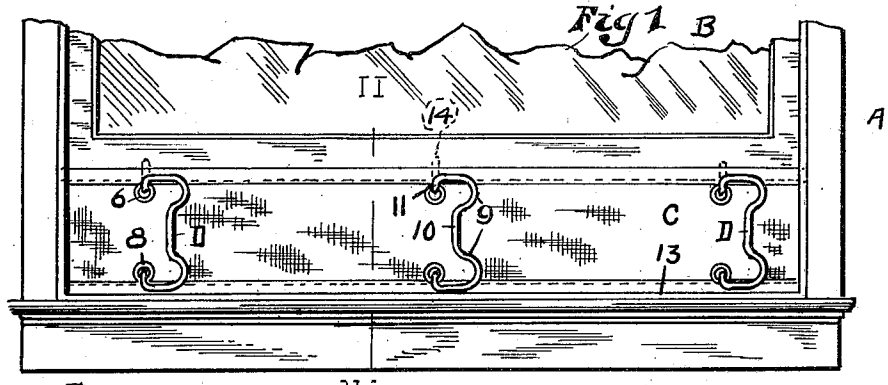
Jan. 23, 1923. 1,443,263.

O. A. HOLLIS.

VENTILATOR.

FILED DEC. 3, 1920.

Fig 1



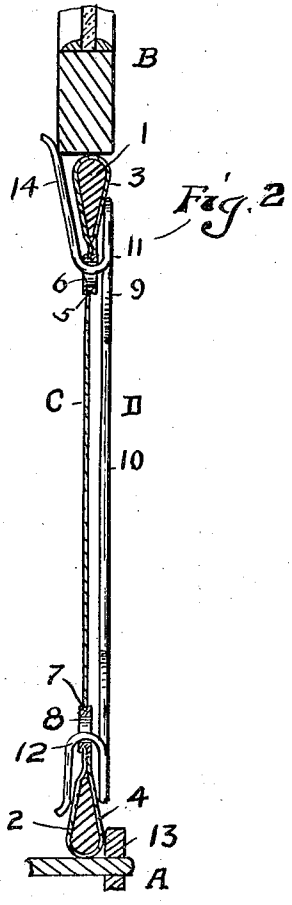


Fig. 2

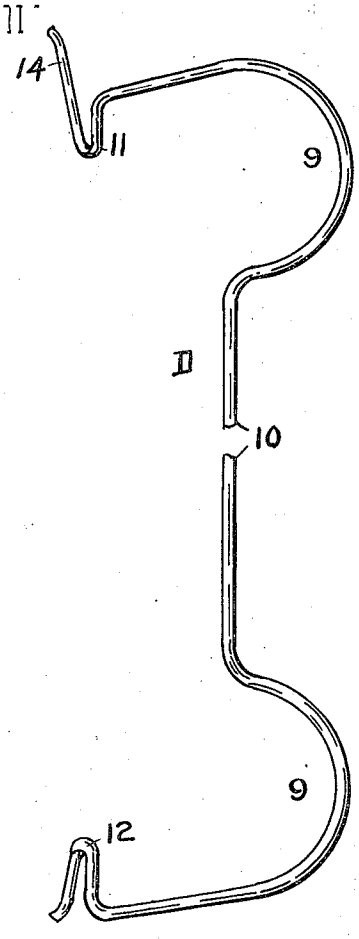


Fig 3

WITNESS
R. F. Dilworth

Inventor
Otis A. Hollis,
by Edward A. Lawrence
his attorney.

Patented Jan. 23, 1923. 1,443,263

UNITED STATES PATENT OFFICE.

OTIS A. HOLLIS, OF KNOXVILLE BOROUGH, PENNSYLVANIA.

VENTILATOR.

Application filed December 3, 1920. Serial No. 428,048.

To all whom it may concern:

Be it known that I, OTIS A. HOLLIS, a citizen of the United States, and residing in the borough of Knoxville, in the county of Allegheny and State of Pennsylvania, have invented or discovered the new, useful, and Improved Ventilator, of which the following is a specification.

My invention consists in certain new and useful improvements in ventilators, and it especially relates to ventilators for use in windows and other openings and which are characterized by the passage of the entering air through cheesecloth or other textile material for the purpose of filtration.

The object which I have in view is the provision of a ventilator of this character which will be inexpensive, yet efficient and durable; which may be quickly installed or removed from the opening without the use of tools and by inexperienced and unskilled persons; which will permit the easy removal, washing and replacement of the textile element, and which will maintain the textile element tautly in position to cover the entire opening and prevent bellying in response to air-pressure.

For the accomplishment of the foregoing and other purposes, I have devised a new and improved ventilator of the general type described, comprising a length or piece of textile material of proper dimensions to fit the opening in question, and provided along two of its opposite edges, preferably the top and bottom edges, with rigid supports, which may conveniently be wooden or other members slipped into hems on the edges of the said material. I also provide spring stretchers, preferably made of resilient wire, which engage said supports on the material adjacent thereto and hold the said edges of the material snugly against the edges of the opening. Said stretchers also serve to prevent bellying of the material in response to excessive air-pressure, rendering the ventilator wind and storm proof. Said stretchers also aid in holding the ventilator in position in the opening.

Other novel features of construction and arrangement of parts will appear from the following description.

In the accompanying drawings, which are however merely intended to illustrate a practical embodiment of the principles of my invention without limiting the scope of the latter to the exact construction shown, Fig. 1 is a broken inside elevation of a window with one of my improved ventilators installed under the lower sash; Fig. 2 is an enlarged section of the same taken along the line II—II in Fig. 1, and Fig. 3 is a broken perspective of one of my improved stretchers on a still larger scale.

The following is a detailed description of the drawings.

A represents the window frame, and B the lower sash which is partially raised to receive the ventilator. C is a piece of textile material such as stout cheesecloth of proper dimensions, and provided along two of its opposed edges, preferably top and bottom, with substantially rigid supports. In the drawings I show said supports in the form of wooden strips or sticks 1 and 2, similar to the sticks used in connection with window blinds, inserted in the edge hems 3 and 4 of the material C. Said supports are of proper length to hold the textile material extended to fit one dimension, preferably the horizontal dimension, of the opening. The unsupported edges, in the drawings the vertical edges, of the material C, are hemmed or otherwise finished to prevent ravelling or tearing, and abut against the adjacent sides of the opening.

At the inner edge of the top hem 3, the material C is provided with a plurality of holes 5, preferably protected by metal eyelets 6, and alined with each of said holes is a similar hole 7 at the inner edge of the lower hem 4, also provided with a metal eyelet 8.

D represents the spring stretchers, which are preferably made of resilient wire and provided intermediate of their ends with one or more compression loops 9. Thus I have shown the members D provided with two of said loops 9 at either end of the straight central portion 10. At its upper and lower ends said stretcher is provided with, preferably V-shape, hooks 11 and 12, respectively, turned at right angles to the plane of the loops 9 and adapted to engage the eyelets 6 and 8, respectively, as shown in Figs. 1 and 2, the stretchers D being of sufficient length to require the substantial compression of the loops 9 to permit the insertion of said hooks in said eyelets and to maintain a resilient spreading effect between the sticks 1 and 2, so that the latter will be

held snugly against the bottom of the sash B and against the window sill outside of the usual sealing plate or strip 13.

The upper ends of the stretchers are preferably prolonged to form the fingers 14 which bear against the outer face of the sash B, and thus with the strip 13 positively prevent the inward movement of the ventilator under excessive air-pressure.

Sufficient of the stretchers D are provided to properly support the ventilator in place, the longer the ventilator, the greater number of stretchers being required. Thus in a ventilator of the relative dimensions shown, I prefer to use three stretchers while two would be sufficient in the case of a narrower opening.

By forming the hooks 11 and 12 at right angles to the loops 9, the latter are disposed, as shown, in parallelism with the inner face of the material C, thus acting as struts to prevent said material from bellying inwardly during a high wind or storm.

If desired, especially in case of narrow openings, the stretchers may be installed horizontally instead of vertically, the supports 1 and 2 being in such case vertically disposed, or all four edges of the material C may be provided with supports and the stretchers used for both the vertical and the horizontal stretching of the ventilator material.

It is evident from the foregoing that by the use of my stretchers the ventilator is caused to completely close the opening against the entrance of unfiltered air and the filtering material is held tautly in place, thus preventing the entrance of rain or snow during a violent storm.

If desired, netting or flexible screening may be substituted for the textile material.

The ventilator can be quickly installed or removed, and the sticks 1 and 2 may be readily slipped from place in the hems, so that the material can be conveniently washed.

What I desire to claim is:—

1. A ventilator of the character described comprising a piece of flexible material of proper dimensions to fit the opening to be screened and having two opposed stiffened edges, said material being provided with openings along its stiffened edges, and resilient stretcher members having their ends offset to engage alined openings at the opposite edges of said material to hold the said edges in snug engagement with the edges of said opening.

2. A ventilator of the character described comprising a piece of flexible material of proper dimensions to fit the opening to be screened and having two opposed stiffened edges, said material being provided with openings along its stiffened edges, and resilient stretcher members having their ends offset to engage alined openings at the opposite edges of said material to hold the said edges in snug engagement with the edges of said opening, the ends of said members being prolonged to bear against the surface adjacent to said opening.

3. For use with flexible filtering material forming a ventilating screen for an opening, a stretcher formed by bending up a length of resilient material to provide an expansion body and end hooks integral with said expansion body and adapted to engage said material at its edges and hold the same snugly against the edges of said opening, the end of said member being prolonged to form a bearing against the surface adjacent to said opening.

Signed at Pittsburgh, Pa., this 30th day of November, 1920.

OTIS A. HOLLIS.