

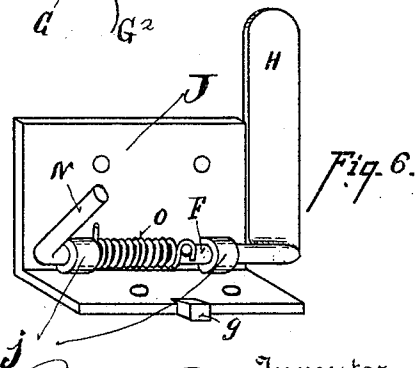
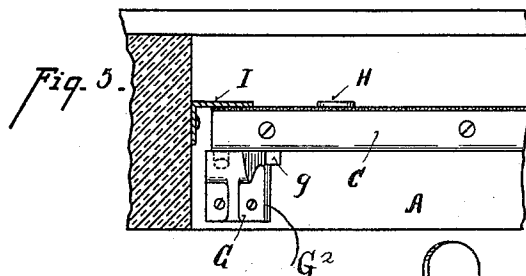
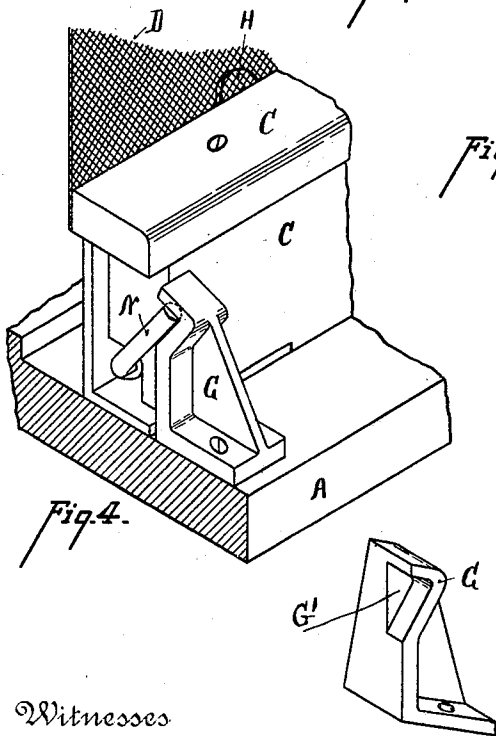
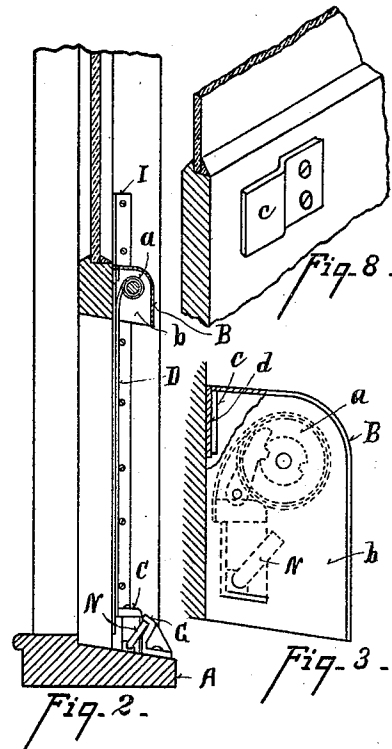
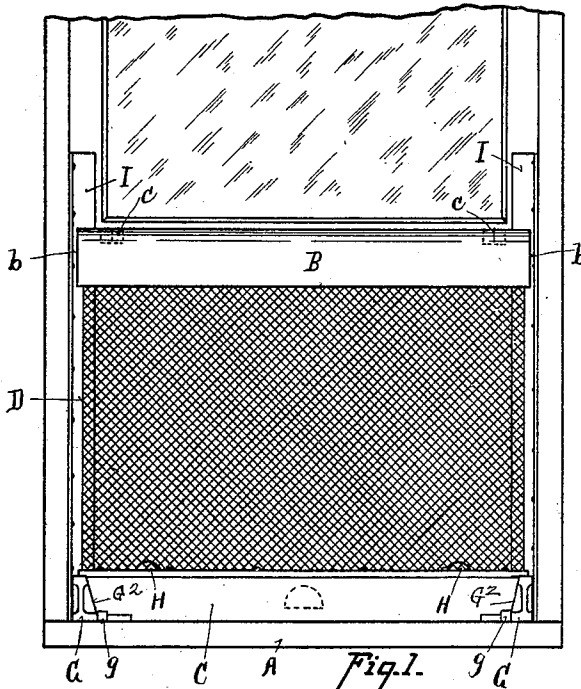
No. 611,924.

Patented Oct. 4, 1898.

E. E. MONROE.
WINDOW SCREEN.

(Application filed Aug. 30, 1897.)

(No Model.)



Witnesses

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Fig. 7.

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UNITED STATES PATENT OFFICE.

ELMER E. MONROE, OF RICHMOND, INDIANA.

WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 611,924, dated October 4, 1898.

Application filed August 30, 1897. Serial No. 650,030. (No model.)

To all whom it may concern:

Be it known that I, ELMER E. MONROE, residing at Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Window-Screens, of which the following is a specification.

This invention relates to window-screens, and particularly to that class of window-screens wherein the screen is wound upon a spring-roller journaled in a housing attached to the lower rail of the window-sash, the free end of the screen being detachably attached to the window-sill, the construction being such that the screen is unreeléd and wound up as the window is raised and lowered.

The invention has for its object to improve the construction and render more effective this class of window-screens; and to this end the invention consists in the features and in the construction, combination, and arrangement of parts hereinafter described, and particularly pointed out in the claims following the description.

My invention is primarily adapted to be used in connection with car-windows; but it is also readily adapted to be used with other windows with equal facility.

The features of my invention are more fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is an outside plan view of the housing and screen mounted therein. Fig. 2 is a sectional end elevation of my improvement attached to a window in the open position. Fig. 3 is an end elevation of the housing with screen retracted therein. Fig. 4 is a detailed view of the detachable fastening device for the lower end of the screen. Fig. 5 is a longitudinal section through the screen and window-frame, showing the fastening devices in top plan. Fig. 6 is a detailed view of the anchoring-hooks. Fig. 7 is a perspective view of catch G. Fig. 8 is a detailed perspective view of a portion of the lower rail of the window, showing one of the ears *c* for engaging a hook on the screen-housing.

A represents the sill-rail of a window-frame.

B represents the screen housing or case.

This case is preferably made of metal and forms a housing for the screen, which is mounted upon a roller which is journaled in the end pieces *b* of the housing. The roller *a* is provided with the ordinary curtain-springs connected after the manner of a window-curtain. This housing is firmly connected to the sill-frame of the window by means of hooks *d*, which engage with ears *c*.

C represents a rail attached to the lower end of the screen D. It is desirable to have this rail detachably connected to the anchoring-hooks on the bottom of the window-frame, also to be so constructed as to be attached and detached from the inside. To accomplish this result, I have provided the following instrumentalities: To the sill of the window-frame are rigidly attached brackets G, one at each end of the sill, each of which upon its inner side and near its upper end is provided with an angular recess *G'*. To the under and rear side of each end of the rail C is attached an angle-plate provided with perforated lugs or ears *j*, in which is journaled a shaft F. Said shaft at its outer end terminates in a latch N, projecting at a right angle to the shaft F, and at its opposite end terminates in a tongue or finger-piece H, also bent at a right angle to the shaft F, but in a different plane to the latch N. A coiled spring O is wound about the shaft F and is attached at one end to said shaft and at its other end bears against the plate J, whereby said spring operates to turn the shaft in the proper direction to cause the latch N to engage the recess *G'* in the bracket G and lock the rail C down upon the sill of the window-frame. When the rail, together with the screen, is drawn down upon the sill, the latches yield until the rail rests squarely upon the sill, when the springs O will force the latches into engagement with the recessed brackets and lock the rail in place. The inner or adjacent sides of the brackets G are beveled or inclined, as at *G²*, for the purpose hereinafter explained.

It is desirable to have dust-protectors at the edge of the screen, which serve as guards to hold the screen in place when it is stretched across the window-opening. For this purpose I provide angle-strips I, which are secured to the sides of the window-frame and

occupy the angles adjacent to the sash. These angle-pieces also serve to form a dust-proof joint for the sash when the screen is not in use.

Mode of operation: The screen is mounted upon the roller *a* and journals within the housing, the rail *C* of the window-screen being rigidly secured to the lower edge thereof. The housing *B* is secured to the window-sash by the fastenings *c d*. When the window-sash is closed, the bottom of the housing fits and rests upon the sill of the window-frame and fits within the angle and against the dust-strips *I*, thus forming a dust-proof case at the bottom of the window when the window is closed. In order that the screen may be readily anchored to the window-frame, the brackets *G* are preferably inclined, as at *G*², to form guides, and the plates *J* are provided with pins *g*, which strike the inclines and guide the rail laterally into the locking position, the hooks *N* yielding readily and dropping into the hooks *G* as the rail is pressed down. When the window is raised, the screen is unrolled and stretched across the opening, as shown in Fig. 2. When the window is closed, the springs of the roller wind up the screen. I am thus enabled to screen car-windows effectually and also to increase the dust-proof joints of the window-sash, both when the screen is being used, as well as employing the screen-supporting devices for making dust-proof joints independent of the screen itself.

Having described my invention, I claim—

1. The combination with a window frame and sash, of the screen-housing attached to the sash, a roller journaled therein, a screen attached at its upper end to said roller, a rail attached to the lower end of the screen, upwardly-projecting latches carried by said rail and adapted to oscillate in planes transversely thereto, and brackets attached to the window-sill and provided on their inner vertical faces with recesses arranged to be engaged by the upper free ends of said latches to lock the rail to the sill, substantially as described.

2. The combination with a window frame and sash, of the screen-housing attached to

the sash, a roller journaled therein, a screen attached at its upper end to said roller, a rail attached to the lower end of the screen, latches carried by said rail and adapted to oscillate in planes transversely thereto, brackets attached to the window-sill and provided with recesses arranged to be engaged by the ends of said latches to lock the rail to the sill, springs for throwing said latches into engagement with said recessed brackets, and means for throwing the latches out of engagement therewith, substantially as described.

3. The combination with a window frame and sash, of the screen-housing attached to the sash, a roller journaled therein, a screen attached at its upper end to said roller, a rail attached to the lower end of the screen, a shaft journaled in bearings secured to the rail and provided at one end with a latch bent at an angle to said shaft and at its other end with a finger-piece for rocking said shaft, a bracket having a recess arranged to be engaged by the end of the latch to lock the rail to the sill, and a spring operating to turn said shaft to throw the latch into engagement with the recessed bracket, substantially as described.

4. The combination with a window frame and sash, of the screen-housing attached to the sash, a roller journaled therein, a screen attached at its upper end to said roller, a rail attached to the lower end of the screen, latches carried by said rail and adapted to oscillate in planes transversely thereto, recessed brackets attached to the window-sill and having their inner or adjacent sides beveled or inclined, and projecting pins or lugs carried by the rail and adapted to engage the inclined sides of the brackets to guide the rail into place, the said latches operating to engage the recessed brackets to lock the rail to the sill, substantially as described.

In testimony whereof I have hereunto set my hand.

ELMER E. MONROE.

Witnesses:

W. R. WOOD,

OLIVER B. KAISER.