(No Model.) 3 Sheets—Sheet 1.

W. SCHARNWEBER.

VENTILATOR.

No. 327,414. Patented Sept. 29, 1885.

Fig. 1.

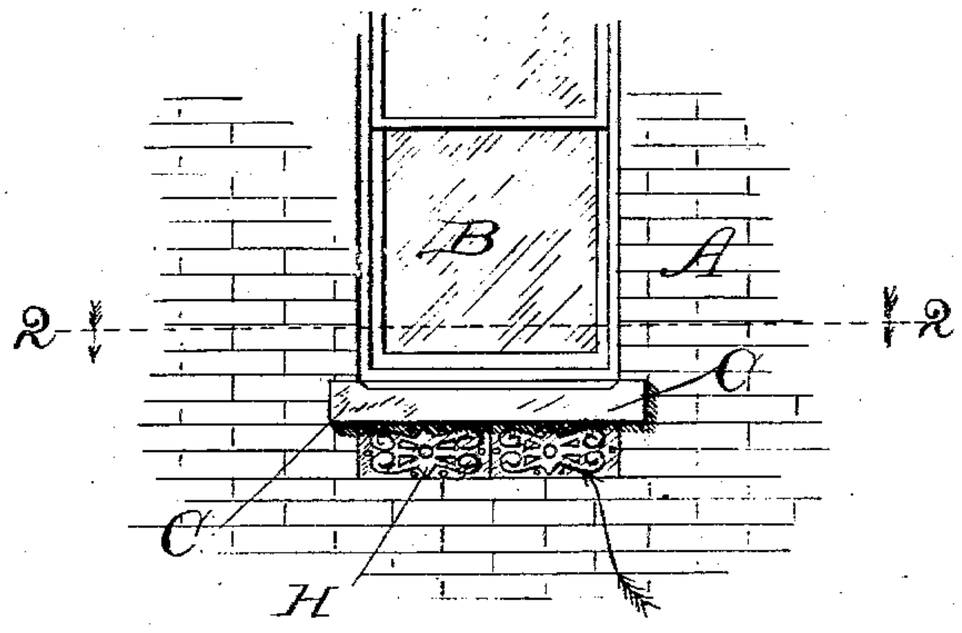


Fig. 2.

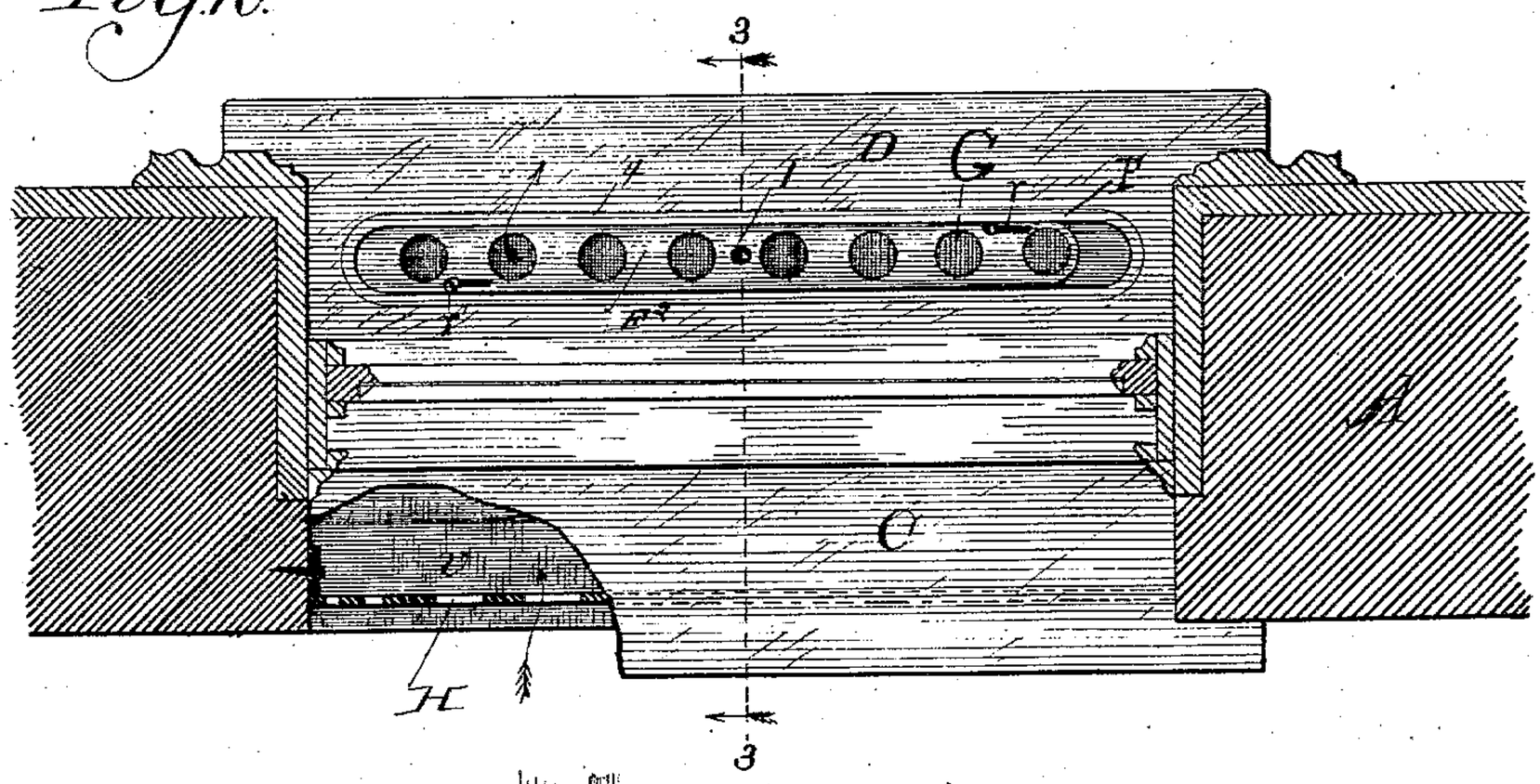
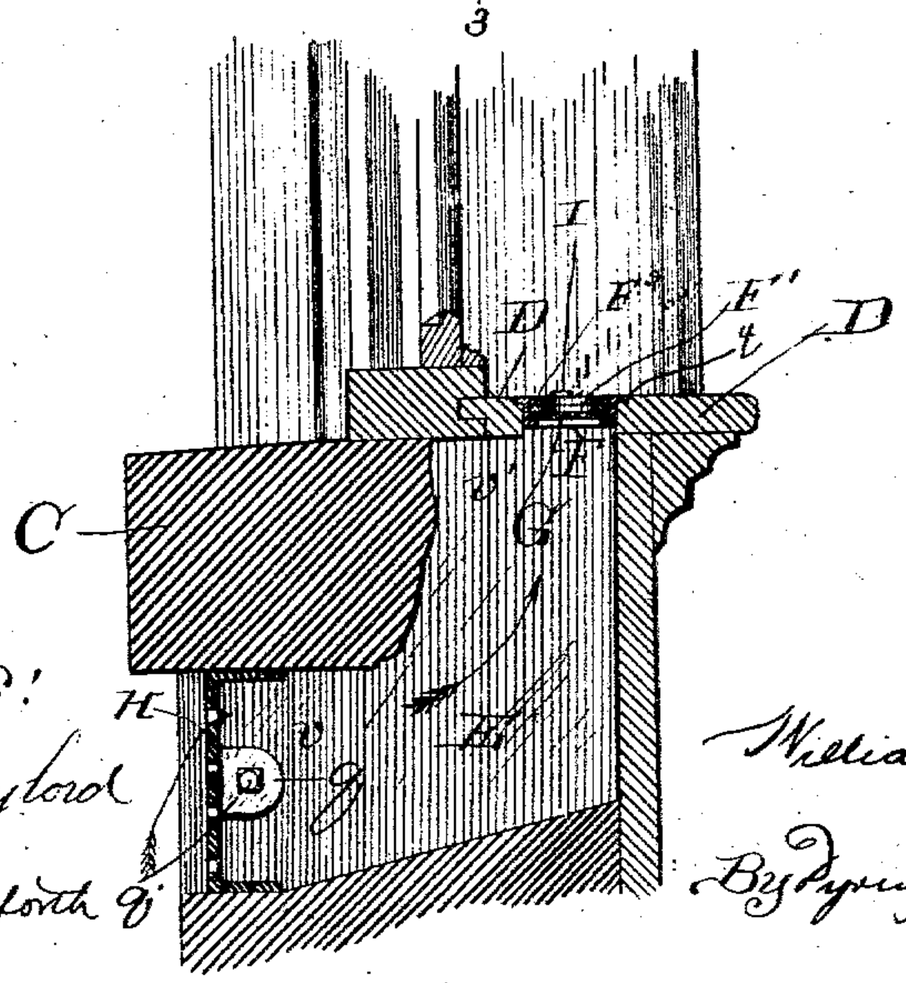


Fig. 3.



Witnesses:
Chas. E. Gaylord
Douglas Depew forth

Inventor.
William Scharnweber
By Dyrenforth & Dyrenforth
Attorneys.

(No Model.) 3 Sheets—Sheet 2.

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Fig. 4.

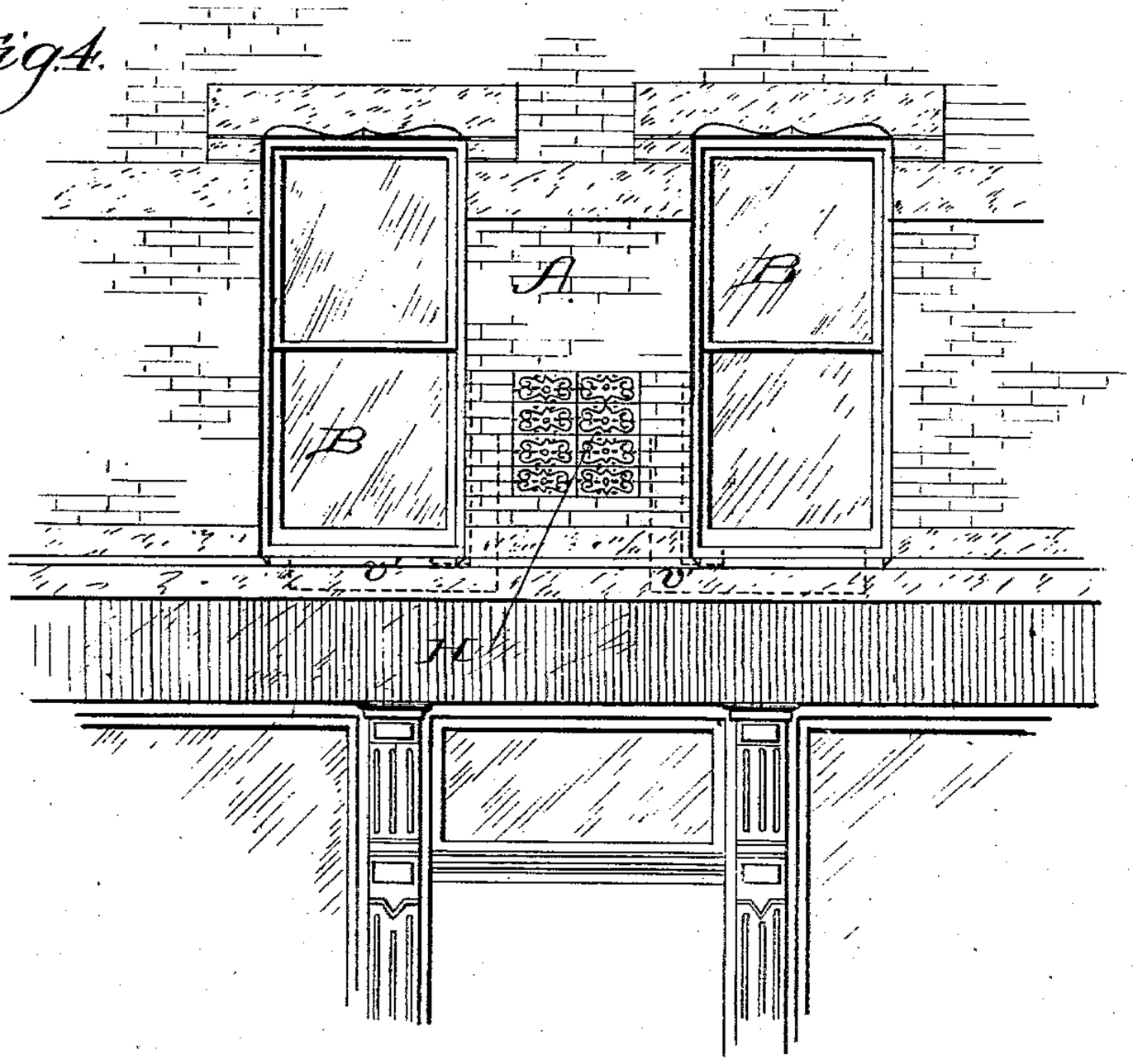
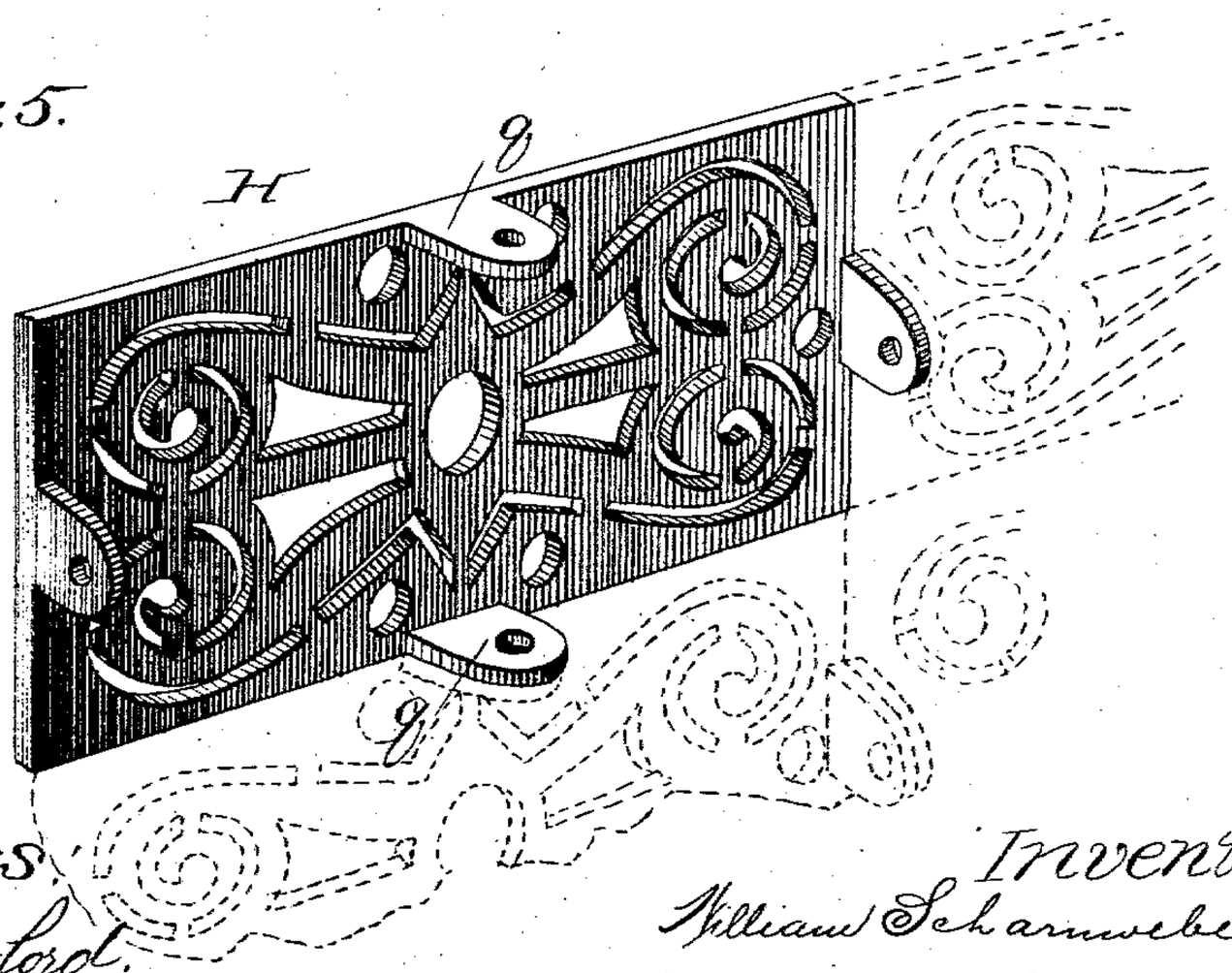


Fig. 5.



Witnesses:
Chas. E. Gaylord.
Douglas Dyrenforth.

Inventor:
William Scharnweber
By Dyrenforth & Dyrenforth,
Attorneys.

(No Model.) 3 Sheets—Sheet 3.

W. SCHARNWEBER.

VENTILATOR.

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Fig. 6.

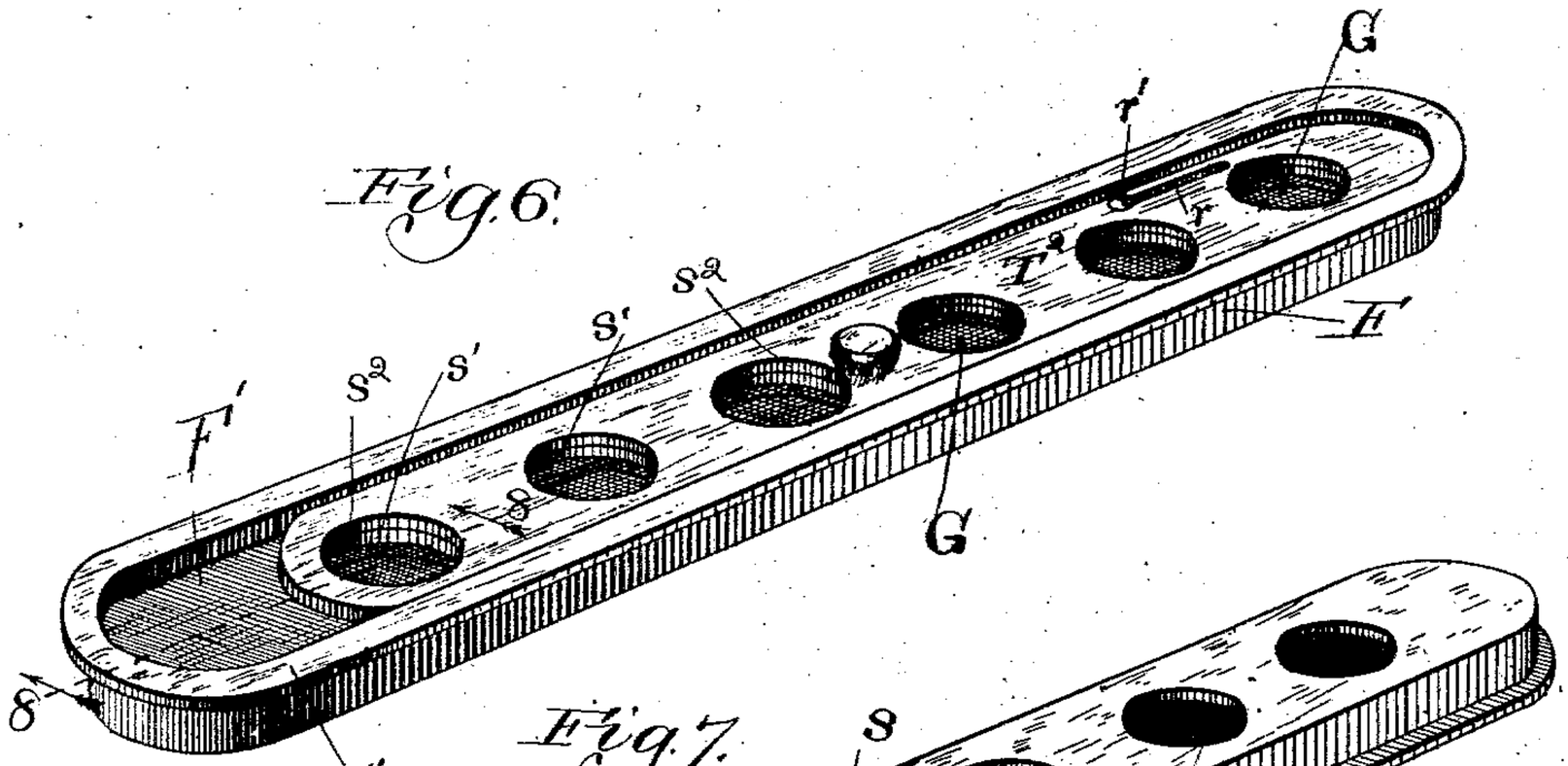


Fig. 7.

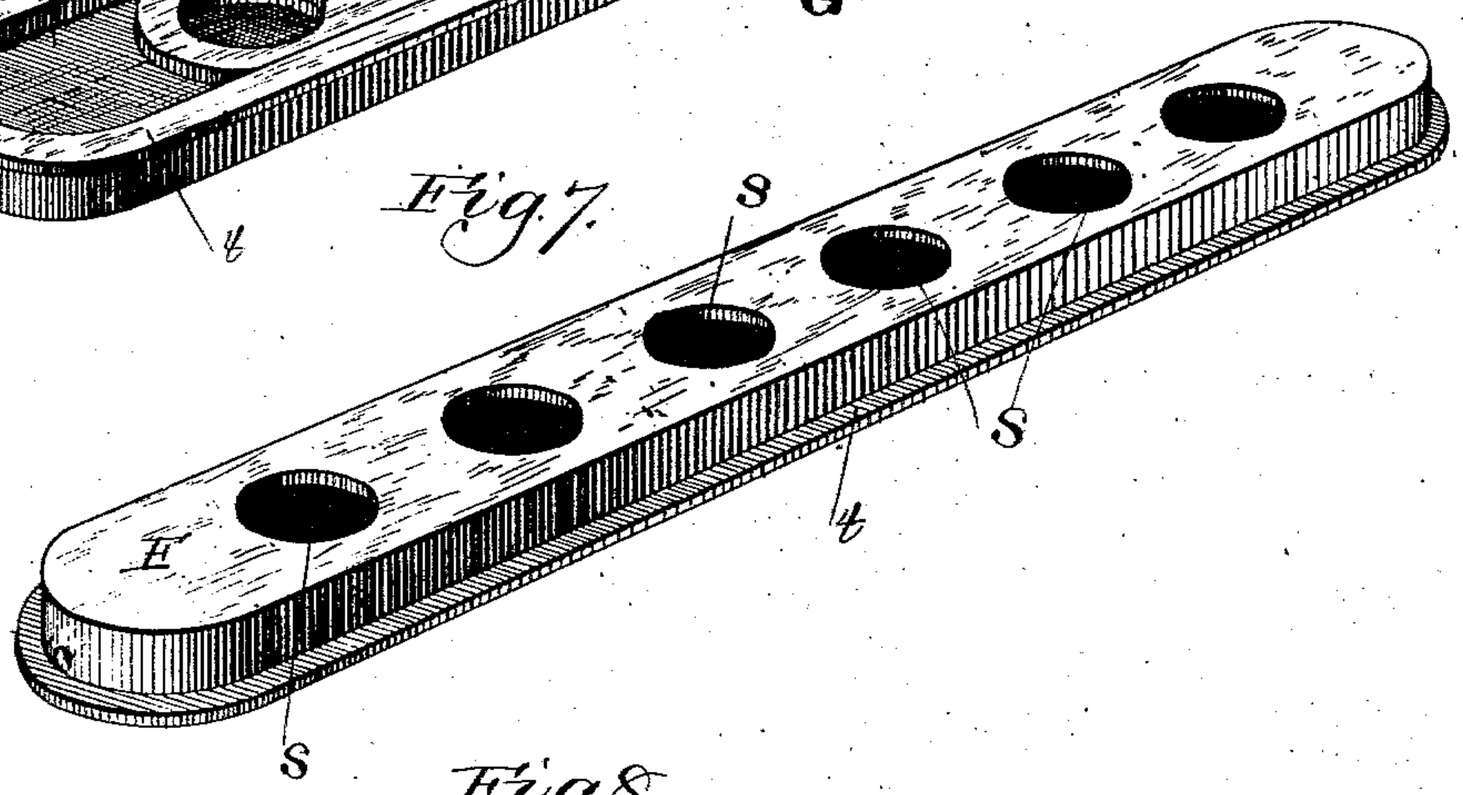
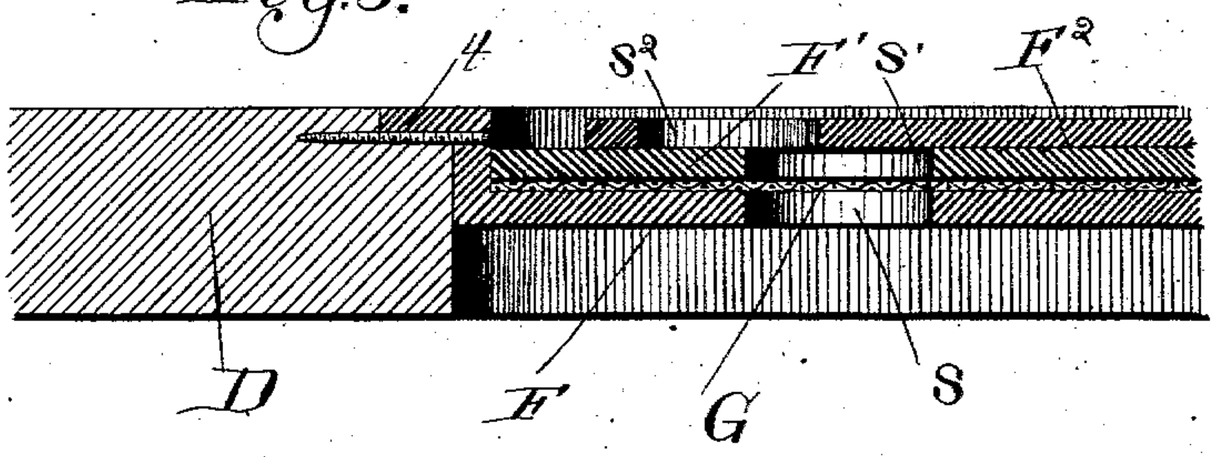


Fig. 8.



Witnesses:
Chas. E. Gaylord.
Douglas Dyrenforth.

Inventor:
William Scharnweber,
By Dyrenforth & Dyrenforth,
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM SCHARNWEBER, OF JEFFERSON, ASSIGNOR OF ONE-HALF TO GAY DORN, OF CHICAGO, ILLINOIS.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 327,414, dated September 29, 1885.

Application filed June 28, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SCHARNWEBER, a citizen of the United States, residing at Jefferson, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Ventilators; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention is designed to form a permanent fixture in apartments which it is desired to provide with means to permit, at the will of the occupants, communication with the external atmosphere, whereby a controllable supply of fresh air may be readily admitted and the objectionable air in the apartment be allowed to escape. The communication referred to of each apartment with the outer air comprises a passage formed through an outer wall of the building, which passage is preferably provided in the erection of the building, though it may be made in buildings already constructed. The most convenient location for the sliding device hereinafter described, by means of which external air is admitted through the passage formed in the wall into an apartment, and the contaminated atmosphere in the apartment allowed to escape, and the communication with the external air regulated or entirely shut off, is in the sill of the window, through the upper side of which it is sunk to lie flush with the top surface, in which position it is readily accessible and offers no impediment in the way of opening and closing the inside blinds. This location of the device affords the advantage, besides, that the device is there about on a level with the stratum of foul air in the room, whereby the escape of such foul air is facilitated. The horizontal portion of the passage through the wall leading to a chamber under the window-sill provided with my controlling device, may be formed directly underneath the window, though under certain conditions, hereinafter set forth, a different location for this horizontal portion of the air-duct affords advantages.

The particular advantage I design to afford by the device forming the subject of the present application is the accomplishment of ventilation without the production of draft. By my construction, hereinafter described, I overcome a difficulty attendant, so far as I am aware, upon the use of most ventilators intended to operate in a manner similar to my present device. This difficulty arises from the fact that, with the ventilators referred to, it is customary to admit air into an apartment in a horizontal direction, whereby the fresh cool air remains at a low stratum near the floor, thus failing to effect purification of the atmospheric condition. By directing the inflowing supply upward, which my present construction operates to accomplish, it does not move horizontally until it has reached a considerable height within the apartment, when it gradually sinks, being heavier than the rarefied atmosphere with which it mixes.

The construction above outlined and the suggested modification are clearly shown in the accompanying drawings, in which—

Figure 1 represents the exterior of a portion of a wall of a house containing a window provided with my device, and showing the air-passage formed directly below the level of the window-sill and covered with an ornamental grating; Fig. 2, a horizontal section taken on the line 2 2 of Fig. 1, viewed in the direction of the arrows, and having a portion broken away to show a detail, the view representing my entire device in position; Fig. 3, a vertical section taken on the line 3 3 of Fig. 2, and viewed in the direction of the arrows; Fig. 4, a view representing the construction of a modification; Figs. 5, 6, and 7, detail views, and Fig. 8 a sectional view of a detail.

A represents the wall of a house. B is a window provided in the wall A; and C, Figs. 1, 2, and 3, is the stone sill, underneath which, in the wall, a horizontal opening, *v*, is formed, which leads into the chamber *v'*, provided underneath the window-sill D, the passage *v* and chamber *v'* forming the air-duct E.

A shallow box, F, having a lateral flange, *t*, is sunk into the window-sill, in the manner clearly shown in Figs. 3 and 8 of the drawings. The bottom of the box F is provided with circular apertures *s*, Fig. 7, which are covered by a screen, G, to prevent the admission with the air of dust, dirt, insects, &c., the screen comprising a strip of a length and width to lie along the bottom of the inner side of the box.

A plate, F′, of dimensions to fit snugly within the box F, and provided with circular openings *s′* to coincide with the openings *s* in the bottom of the box, serves the purpose of retaining the screen G, upon which it rests, in position.

A sliding plate, F^2, corresponding in width with that of the inner part of the box A, lies upon the plate F′. The length of the plate F^2 is less than that of the box to permit it to be moved longitudinally within the same. Circular openings s^2, preferably somewhat larger than those hereinbefore described, are provided in the plate F^2, at points where they will coincide with the last-named openings, when the sliding plate F^2 is moved to bring one of its ends into contact with an inner end of the box. By moving the plate F^2 in the contrary direction, to bring its opposite end into contact with the opposite end of the inner side of the box, the openings in the plate F^2 are brought to lie over the material intervening between the openings in the plate F′, which latter are also thus covered by the material intervening between the openings in the sliding plate F^2, and the device is thus closed. Recesses or slots *r* are formed one in each side toward the opposite ends of the plate F^2, of a length corresponding with the difference in length between the sliding plate and the box, measured from one of its inner ends to the other. The sliding plate F^2 is secured in position by means of screws *r′*, which penetrate into the bottom of the box, one screw being provided for each recess *r*, and having its head of a diameter greater than the width of the recess to overlap the edge of the same and prevent removal of the plate without first withdrawing the screws. If for any reason it shall become necessary to withdraw the screen G to replace it by a new one, the plate may be taken out for the purpose on removing the screws *r′*.

If desired, the plate F′ may be screwed in position the more firmly to hold the screen in place, and to provide a more rigid surface for the motion of the sliding plate F^2.

The thickness of the plates F′ and F^2 and the screen G combined is less than the depth of the box F, so that the plate F^2 lies below the level of the edges of the box. This construction permits the top of the handle I, by means of which the sliding plate F^2 is reciprocated, to lie below or flush with the upper edges of the box, where it will afford no obstruction in closing the inside blinds.

The passage *v* in the wall is purposely made oblique on its lower side, as shown, to permit by the incline the ready escape of water which may fall upon the window-sill in the operation of washing the window or beat through the grating from without when it rains.

As hereinbefore suggested, it may occur that the passage *v* cannot be provided directly underneath the level of the window-sill, or that it is not advisable to form it in that position, which latter will be the case, to cite an instance, where a sign is placed or is likely to be placed in a manner to cover the opening. To overcome this difficulty, I form the opening *v* as shown in Fig. 4 of the drawings—viz., above the level of the sills, between two windows, and form therefrom a passage, *v′*, leading underneath the sill of each window.

In all cases an ornamental grating, H, is provided to cover the opening to the passage *v*. The grating may be formed of the exact size to cover an opening, though, if desired, for larger openings several may be joined together, and means for this purpose, consisting of ears *q* projecting horizontally from the edges of each section of the grating, whereby the sections may be bolted together, are shown in Fig. 5 of the drawings.

If preferred, instead of forming a single large opening, *v*, leading from the chamber underneath the window-sill to the exterior air, several openings of smaller dimensions may be provided.

What I claim as new, and desire to secure by Letters Patent, is—

1. A ventilator comprising, in combination, a chamber underneath the sill of a window, communicating through the top of the said sill with the interior of an apartment and provided with one or more openings leading to the exterior air, and means, substantially as described, for opening and closing and graduating the communication through the top of the sill with the interior of the said apartment, whereby the vertical flow of air in an upward direction into the said apartment and the flow therefrom may be regulated, or the flow wholly shut off, as set forth.

2. A ventilator comprising the combination, with a window-sill having a chamber underneath it leading to an opening or openings to the exterior air formed in the wall of a building, of a box, F, set into an opening formed in the top of the said window-sill and provided with apertures *s*, a sliding plate, F^2, within the box F, and provided with apertures s^2 to correspond with the apertures *s*, substantially as described, and for the purpose set forth.

3. The combination, with a wall of a house having an opening or openings formed in it leading from the exterior air to a chamber, *v′*, underneath a window-sill, D, having an opening through it leading to the chamber *v′*, and means, substantially as described, for controlling the flow of air through the said opening or openings and chamber, of a grating, H, formed in sections, each provided with one or more ears, *q*, bolted together, as and for the purpose set forth.

WM. SCHARNWEBER.

In presence of—
GAY DORN,
DOUGLAS DYRENFORTH.