3 Sheets—Sheet 1.

A. K. PHILLIPS.

Window.

No. 209,073. Patented Oct. 15, 1878.

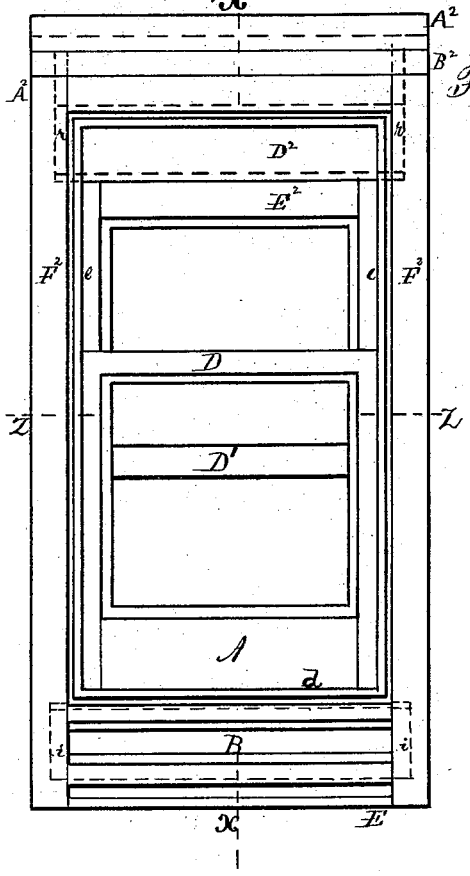


Fig 1.

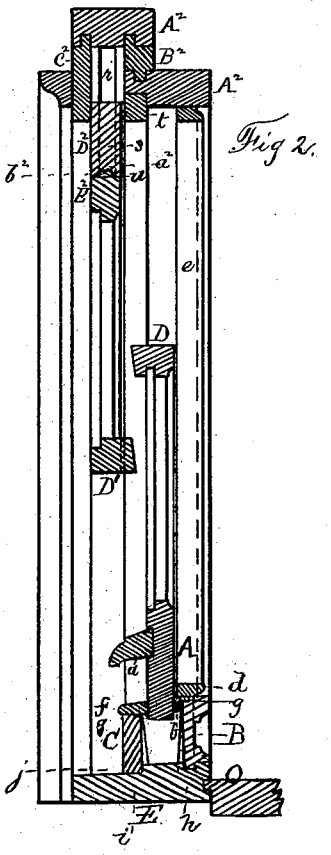


Fig 2.

Fig 3.

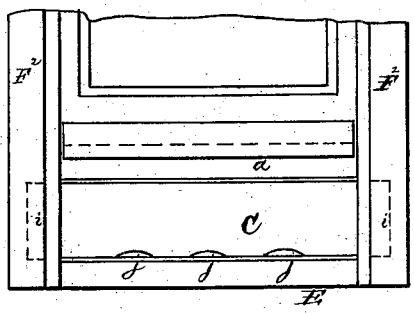
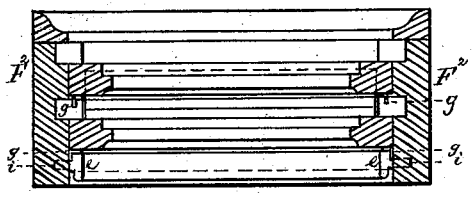


Fig 4.



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3 Sheets—Sheet 2.

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Window.

No. 209,073. **Patented Oct. 15, 1878.**

Fig. 6.

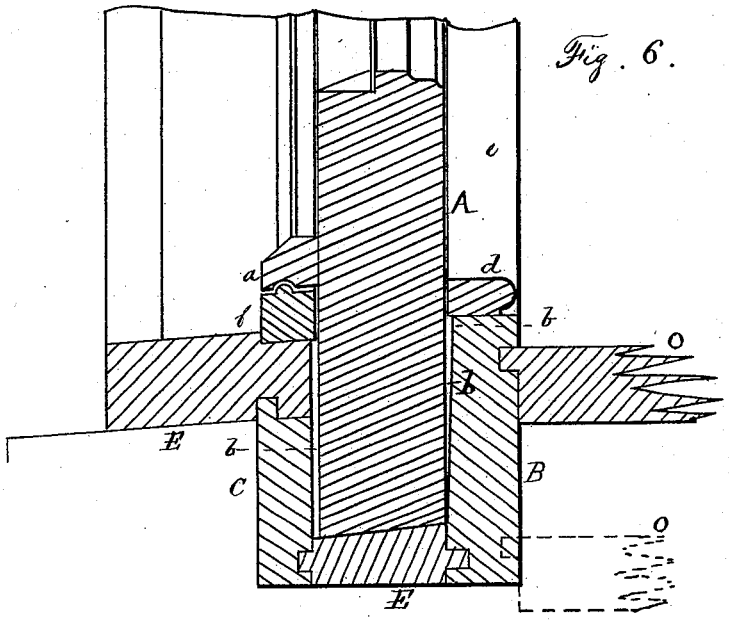
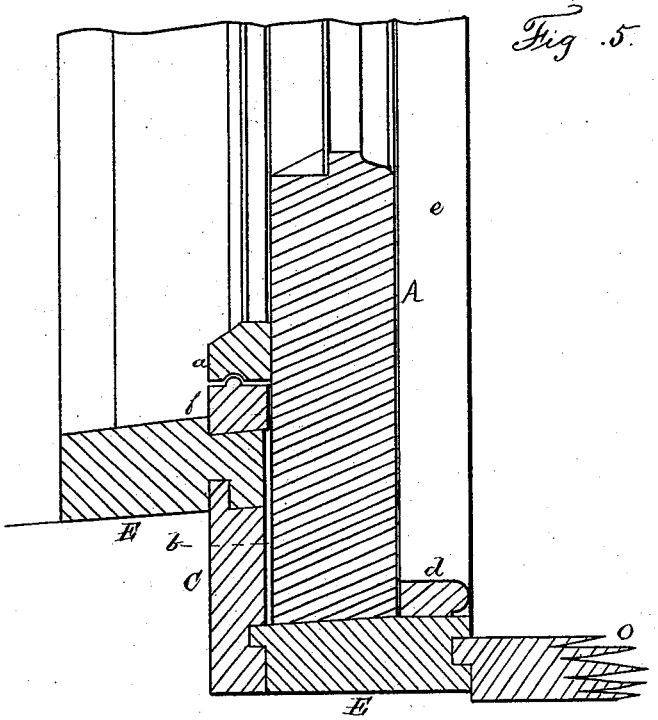


Fig. 5.



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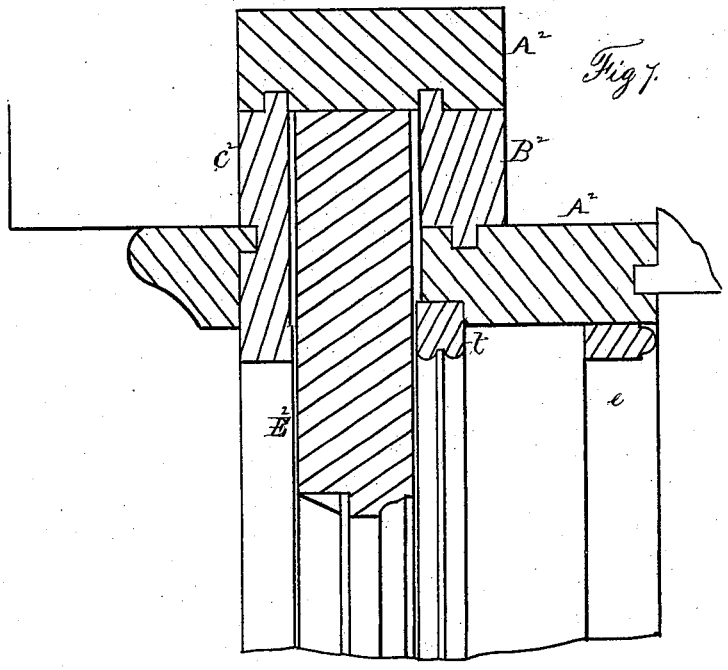

Fig 7.

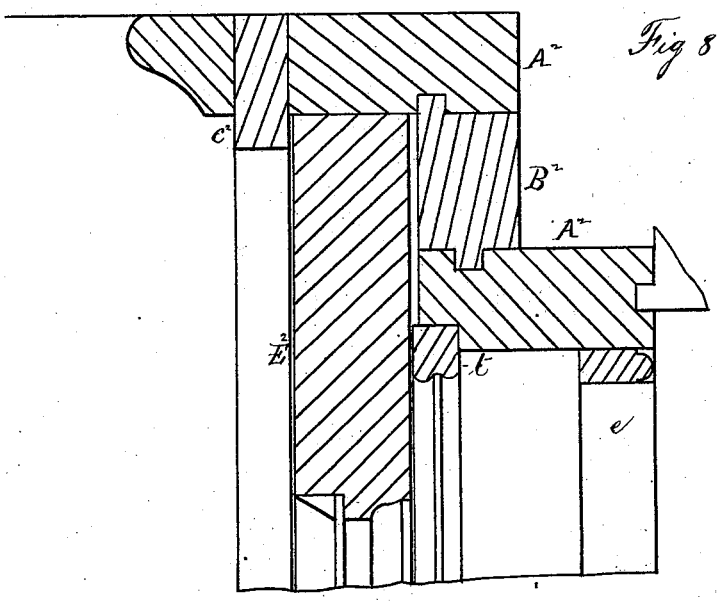

Fig 8

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UNITED STATES PATENT OFFICE.

AUGUSTUS K. PHILLIPS, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN WINDOWS.

Specification forming part of Letters Patent No. **209,073**, dated October 15, 1878; application filed January 23, 1878.

To all whom it may concern:

Be it known that I, AUGUSTUS K. PHILLIPS, of the city and county of St. Louis, and State of Missouri, have invented certain new and useful Improvements in Windows, of which the following is a specification:

The object of my improvement is to secure ventilation between the upper and lower sashes of a window when the upper sash is lowered or the lower sash is raised, or both, without making any other opening in the top or bottom of said window, obtaining thereby a form of inlet for the admission of fresh air, so controlling the direction of the current as to prevent a draft upon the occupants of a room, and, furthermore, to effect the said result by means of the peculiar construction of the window.

A patent has already been granted to me, dated October 2, 1877, and numbered 195,772, for means for producing the above results by the combination of window-frames, sashes with wide top or bottom rails, and top and bottom weather boards or strips.

My present invention consists in certain new combinations of window-frames, weather boards or strips, sashes, followers, and other parts hereinafter to be described; and also in a new combination of window-frame, sashes, and concealed or secret weather-strip, for excluding the dust, rain, snow, or bad air.

Figure 1 is a vertical view of my ventilating-window as it appears from the inside of a room, showing the lower sash raised, so that the meeting-rails D D^1 are away from each other, leaving an opening or space between them to permit an indirect current of air to pass while the top and bottom of the window remain closed. Fig. 2 is a central vertical section through the line *x x*, Fig. 1. Fig. 3 is an elevation of the lower portion of window as it appears from the outside. Fig. 4 is a horizontal section through line *z z*, Fig. 1. Figs. 5 and 6 are vertical sections of certain modifications of my improved weather-boards and sash-rails as applicable to the lower sash. Figs. 7 and 8 show the same as applicable to the upper sash.

A is the rail of the lower sash. B is the interior weather-board. C is an exterior weather-board. *a* is a rail-strip, to prevent rain, snow, or dust from entering the crevice between the weather-board C and the sash-rail A when the sash is down. D D^1 are the meeting-rails of the upper and lower sashes. E is the window-sill. *b b* are spaces between the sash-rail A and the wide weather-boards B and C. *d* is a movable bead, placed on the top of the weather-board B. *e e* are the inside beads on the sides of the window-frame. *f* is a movable bead, placed on the top of the weather-board C. *g g* are strips of rubber or other suitable material, for keeping out rain, snow, dust, or air. They are secured in a rabbet in weather-boards B and C. *h* is a tongue of weather board B, inserted into a groove in sill E. The dotted lines on B and C show the position of the tenons on their ends, fitting into mortises in the window-frame. *i i* are the tenons on the ends of the weather-boards B and C. *j j* are openings from the inside to the outside of the weather-board C, to let out any water that may get on the inside of C. O is the stool-piece. A^2 is the frame-head. B^2 is the upper inside weather-board. C^2 is the upper outside weather board or strip. D^2 is what I call a "sash-follower." E^2 is top of upper sash. F^2 F^2 are the hanging stiles. *r r* are grooves in the hanging stile for the tongue of the follower to run in. *s s* are the tongues of the follower D^2, which run in the grooves *r r*. They extend along the ends of the follower from its top to the groove *u* in the bottom of it. The grooves *r r* extend from the face of the hanging stiles F^2 F^2 far enough to permit the top of the follower D^2 to drop to or about on a line with the under face of the head of the frame A^2 A^2, or about half-way of the parting-bead *t*.

The follower D^2 extends over the whole upper surface of the top rail. Said surface is provided with a bead, b^2, which fits into the groove a^2 in the bottom of the follower, and thus prevents the ingress of rain, wind, &c. One or both of these surfaces may be covered with metal, to protect them from excessive wear, and prevent them from warping, also adding to the weight of D^2, and aiding its descent.

As the sash E^2 is lowered, the follower D^2 follows by its own gravity, and prevents any opening for the admission of air at the top of

the window, while a current of air may flow into the room, owing to the descent of the meeting-rail D^1 below the meeting-rail D.

I also use this form of follower at the bottom of a window under the lower sash. When I do so I simply provide a construction for it below the upper face of the sill similar to that shown when it is utilized in combination with the upper sash. It has this difference, however: the projecting bead b^2 is formed on the upper edge of the follower, and the groove a^2 on the under edge of the lower sash-rail; also, the action of the follower is not automatic, as when placed in the head of the frame, it being necessary to raise it by hand after the sash to the height necessary to separate the meeting-rails of the sashes when the sash is resting upon it, secure it there by some device, and then close the sash down on it. There remains, then, no opening except that between the meeting-rails, and the follower can be dropped into its boxing below the sill at will.

The bottom rail of the lower sash is arranged to move up or down in a pocket or space between the two weather-boards B and C. These weather-boards are beveled, as shown, to avoid jamming of the window-bar or its swelling from dampness, and to prevent the sash-rail from rubbing against them and scratching the paint off the face of the bar, and avoid difficulty in fitting when new, and so as to afford a seat and fit for the lower edge of the sash-rail on the sill.

The strip *a* is attached to and set slightly into the sash-rail on its outer face, and is recessed, as shown, to cover the piece or bead *f*, and prevent the passage of dust, snow, or rain between the piece or bead *f* and the strip *a* when the sash is down.

The two weather-boards may be of different heights; or the inside one may be dispensed with, as shown in Fig. 5, where also a portion of the sill is shown raised, and made to form in part the outside weather-board. Moreover, either or both of the pieces or beads *f* and *d* may be placed directly on the sill E, as shown in Figs. 5 and 6. The sill in Fig. 6, as in Fig. 5, forming, in part, the outside weather-board, is framed onto the top edge of the weather-board, the piece *f* being set directly upon it, while Fig. 5 shows *d* set upon the sill, the essential characteristics of my improvement still remaining the same.

The strips *a* may be grooved, and the piece *f* formed with a bead, as shown in Figs. 5 and 6. Moreover, these constructions are applicable to the tops of windows as well as the bottoms, as shown in Figs. 7 and 8.

I have found from experience that the beveled surfaces *b b*, Fig. 2, are very important for the satisfactory working of the sash.

The beads *d* and *f* can be made solid with B and C; but they would then lose the advantage of being adjustable.

My preference is to use the strips *g g* underneath the beads *f* and *d*, as shown in the drawing, Fig. 2; but they may be placed in different positions, when desired.

The rubber strips *g g* are drawn out or stretched, so as to slightly reduce their thickness, and while in this extended condition one of their edges is let into the groove in the bead to its depth. The tension is then gradually lessened, and as it thickens up it is held securely in the groove by the bearing of its own elasticity. It will be readily seen that they can be as easily removed without in any way injuring the wood-work of the window-frame.

Sometimes it is desired not to show the full height of the weather-board B on the inside of a room, as in Fig. 2. To accomplish this want, in place of framing the stool-piece O into the sill E, I frame it at any height desired into the face of B, providing a groove therein to receive the tongue of the stool-piece in like manner as when the joint is at the sill.

My improvement on the ordinary window frame and sash renders it a most valuable protection to health. I have found that it can be made at the same cost as the ordinary frame, never gets out of order, is permanent—in fact, is part and parcel of the window. It also has the advantage that it can be operated effectually at all times, be the weather good or bad; rain or snow cannot enter, and thus ventilation is uninterruptedly secured; and when the sashes are closed there is obtained a closer window, to keep out cold or heat.

Having now fully described my improvements, what I claim, and desire to secure by Letters Patent, is—

1. A window having at the top the follower D^2, and at the bottom the weather-boards B and C, beveled on their inner faces, and arranged to operate in connection with the lower sash-rail, substantially as set forth.

2. The combination of the follower provided with a groove in its lower face, the sash having a beaded upper rail, and the window-frame provided with grooves and stops for limiting the movement of the follower, substantially as described.

3. The weather-boards B C, having their inner faces beveled to form spaces between the sashes and weather-boards, and to afford a seat and fit for the lower edge of the sash rail or sill, and to prevent the jamming of the window-bar and the rubbing off of paint from its face, substantially as set forth.

4. The combination, in a window, of the beveled weather-board B, strip *g*, and bead *d*, arranged and operating as described.

5. The combination, with the weather-boards B and C, beveled on their inner faces, of the weather-strips *g g*, sashes D D^1, parting-bead *t*, and inside bead, *e*, constructed and arranged substantially as described, for admitting of ventilation through the meeting-rails only, as set forth.

6. The weather-boards B and C, beveled on their faces, and placed on the inside and out-

side of either the upper or lower sash, or both, in a window-frame, substantially as and for the purposes set forth.

7. The combination of the sash-rail and the beads *d* and *f*, having the recesses below them, the said beads being attached to weather-boards, substantially as set forth, and for the purposes mentioned.

8. The combination of the sash-rail and movable bead *f*, when the latter is placed on top of the weather-board C, and arranged in sliding contact with the sash-rail, and so as to leave the recess below it, substantially as set forth.

9. The weather-board B^2, partially formed by a portion of the frame-head inside of the inside face-line of the upper sash, being lowered below the line of the top edge of the sash, and formed onto said weather-board, substantially as described, and for the purposes set forth.

AUGUSTUS K. PHILLIPS.

Witnesses:
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I. S. CABANNI.