

(No Model.)

A. G. MACDONELL & W. Y. GAMBEE.
WINDOW SCREEN.

No. 474,668.

Patented May 10, 1892.

Fig. 1.

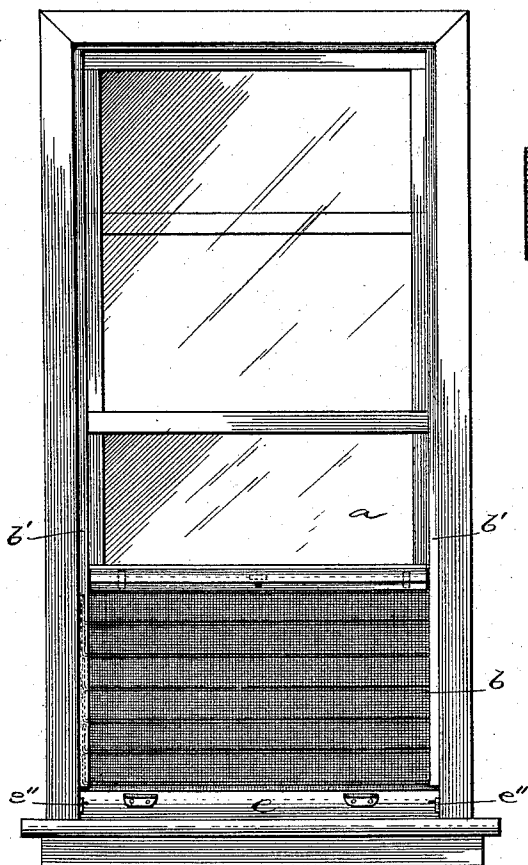


Fig. 6.

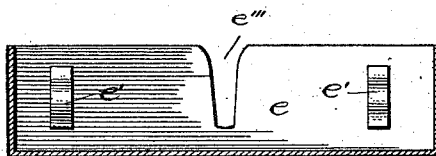


Fig. 2.

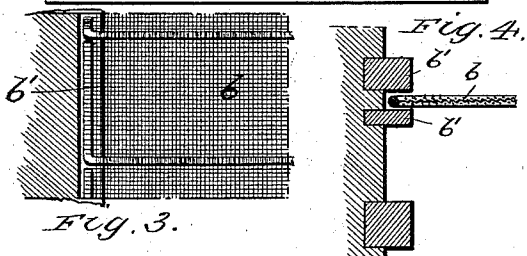
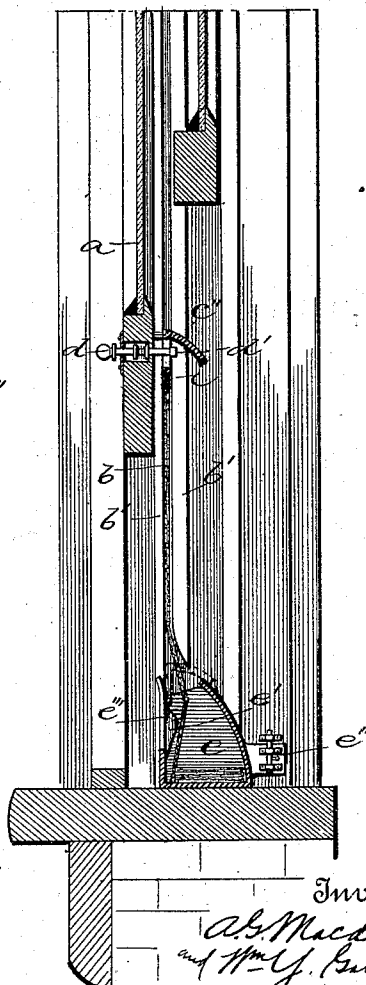


Fig. 3.

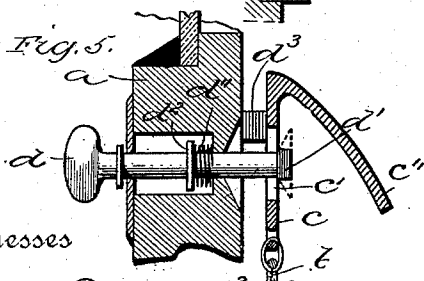


Fig. 5.

Witnesses

C. J. Busson,
W. S. Wall.

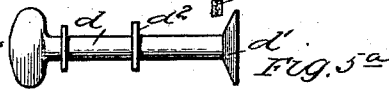


Fig. 5a

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UNITED STATES PATENT OFFICE.

ALLAN G. MACDONELL AND WILLIAM Y. GAMBEE, OF NEW YORK, N. Y.

WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 474,668, dated May 10, 1892.

Application filed December 8, 1891. Serial No. 414,435. (No model.)

To all whom it may concern:

Be it known that we, ALLAN G. MACDONELL and WILLIAM Y. GAMBEE, citizens of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Window-Screens, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 represents an outside view of an ordinary window provided with our improvements, the lower sash being partly raised; Fig. 2, a vertical section through Fig. 1; Fig. 3, a detail view showing more clearly the construction of the sectional folding screen; Fig. 4, a detail transverse section through one side of the window-frame, showing the guides for the screen; Fig. 5, a detail vertical section through the lower sash, showing the manner of connecting the screen thereto; Fig. 5^a, a detail view of the spring-actuated bolt, and Fig. 6 a detail vertical longitudinal sectional view of the screen-box secured to the sill.

The invention has particular reference to that class of window-screens wherein the screen is detachably connected to the lower sash, so as to be raised, when desired, with the same and cover the opening below it; and it consists in certain novel features of construction that will more fully hereinafter appear, and be particularly pointed out in the claims appended.

In the drawings, *a* designates the lower sash of an ordinary window, *b* the screen detachably connected to the lower bar thereof by means of a spring-actuated bolt *d*, and *b'* vertical guides secured to the sides of the window-frame and serving to guide the screen in its vertical movements. The upper end or edge of the screen has pivotally connected to it a plate *c*, which is provided with a vertical slot *c'*, and has projecting outwardly from its upper edge a cap-piece *c''*, which is curved outwardly and downwardly, for a purpose hereinafter described. This plate *c* is secured detachably to the outer side of the lower bar of sash *a* by means of the bolt *d*, which extends outwardly through a horizontal opening in the same, and is provided with an elongated head *d'* on its outer end and a thumb-

piece on its inner end. To attach the plate on the screen to the sash, it is simply necessary to pass the elongated head of the bolt through the vertical slot *c'* in the same and then turn the bolt a quarter of a revolution, as shown in Fig. 5. Spacing-blocks *d³* are preferably secured between the plate and sash in order to bring the plate in line with the guideways *b' b'*. The inner sides of the head *d'* are preferably beveled to draw the plate firmly to the sash when the bolt is turned in locking the screen to the sash. An expansible coil-spring *d''* surrounds the bolt between a shoulder *d²* on the bolt and the bottom of a recess formed in the sash around the bolt, in order that when the bolt is released from the screen it will be automatically drawn inwardly out of the way, so as to permit the upper and lower sashes to pass each other without interference.

The screen is constructed of a series of narrow transverse sections pivotally connected together at their adjacent edges, so as to fold when not in use one upon the other within a metal receptacle or casing *e*, secured to the window-sill. This receptacle or casing extends entirely across the window-sill and has its front side curved outwardly in order to shed the rain-water. It is secured removably to the sill by means of suitable bolts *e''*, carried by suitable ears formed on its opposite ends, and its upper contracted side is open to permit the screen-sections to drop into it when the sash is lowered. The inner side of the receptacle or casing is straight, so as to pass up a short distance between the plate *c* and the sash *a* when the latter is lowered, a vertical slot *e'''* being formed in the inner side for the reception of the bolt *d*. Attached to the interior of the inner wall of this receptacle are two vertical cams *e' e'*, which serve to automatically fold the sections over upon one another as they enter the receptacle, as shown in Fig. 2.

It will be observed that when the lower sash is down the curved cap-piece *c''* covers the open side of the receptacle and protects the inclosed screen against the elements. Exit-openings may be formed in the receptacle for the escape of any water that may find its way into it. By our construction it

will be seen the receptacle and screen may be readily attached and entirely removed from the window, and when it is not desired to use the screen the same may be permitted to remain in the receptacle by simply detaching the spring-bolt *d* from plate *c*. When the screen is entirely inclosed, the lower edge of the plate *c* rests within the receptacle and the curved lip *c''* rests outside thereof, thus entirely closing the receptacle.

The operation of this invention is apparent from the foregoing, and a detail description thereof is not thought necessary.

It will be observed that by the construction shown the screen-sections as they pass up out of the casing automatically unfold and pass between the guides, the unfolded sections being thereby kept in alignment with each other and the screen-surface kept free from depressions and unevenness. It is evident that these devices may be attached to the upper part of the window, if desired—that is, the receptacle may be secured to the upper part of the upper sash and the screen attached to the upper part of the frame.

The screen-sections are preferably constructed of U-shaped wire frames, to which the wire-gauze is suitably connected—that is, the lower edge of each section is bound by a wire rod extending entirely across the screen and having its ends bent upwardly and terminating near the section next above, as shown most clearly in Fig. 3.

Having thus fully described our invention,

what we claim, and desire to secure by Letters Patent, is—

1. The combination of a window-frame having the usual sash, a receptacle on the sill open on its upper side, guides *b' b'*, secured to the inner sides of the frame in line with the opening in the receptacle, a screen having its upper end detachably secured to the lower end of the sash and its lower end resting in the receptacle, said screen consisting of a series of transverse pivotal sections whose ends work between the guides, and means for automatically folding the sections one upon the other within the receptacle when the sash is lowered, whereby when the sash is raised only so many sections as are needed will automatically unfold and pass into the guides, the unfolded sections being thereby kept in alignment with each other in the guides and the folded ones remaining in the receptacle, as and for the purposes described.

2. The combination of a window and sash, a folding sectional screen attached to the sash, a receptacle on the sill to receive the sections, and cams on the interior of the receptacle to automatically fold the sections one upon the other, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ALLAN G. MACDONELL.
WILLIAM Y. GAMBEE.

Witnesses:

ED. J. FARRELLY,
PATRICK J. BAINE.