

UNITED STATES PATENT OFFICE.

WILLIAM SCOTT, OF LEAVENWORTH, KANSAS, ASSIGNOR OF ONE-HALF TO
BENJAMIN H. OLDFIELD, OF SAME PLACE.

WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 514,871, dated February 13, 1894.

Application filed July 24, 1893. Serial No. 481,248. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SCOTT, of Leavenworth, Leavenworth county, Kansas, have invented certain new and useful Improvements in Window-Screens, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in window screens; and relates to that class of screens which will automatically wind or unwind as the sash is operated, so as to always occupy the space left vacant or unoccupied between the sash, and the window-casing.

The primary object of my invention is to provide attachments which may be easily and quickly operated to allow the screen or screens to be moved without trouble when required.

Furthermore to provide improved means whereby the lower screen strip may be easily and quickly and also detachably held in position against the lower end or bottom of the window-casing.

A further object of my invention is to produce a window-screen and attachments thereof which are simple, strong, durable and inexpensive of construction.

To the above purposes, my invention consists in certain peculiar and novel features of construction and arrangement as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1, is an inner face view of a window and showing my screen therein in operative position. Fig. 2, is a vertical longitudinal sectional view of the same, taken on the line $x-x$ of Fig. 1. Fig. 3, is an enlarged vertical section of the upper portion of the casing and the upper sash and showing in operative position the screen secured thereto and also to the upper end of the upper sash. Fig. 4, is a vertical sectional view taken on the line $y-y$ of Fig. 3. Fig. 5, is a detail perspective view of the lower corner of the upper sash and showing a spring plate carried thereby, and adapted to receive the roller of the lower

screen. Fig. 6, is a vertical sectional view of the lower corner of the upper sash and showing a slightly modified form of spring plate carried thereby for the roller support. Fig. 7, is a detail perspective view of a portion of a spring roller of the ordinary construction, and showing a sleeve detached which is adapted to be placed upon the end of the shaft to prevent the operation of the locking dogs. Fig. 8, is a detail perspective view of a bearing-plate having an elongated opening to receive the flattened end of the shaft of the spring-roller. Fig. 9, is a detail perspective view of the lower end of the lower screen and showing it connected in operative position at the bottom of the casing. Fig. 10, is a detail perspective view of a portion of the lower screen and the strip secured to its lower end.

In the said drawings, A designates a window casing, B designates the lower and inner sash and C designates the outer and upper sash; these sashes being arranged and adapted to operate in the window casing in the usual manner. A bearing plate D, having the usual elongated opening d , is secured in the upper end of the groove occupied by the lower sash B, and at the upper end of the similar groove at the opposite side of the casing a recess E is formed. A plate F is secured to cover said recess by screws or other suitable means, and secured by rivets or other suitable means to the back or outer side of said plate is the spring-latch G; said latch thus occupying the recess E, and said latch is formed at its upper end with an inwardly projecting and horizontal cylindrical stud g ; said stud or projection passing inwardly through a hole or aperture f , in the upper end of the plate F, and said plate is also provided about midway its length with the horizontal stud g' which projects inwardly through an aperture f' in the plate F; the object of this projection g' will be hereinafter explained.

A spring-roller, consisting of the shaft H, the spring I, the hollow body-portion or roller J, the cap K, and the dogs J' are all of the usual construction and arrangement, but in order to hold dogs J' out of operative position with reference to the notched shaft H, I provide a cylindrical sleeve L, and this sleeve

is slipped upon the projecting end of the shaft H so that it shall be interposed between said shaft and the dogs J', and also shall bear against the disk M by which said dogs are carried. A screen section N has one end secured to the outer side of the roller J, and is wound thereon in the usual manner and has its opposite end secured by nails or rivets or in any other suitable manner to the inner side of the upper sash-rail c, the upper end of the rib or flange a, of the casing separating the groove b, of the lower sash from the groove c', of the upper sash, being cut away at its upper end and rounded at a', for this purpose, and so that the screen will not bind thereon when the sash is operated; the squared or flattened end h, of the shaft H, entering the elongated recess d, of the bearing D, and the cylindrical stud g, entering a cylindrical recess j, formed in the opposite end of the roller J.

From the foregoing, it will be seen that as the upper sash is lowered the screen will be unwound from the roller J, and will screen or cover the space between the upper rail of the descending sash and the upper end of the casing, and when the said sash is raised the screen section will be automatically rewound upon the roller in the usual manner.

In order to prevent mosquitoes or flies entering the room between the upper end of the casing and the upper side of the screen roll l, which as will be readily seen dwindles or becomes smaller as the sash is pulled downward, a spring-plate O is provided; this plate O being secured to the upper end of the casing and pressing against the outer side of the screen-roll for its full length, so that as the roll becomes smaller the spring-plate will always be in contact with said screen-roll so that the space there-between and the upper end of the casing will be closed. When it is necessary or desirable that this screen and roller be removed it is disconnected from the upper sash rail by withdrawing the nails or rivets by which it is secured thereto, and applying pressure upon the projection g' so that the stud g shall be forced outwardly and disengaged from the recess j of the roller J, when the said roller and screen may be easily and quickly removed from the casing. If desired, the stud g' may be dispensed with, and the stud g, forced from engagement with the recess j, by introducing a nail or any suitable article through the opening f' so that pressure may be brought to bear upon the spring latch G. In order that the lower portion of the window may be screened, I provide a spring-plate having an elongated opening similar to the plate D, and a spring-plate D' having a hole or aperture D². A spring-roller having a screen section secured thereon as already described, has its opposite ends secured in said bearing plates at the lower ends of the upper sash, and has the lower end of said screen section secured to a transverse and horizontal strip P by screws, rivets or

other suitable means. This strip is provided at intervals with apertures or holes p, and these holes or apertures are adapted to engage the horizontal and outwardly projecting portions q, of retainer-pins Q secured to the window-sill. The strip is also provided preferably with a knob or handle R.

Referring to Fig. 10, I show the lower end of the screen clamped between the ends of the sheet metal strip P; which is first bent upwardly to form two sides, and then the upper portion of the sides is bent inwardly and downwardly to form a narrow space therebetween, in which the end of the screen section is to be clamped.

From the foregoing, it will be seen that as the upper sash is lowered the lower and extended screen will be wound upon the roller carried at the lower end of the upper sash, and at the same time the upper screen will be extended and unwound from its roller so as to close the space between the upper rail of the said sash and the upper end of the window casing, and that as said sash is raised the upper screen will be rewound upon its roller and the lower screen will be extended or unwound to close the space between the window-sill and the lower end of the said sash.

From the above description, it will be seen that I have produced a window screen or screens which are simple, strong, durable and inexpensive of construction.

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

1. A window screen apparatus, comprising a spring-retracted roller of the usual construction, and a cylindrical sleeve mounted upon the shaft of said roller so that the dogs thereof shall not engage with the notches of said shaft, and a screen section secured to and wound upon said roller, and having its opposite end secured to the upper rail of the sash, substantially as set forth.

2. In a window screen apparatus, the combination with a spring retracted roller, and a bearing plate having an elongated opening to receive the flattened end of the shaft of said roller, and a screen section wound upon said roller, of a bearing plate secured in the casing at the opposite end of said roller, and having openings or holes therein, and a spring-latch having a cylindrical stud passing through one of said openings and engaging a recess in the adjacent end of the roller, and having a stud projecting through the other hole or opening of said plate and adapted to be pressed inwardly to disengage the stud from the recessed end of the roller, substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM SCOTT.

Witnesses:

J. M. SCRAGGS,
D. A. CHACEY.