

Feb. 8, 1944.

H. S. NELSON

2,341,113

FRESH AIR SUPPLYING DEVICE

Filed Feb. 6, 1942

Fig. 1.

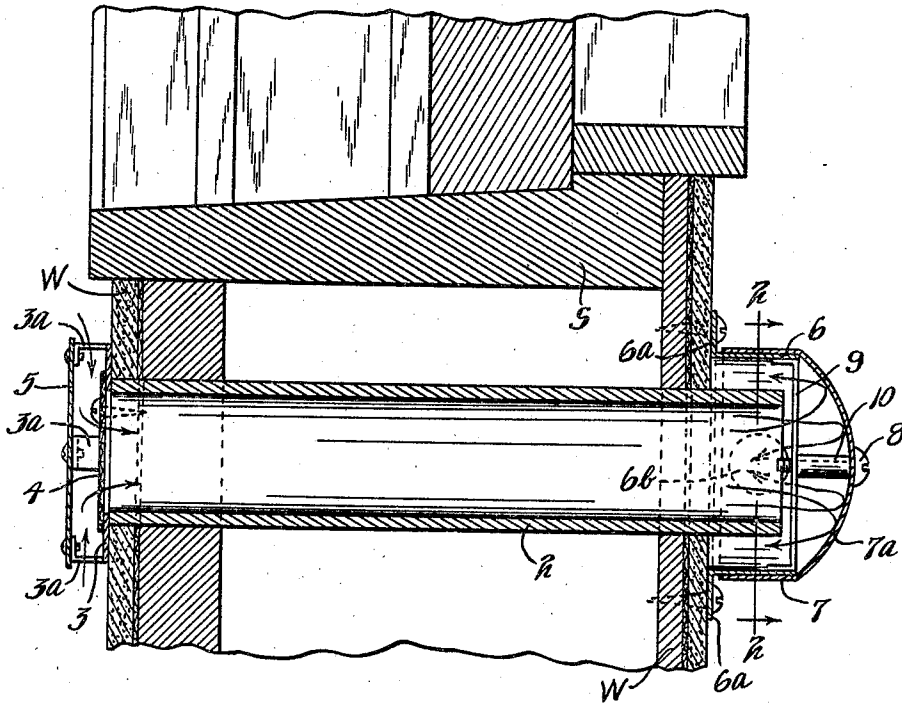


Fig. 3.

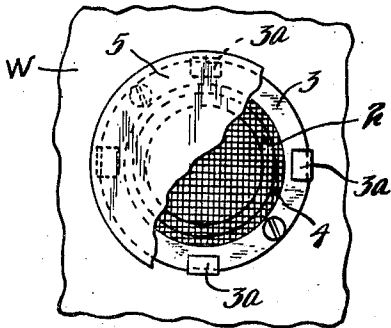
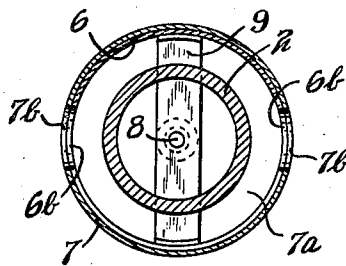


Fig. 2.



INVENTOR.
HERMAN S. NELSON.
BY HIS ATTORNEYS.
Williamson & Williamson

UNITED STATES PATENT OFFICE

2,341,113

FRESH AIR SUPPLYING DEVICE

Herman S. Nelson, Minneapolis, Minn.

Application February 6, 1942, Serial No. 429,753

2 Claims. (Cl. 98—37)

This invention relates to ventilators, and particularly to devices for supplying fresh air without drafts to the interior of a house or other building.

It is an object of my invention to provide a fresh air supply device of simple and inexpensive construction which may be readily installed in the wall of a home or other building and which will supply from the outside a sufficient quantity of fresh air for comfort, without producing drafts in the room or rooms serviced.

More specifically, it is an object to provide a ventilator device of the class described adapted particularly to be installed in a wall a few feet above the floor and having provision for deflecting air passing from the exterior of the building and for distributing the deflected air slowly into the room radially and substantially in a stratum parallel with the vertical wall, rather than outwardly and horizontally.

A further object is the provision of a fresh air supply device which is shielded at its outer or intake end to prevent wind currents from forcing unusual quantities of air into the interior and which is provided with means for regulating or closing off transmittal of air from the outside to the interior of the building.

These and other objects and advantages of my invention will be more apparent from the following description made in connection with the accompanying drawing, wherein like reference characters refer to the same parts throughout the several views, and in which:

Figure 1 is a vertical section through a wall and a sash frame therein and showing an embodiment of my invention applied to the wall;

Figure 2 is a cross section taken on the line 2—2 of Figure 1, showing the distributor of my ventilator in full open position, and

Figure 3 is a fragmentary end elevation of the outer end of my device with a portion of the outer plate broken away.

The embodiment of my invention illustrated is installed in the wall of a home, as shown, below the sill S of a conventional window shaft and extending from the exterior of the building to the interior thereof. My improved device includes a pipe section or tube 2 having at its outer end an out-turned flange or collar 3 which may be conveniently spot-welded thereto and across which, as shown, is mounted a fine mesh screen or netting 4. A protector plate or disc 5 is secured in spaced relation to the collar 3, which may be accomplished by spacing legs 3a integrally formed or otherwise connected with said collar.

The air tube 2 extends through the wall W of the building with the collar 3, as shown, disposed flush against the exterior stucco illustrated and the inner end of the tube projects for some distance beyond the plastered or finished wall W on the interior of the building. Installation may be easily and quickly made by drilling through the wall and sliding the tube through the aperture made. A deflector and distributor surrounds the inner end of the air tube 2 and, as shown, comprises a sleeve or collar 6 having an out-turned attachment flange 6a which may be fastened by screws or other securing means to the interior wall. The collar 6 is disposed concentrically of tube 2 and supports a distributor shell 7, which is mounted for oscillation thereon. Shell 7 has a dome-shaped outer end 7a which is spaced some distance from the inner extremity of tube 2 and constitutes a deflector for the air discharged from said tube. The shell 7 may be retained upon collar 6 by suitable means, such as a bolt 8, which extends axially of the shell having a threaded end which is secured to a tap in the central portion of the cross strip 9 secured across the outer end of collar 6. A spacing sleeve 10 is shown between the dome of the shell and the cross strip 9.

Collar 6 is provided with radially extending apertures 6b, as shown (two in number) extending in opposed horizontal relationship, and these apertures preferably are of a size so that their combined areas are slightly less than the cross sectional area of the tube 2. The annular portion of shell 7, which is telescoped over and mounted for oscillation on collar 6, is provided with a pair of apertures 7b adapted to register with the aperture 6b of the collar to provide through oscillation of the shell a regulatory and shut off valve.

In operation with the apertures 7b and 6b of the shell and collar respectively aligned, air enters the pipe 2 from outside of the building and is slowly discharged against the dome 7a of the distributor shell. This dome deflects the air outwardly and rearwardly between the collar 6 and the exterior of the tube 2, the fresh air passing through the radially disposed apertures formed in the collar and cylindrical portion of the shell and entering the room in a stratum substantially parallel with the vertical wall W. The combined areas of the two air discharges in the distributor are preferably, but not necessarily, slightly less than the cross sectional area of the pipe 2.

Thus it is seen that through the difference of temperature between air at the top and at the

bottom of the room and because of wind pressures outside of the building, a quantity of fresh air is almost constantly supplied when the distributor is open. The air is discharged gradually in directions parallel to the vertical wall wherein the pipe is installed and no direct drafts in the room are, therefore, possible with my device.

From the foregoing description it will be seen that my device comprises very few parts, which may be purchased and made at very low cost and can be installed quickly and easily in most types of building construction.

It will further be seen that the amount of air admitted may be varied by oscillatory adjustment of the shell 7 upon its supporting collar 6.

It will, of course, be understood that various changes may be made in the form, details, arrangements and proportions of the parts without departing from the scope of my invention.

What is claimed is:

1. A device for supplying fresh air to the interior of a building having in combination means for forming a passage through a wall of the building from the outside to the inside, said means having a tubular air intake element at its inner end and terminating some distance beyond the inside wall of the building, a fixed collar surrounding said tubular element in spaced substantially concentric relation thereto and having a series of air discharge openings in the periphery thereof, a supporting bar traversing the outer

end of said collar and a dome shaped shell having a cylindrical periphery mounted for oscillation on said collar and provided with apertures adapted to register with said air discharge apertures for controlling flow of air, said shell having its dome spaced some distance outwardly of the end of said tubular element and pivotally secured to and supported from said supporting bar.

2. A device for supplying fresh air to the interior of a building having in combination a pipe extending through a wall of the building and having communication with the air outside, means for shielding the outer end of said pipe while permitting entrance of outside air therein, the inner end of said pipe projecting for a short distance beyond the inside wall of the building, a collar fixed to said inside wall surrounding the inner projecting end of said pipe in spaced relation thereto and having a lateral discharge opening therein, supporting means traversing said collar and a shell having a cylindrical periphery mounted for oscillation upon said collar, the periphery of said shell having an aperture adapted to register with said lateral discharge opening in said collar to control flow of air, said shell having a dome shaped closed end spaced some distance outwardly of the projecting end of said pipe, and means for pivotally securing said dome shaped end to said supporting means.

HERMAN S. NELSON.