No. 768,416. PATENTED AUG. 23, 1904.

C. G. WOODS.

WINDOW SCREEN.

APPLICATION FILED DEC. 15, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

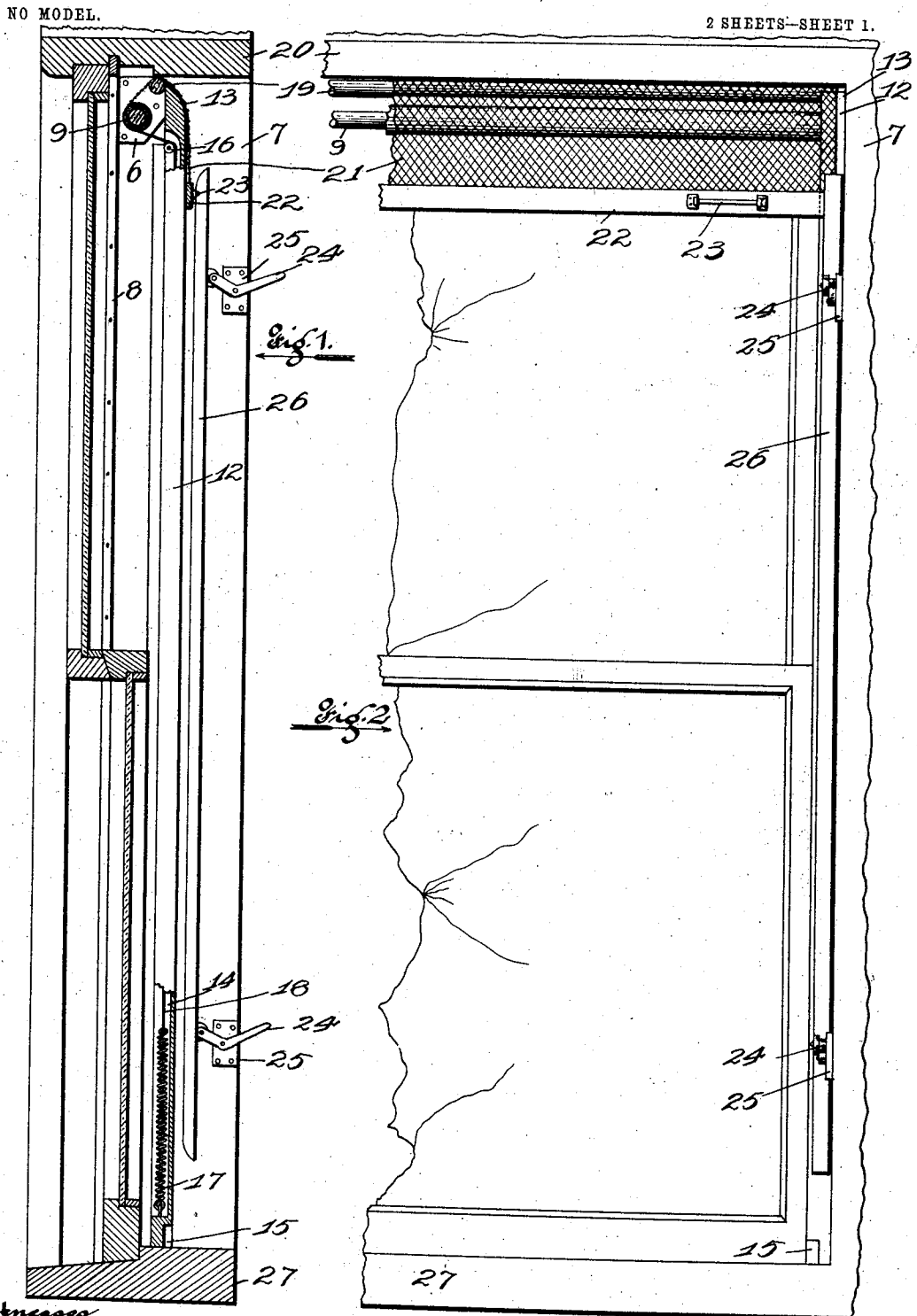


Fig. 1.

Fig. 2.

Witnesses
Alfred A. Ellis
M. L. Union

Inventor
Chas. G. Woods
by Higdon & Longan & Hopkins attys.

No. 768,416. PATENTED AUG. 23, 1904.

C. G. WOODS.

WINDOW SCREEN.

APPLICATION FILED DEC. 15, 1903.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

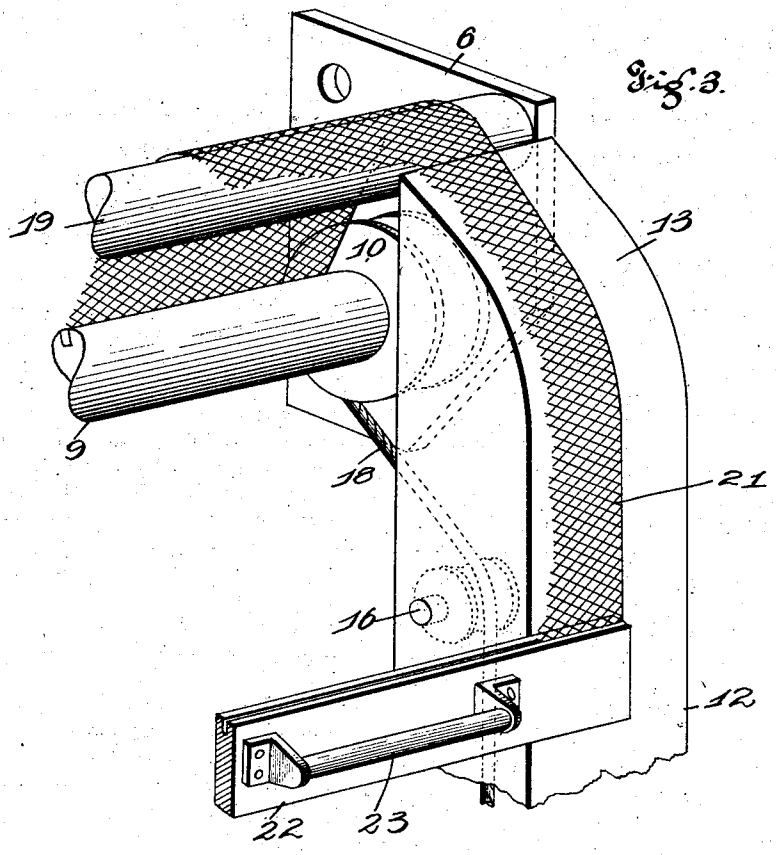


Fig. 5

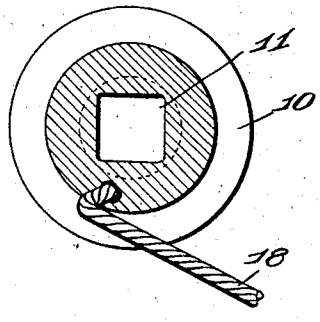
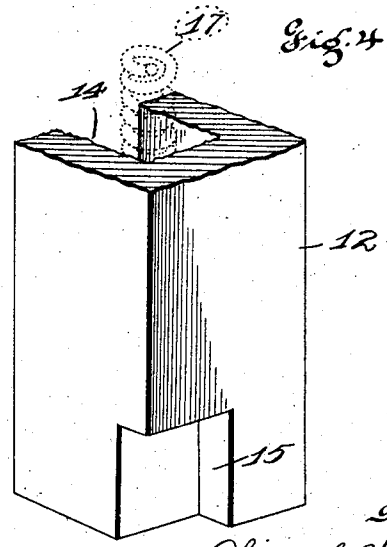


Fig. 4.



Witnesses
Alfred A. Ricks
M. S. Dion

Inventor
Chas. G. Woods
by Rigdon & Longan & Hopkins attys

No. 768,416. Patented August 23, 1904.

UNITED STATES PATENT OFFICE.

CHARLES G. WOODS, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO HENRY A. McGILL, OF ST. LOUIS, MISSOURI.

WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 768,416, dated August 23, 1904.

Application filed December 15, 1903. Serial No. 185,323. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. WOODS, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Window-Screens, of which the following is a specification, containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to window-screens, my object being to construct an improved window-screen which will open and close by winding and unwinding upon a roller; and my invention consists of suitable bearing-plates mounted upon the window-casing; a screen-winding roller mounted in said bearing-plates; a cord-winding pulley fixed upon said roller; stationary binding-strips attached to the window-casing, the upper ends of said strips being rounded to act as edge-guides and one of said strips being grooved to receive a spring and cord and there being retaining-notches at the lower ends of said strips; a cord-guide roller at the upper end of said groove; a retractile spring attached at the lower end of said groove; a cord attached to said winding-pulley, passing over the guide-roller and attached to said spring; a screen-guide roller mounted in said bearing-plates; a window-screen attached to and wound upon said winding-roller, passing over said screen-guide roller, passing over said edge-guides and down along said stationary binding-strips; a movable binding-strip attached to the lower edge of said screen and adapted to engage in said retaining-notches; handles attached to said movable binding-strip; clamping-levers attached to the window-casing, and edge-clamping strips carried by said clamping-levers to engage the edges of said screen and press them firmly against said stationary binding-strips.

In the drawings, Figure 1 is a vertical section of a window with my improved screen in position for use as seen looking in the direction of the arrow in Fig. 2. Fig. 2 is an inside elevation as seen looking in the direction indicated by the arrow in Fig. 1, parts being broken away to economize space. Fig. 3 is a perspective detail, upon an enlarged scale, at one of the upper corners of the window, parts being broken away. Fig. 4 is a perspective detail, upon an enlarged scale, of the lower part of the grooved stationary binding-strip, the upper part being broken away. Fig. 5 is a cross-section, upon an enlarged scale, of the cord-winding pulley.

Referring to the drawings in detail, the bearing-plates 6 are secured to the side pieces 7 of the window-casing at the extreme upper ends and just inside of the parting-strips 8. The screen-winding roller 9 has its ends journaled in these bearing-plates, and the cord-winding pulley 10 has a square opening 11, through which the squared end of the roller is inserted. The stationary binding-strips 12 extend from top to bottom of the window-casing, the upper ends 13 of said strips being rounded to form guides for the edges of the screen, and one of said strips has a groove 14, and both of said strips have retaining-notches 15 at their lower ends. The cord-guide roller 16 is mounted at the upper end of the groove 14 in line with the pulley 10. The retractile coil-spring 17 is placed in the groove 14 and attached to the lower end of the strip 12. The cord 18 is attached to the winding-pulley 10, wound upon said pulley and attached to the spring 17. The screen-guide roller 19 is journaled in the bearing-plates 6 close to the lower face of the upper casing-piece 20. The window-screen 21 is attached to the winding-roller 9, wound upon said roller, passing over the guide-roller 19 and passing over the screen-edge guides 13, and passing down along the stationary binding-strip 12. The movable binding-strip 22 is attached to the lower edge of the screen 21 and is adapted to engage in the retaining-notches 15, and handles 23 are fastened to this movable strip. The clamping-levers 24 are pivoted to the plates 25, fastened to the inner faces of the casing-pieces 7. The edge-clamping strips 26 are carried by the inner ends of the levers 24, the outer ends of said levers serving as operating-handles, and said strips being in position to press the edges of the screen against the stationary binding-strips.

In operation the handles 23 are manually engaged to pull the screen down, thereby unwinding the screen from the roller 9 and overcoming the tension of the spring 17 and winding the cord 18 upon the pulley 10. Then the ends of the strip 22 are placed in the retaining-notches 15 and the levers 24 are operated to press the clamping-strips 26 against the edges of the screen and in turn press the edges against the binding-strips 12. It is obvious that when the screen has been closed no flies or insects can pass through the window. The guide-roller 19 holds the screen against the lower face of the casing-piece 20, the strip 22 engages the upper face of the lower casing-piece 27, and the screen pressing against the strips 12, thus leaving no place for insects to pass through.

I claim—

1. In a window-screen, bearing-plates mounted upon the window-casing; a screen-winding roller mounted in said bearing-plates; a cord-winding pulley fixed upon said roller; stationary binding-strips attached to the window-casing, the upper ends of said strips being rounded to act as edge-guides, and one of said strips being grooved to receive a spring and cord, and there being retaining-notches at the lower ends of said strips; a cord-guide roller at the upper end of said groove; a retractile spring attached at the lower end of said groove; a cord attached to said winding-pulley, wound upon the pulley, passing over the guide-roller and attached to said spring; a screen-guide roller mounted in said bearing-plates; a window-screen attached to and wound upon said winding-roller, passing over said screen-guide roller, passing over said edge-guides, and down along said stationary binding-strips; a movable binding-strip attached to the lower edge of said screen and adapted to engage in said retaining-notches; handles attached to said movable binding-strips; clamping-levers attached to the window-casing; and edge-clamping strips carried by said clamping-levers to engage the edges of said screen and press them firmly against said stationary binding-strips, substantially as specified.

2. In a window-screen, a screen-winding roller suitably mounted; stationary binding-strips attached to the window-casing, the upper ends of said strips being rounded to act as edge-guides for the screen and there being retaining-notches at the lower ends of said strips; a screen-guide roller mounted in position near the limits of the window-casing opening, a window-screen attached to and wound upon the said winding-roller, passing over said screen-guide roller, passing over said edge-guides and down along said stationary binding-strips, a movable binding-strip attached to the lower edge of said screen and adapted to engage in said retaining-notches; clamping-levers attached to the window-casing in apposition to the stationary binding-strips and edge-clamping strips carried by said clamping-levers to engage the edges of said screen and press them firmly against said stationary binding-strips, substantially as specified.

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

CHARLES G. WOODS.

Witnesses:

ALFRED A. EICKS,

JOHN C. HIGDON.