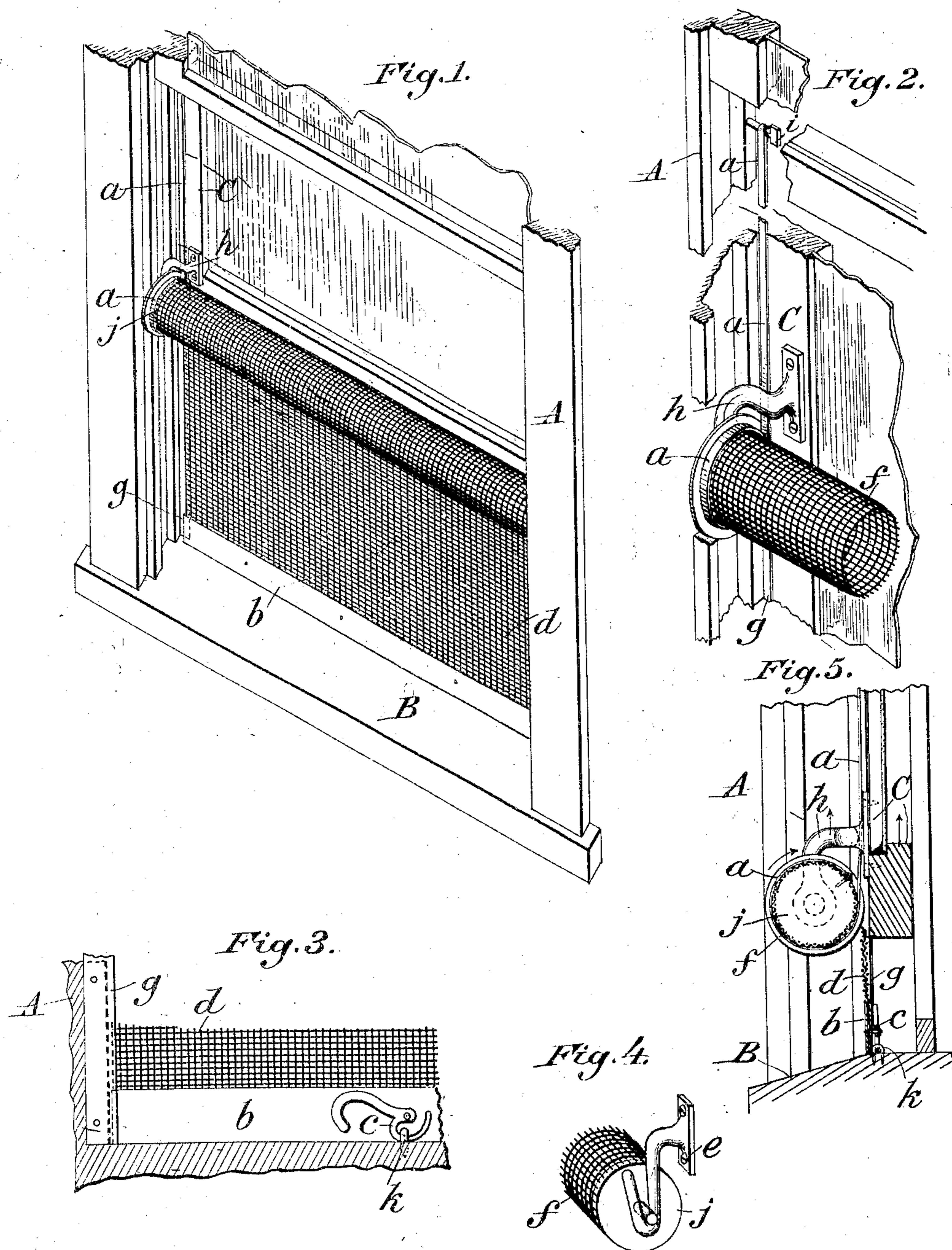


No. 797,851.

PATENTED AUG. 22, 1905.

E. J. HAWKS & L. E. GRAHAM.
WINDOW SCREEN.

APPLICATION FILED JULY 19, 1901.



Witnesses:

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UNITED STATES PATENT OFFICE.

ESTUS J. HAWKS AND LEWIS E. GRAHAM, OF ALBION, MICHIGAN.

WINDOW-SCREEN.

No. 797,851.

Specification of Letters Patent.

Patented Aug. 22, 1905.

Application filed July 19, 1901. Serial No. 68,974.

To all whom it may concern:

Be it known that we, ESTUS J. HAWKS and LEWIS E. GRAHAM, citizens of the United States, residing at the city of Albion, in the county of Calhoun and State of Michigan, have invented a new and useful Window-Screen, of which the following is a specification.

This invention relates to improvements in roller window-screens.

The objects of the invention are, first, to provide an improved roller window-screen which may be quickly and readily secured in position for use or removed from the window as desired; second, to provide an improved roller window-screen which shall be light and strong and one which may be exposed to the elements without liability of rusting or corroding; third, to provide an improved roller window-screen which shall be light and at the same time strong and durable and economical to manufacture and use.

Further objects will definitely appear in the detailed description to follow.

We accomplish the objects of our invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying the features of our invention is fully illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view of a structure embodying the features of our invention illustrated in position for use upon a window. Fig. 2 is a detail perspective view of our invention, the screen being removed from the roller *f* to show details of construction of the same, the parts being illustrated secured in position on a window to show their relation. Fig. 3 is a detail perspective view showing the manner of detachably securing our improved screen to the window-sill. Fig. 4 is a detail perspective view of the roller *f* and one of its supporting-brackets *e*.

In the drawings similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A represents the window-casing, B the window-sill, and C the window-sash. These are of the usual construction.

Secured to the outside of the sash C by suitable screws or the like are brackets *h* and *e*. These brackets are arranged to support the roller *f* opposite the bottom rail of the sash.

The bracket *h* is secured to the sash, curving outwardly close to the window-casing and then downwardly, the lower end being provided with a bearing for the journal on the end of the roller so that the tape *a* can pass under the bracket, which assists in guiding it, and thence around the end of the roller just beyond the end of the screen. The roller *f* is formed of heads *j*, to which is secured a tube or roll of wire screen or perforated metal. The heads are provided with suitable pins adapted to engage the brackets *e* and *h* to serve as journals for the roller. A screen *d* is secured, to and adapted to wind upon the roller *f*.

To one end of the roller *f* a tape *a* is secured. The opposite end of this tape is secured to the window-casing B by a pin *i*. The tape *a* is preferably formed of woven wire or ribbon-steel, so that while the same is flexible and adapted to wind upon the roller *f* it is inelastic and is of substantially the same thickness as the screen *d*. The cable *a* is guided by the bracket *h* and the projecting flange of the head *j*, so that it will wind upon itself as the roller is revolved.

Secured to the bottom of the window-screen *d* is a binding-strip of metal *b*. Pivotaly secured to this binding-strip is an eccentric hook *c*, adapted to engage the staple *k* in the window-sill B. The hook *c* is eccentric to enable the drawing of the binding-strip *b* closely against the sill.

Strips of metal *g* are provided to serve as guides and as insect-excluders, the edges of the screen *d* being lapped upon the same. These strips are preferably retained in position by being inserted into the window-casing with the window-stops and project slightly beyond the same.

Having thus described the parts and arrangement of our improved window-screen, we will now point out its operation. The parts being in position and the screen secured to the window-sill, when the window is raised the screen will be unwound from the roller *f* and the tape wound upon the same, and when the window is lowered the pull of the tape will revolve the roller and wind the screen thereon. The tape is of substantially the same thickness as the screen, and no special compensating drums or springs are required.

It will be observed that the screen may be readily released from the window-sill B by operating the hook *c* if it is desired to do so for any purpose, and the same may be as quickly attached. If it is desired to remove

the screen from the window, all that is necessary to do is to detach the screen from the window-sill and detach the tape *a* and lift the roller *f*, with the screen thereon, from its supporting-brackets. It is also apparent that it is impossible to detach the screen from the outside without destroying the same or part of the same.

Perforating the screen-roller permits free circulation of the air for the rapid absorption of moisture and prevents rusting and corroding. The structure is also very light and economical to produce.

It will be noted that the roll *F* is made of comparatively heavy material, and this is done so that it will present sufficient resistance to preserve its cylindrical contour when the screen is stretched in place by the opening of the window.

We have illustrated and described our improved roller window-screen in the form preferred by us on account of its simplicity and economy to manufacture. We are aware, however, that it is capable of considerable variation in structural details without departing from our invention.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a window-screen, the combination of the window-casing; a suitable sash therein; a roller *f*; brackets *e h* secured to the outer side of said sash to afford supporting-bearings for said roller; means for detachably securing said screen to the window-sill; an inelastic tape *a* secured to and adapted to wind upon the end of said roller, which is of the same size as the roller; a pin *i* carried by said casing to which the free end of said tape is secured at a point on the window-casing above the said roller; and suitable guides for said tape to cause it to wind upon itself on said roller, all coacting for the purpose specified.

2. In a window-screen, the combination of the window-casing; a suitable sash therein; a roller *f*; brackets *e h* secured to the outer side of said sash to afford supporting-bearings for said roller; a screen *d* secured to and adapted to wind upon said roller; means for detach-

ably securing said screen to the window-sill; an inelastic tape *a* secured to and adapted to wind upon the end of said roller, which is of the same size as the roller; means for securing said tape to the window-casing at a point above the said roller; and suitable guides for said tape to cause it to wind upon itself on said roller, all coacting for the purpose specified.

3. In a window-screen, the combination of the window-casing; a suitable window-sash; a hollow, foraminated roller revolubly supported by suitable brackets carried by said sash; a screen secured to and adapted to wind upon said roller; an inelastic tape secured to and adapted to wind upon said roller; and suitable means for securing said tape to the window-casing at a point above the said roller, for the purpose specified.

4. In a window-screen, the combination of the window-casing; a suitable sash therein; a roller revolubly supported by suitable brackets carried by said sash; a screen secured to and adapted to wind upon said roller; an inelastic tape secured to and adapted to wind upon the end of said roller, which is of the same size as the roller; and suitable means for securing said tape to the window-casing at a point above the said roller, for the purpose specified.

5. In a roller for window-screens or the like, the combination of suitable heads, the said wire screen being of much heavier weight than the window-screen and a tube of wire screen secured to said heads, for the purpose specified.

6. In a roller for window-screens or the like, the combination of suitable heads; the said tube being of much heavier material than the window-screens and a tube of foraminated metal secured to said heads, for the purpose specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ESTUS J. HAWKS.
LEWIS E. GRAHAM.

Witnesses:

FRED. B. JOHNSTON,
ORIS L. DAVIS.