keeping the latter set full to the sides of the window-casing.

When the screen is rolled up, the slots permit the rod to rise out of the way of the lower part of the front plate, K. The rod as the screen is being unrolled drops and makes a long angle for the screen as it leaves the roller, and thus renders the screen easy to unwind.

It will be readily understood from the foregoing description that the case D forms, in a measure, a portion of the sash, and by painting said case to correspond with the sash its existence would hardly be noticed.

To the front side of the center of the central section, *o*, of plate K is secured a vertically-sliding catch, *r*, adapted to catch in the recess S of the window-sill.

When the sash B is raised to admit air to the room, the plate K is drawn down, which unwinds the screen from the roller, and the plate K is fastened to the window-sill by the catch *r*, thus stretching the screen tightly across the window-frame below the sash, so as to prevent flies or other insects from entering the room. When the sash B is lowered, the screen is wound on the roller by the spring G as the sash descends, and thus is kept tight and out of the way at all times. After the plate K has been secured to the window-sill the sash B may be raised to any desired height, and the screen will protect the opening below the sash. When it is not desired to use the screen, the plate K may be released from the window-sill, when by the tension of the spring G the roller will wind up the screen and hold the plate K against the front side of the case D.

A window-screen thus constructed is cheap and simple, does not interfere with raising or lowering the sash, and can be rolled up against the lower side of the sash, so as to be entirely out of the way when not in use.

I am aware that adjustable guide-rollers supported on springs have been heretofore employed for bearing against window-screens as the latter are unrolled, and this I disclaim.

I am also aware that window-screens have been heretofore provided with conical outlet-openings to permit the exit of flies from the room, and this also, broadly, I disclaim.

Having thus described my invention, I claim—

1. The combination, with a sash having the oblique groove in its lower side, of the case D, having the oblique tongue adapted to fit in the groove and secured to the sash, the spring-roller in the case, and the screen on the roller, substantially as described.

2. The combination, with a window-sash, of the case D, secured thereto, and having the vertical slots *w* in its end walls or brackets, the spring-roller in the case, the rod *x* in the slots *w*, and the screen on the roller and passed over the said rod, substantially as described.

3. The combination, with a window-sash, of the case D, secured thereto, and having the open inner side, and the outwardly-extending conical tubes *t* on its outer side, and the spring-roller in the case, and the screen on said roller, substantially as described.

4. The combination of the window-frame having the flange A′ on the inner side of the sill, and the recess S opening on the outer side of the flange, with the sash having the case D, having the open side, and secured to the lower side of the sash, said case fitting behind flange A′ when the sash is lowered, to hide the case from sight, the spring-roller in the case, the screen on the roller, a plate, K, attached to the lower edge of the screen, and adapted to close the open side of the case when the screen is rolled, and the hook *r*, attached to plate K, adapted to secure said plate to the lower side of the window-frame by entering recess S, substantially as described.

5. The combination of the window-frame having the flange A′ on the sill, with the sash provided with the case D on its lower side, said case having its open side facing the flange A′, and fitting behind the flange when the sash is lowered, to hide the case from view, the spring-roller and screen within the case, a vertical plate, K, attached to the lower edge of the screen, and closing the open side of the case when the screen is rolled, and means, substantially as described, for securing the plate K to the inner side of the flange A′, as and for the purposes set forth.

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

SAMUEL J. VANCE.

Witnesses:
B. R. HAMPTON,
D. A. HERLOCKER.