Dec. 4, 1956 C. J. SLOWER 2,772,622

WALL VENTILATOR

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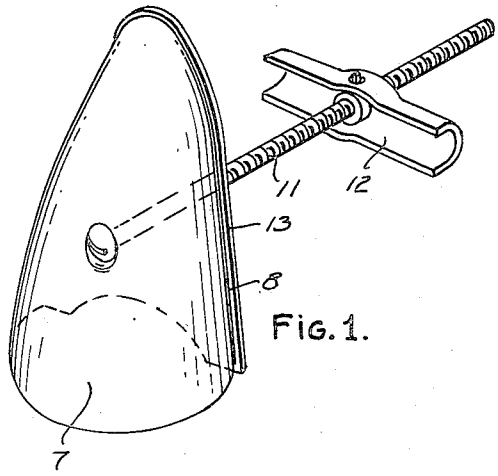


Fig. 1.

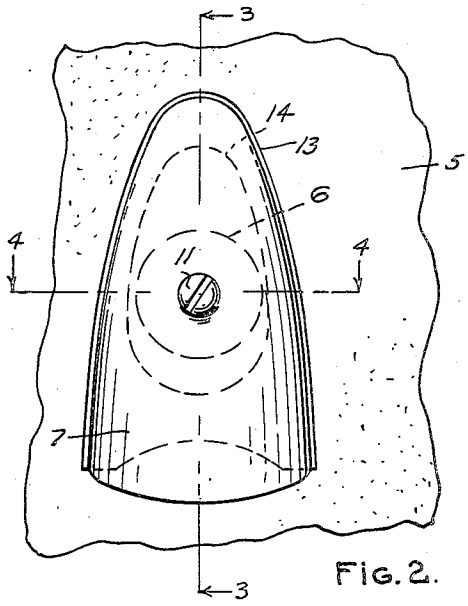


Fig. 2.

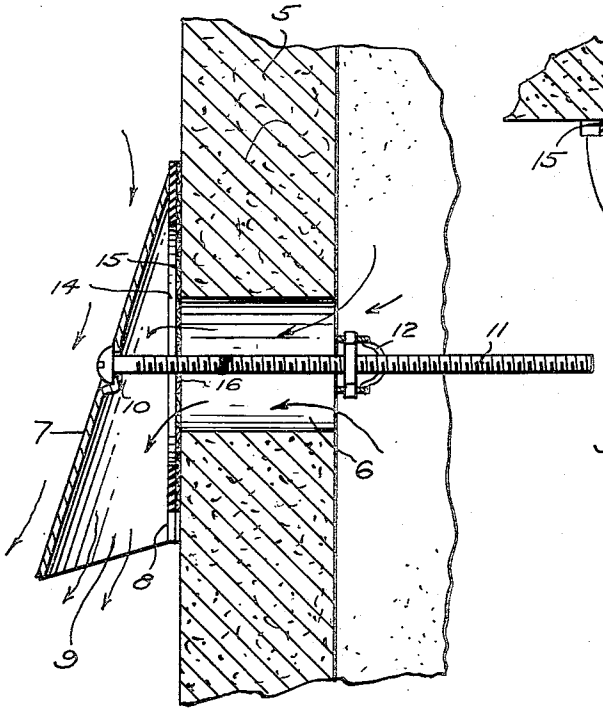


Fig. 3.

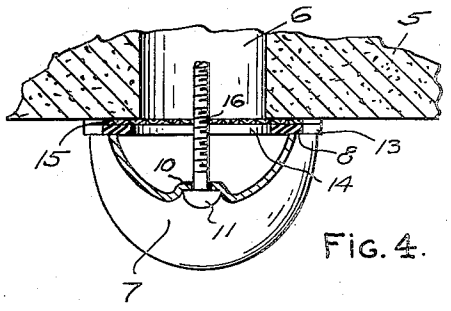


Fig. 4.

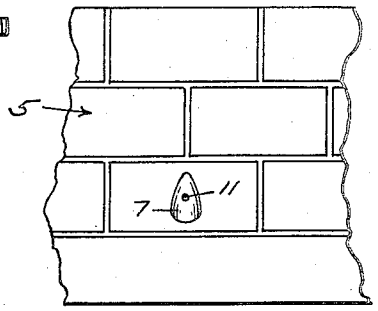


Fig. 5.

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WALL VENTILATOR

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1 Claim. (Cl. 98—37)

This invention relates to a ventilator for hollow masonry walls and particularly walls constructed of hollow concrete blocks and whereby the blocks provide a substantially hollow wall for its major height.

Concrete block walls constructed in a conventional manner and that are capped by a poured concrete belt course, are notoriously damp, due to the fact that the air trapped within the wall creates a capillary action throughout the height of the wall and this dampness is transmitted through the wall to the interior surface, necessitating the installation of the conventional furring strips before the lath and plaster can be applied, thus very considerably increasing the cost of the building.

The prime purpose of this invention is to so ventilate the wall as to successfully prevent the accumulation of moisture within the wall to such an extent that plaster or paint may be applied directly to the inner surface of the blocks without deterioration due to dampness and, by such ventilation, wood door frames or window frames are protected against rotting due to unventilated conditions.

The invention contemplates a novel form of ventilator that is disposed over an opening that has been drilled through an outer web of selected concrete blocks, whereby the air trapped within the wall is caused to be withdrawn in a circulatory manner and maintained dry under all prevailing weather conditions outside the building and whereby such circulation will prevent any capillary action within the wall and maintain the interior wall substantially dry at all times and, under such conditions, it has been found that accumulation of mildew within the building is completely removed.

The invention further contemplates a novel form of ventilating device that may be stamped from sheet metal in an extremely economical manner and that will effectively cover the wall openings against the entry of rain, snow or other foreign matter and/or insects and with the ventilator being so constructed and shaped that a natural suction is created at its lower open end whereby to create an interior suction with respect to the inner area of the wall to thus effectively pull the air outwardly.

Novel features of construction and operation of the device will be more clearly apparent during the course of the following description, reference being had to the accompanying drawings, wherein has been illustrated a preferred form of the device and wherein like characters of reference are employed to denote like parts throughout the several figures.

In the drawings:

Figure 1 is a perspective view of a ventilator constructed in accordance with the invention,

Figure 2 is a face view thereof as applied to a wall to be ventilated.

Figure 3 is a vertical section, taken on line 3—3, of Figure 2,

Figure 4 is a horizontal section, taken on line 4—4 of Figure 2 and,

Figure 5 is a side elevation of a wall area showing one ventilator applied thereto.

The wall 5, here composed of hollow concrete blocks having web portions as is customary, is constructed in the usual manner upon a footing and normally, the upper end of the wall is entirely closed by a poured concrete belt course thus, with the wall closed at its bottom by the usual footing and at its top by the belt course, it will be apparent that air trapped within the hollow wall will be prevented from escaping. It is of course well understood, that moisture will travel both up the wall and through the wall under the influence of capillary attraction and such travel of the moisture imparts dampness to the inner face of the wall, creating a condition that will prevent paint or wall paper from adherring to the surface and further, due to such dampness creates an unhealthy interior atmosphere resulting in the accumulation of mildew and attracting insects that favor dampness. Heretofore, due to the dampness of the interior wall, it has been necessary to install furring strips and laths before the plaster can be applied, thus setting up a second dead air space between the wall and the plaster and eventually creating a condition such as would occur when the plaster is applied directly to the wall surface.

In order to avoid the above conditions and to dispense with the installation of the furring strips and laths, a plurality of ventilating openings are drilled through the forward webs of selected spaced apart blocks 5. The openings, here indicated at 6, are drilled with a suitable tool in any selected row or courses of blocks, preferably near the bottom of the wall and around the building at intervals that are calculated to most effectively set up a circulatory movement of the air within the wall. The openings 6 as here illustrated, are approximately one inch or slightly larger in diameter and pass entirely through the web of the block to communicate with the hollow interior. In certain instances, it may be found desirable to also install ventilators adjacent the upper part of the wall belt course.

As a means to effectively protect the openings 6 against the entry of water or other foreign matter, there is disposed over each opening 6, a tapered hood 7 that is rounded both transversely and vertically to simulate a part of a cone. The hood is fully open at its rear and with its rear edges being disposed in the same plane and upward converging, as indicated at 8. The lower or flared end 9 is also fully open. The hood, intermediate its height and width, is apertured at 10 and pressed inwardly to form a seat for the slotted head of an elongated bolt 11 constituting the clamping means for a toggle head 12 and with the bolt and its toggle head being extended through the openings 6 co-axial thereto and through the medium of which the hood is securely clamped against the outer surface of the block in fully overlying relation to the opening 6. Disposed against the straight edges of the hood 7, is a suitable weathering gasket 13, shaped to substantially conform to the vertical outline of the edges 8 and with the gasket being extended slightly beyond the edges 8 whereby to form an adequate bearing surface. The gasket is provided with a relatively large oval opening 14 having a size calculated to fully expose the opening 6 of varying diameters. An insect screen 15 is disposed over the gasket 13 and conforms substantially to the area of the gasket. The screen 15 is provided with an opening 16 of a diameter permitting the snug passage of the bolt 11. The screen 15 is disposed against the wall with the gasket in overlying relation, while the hood overlies the gasket and through the medium of the bolt 11 and toggle head 12, the hood and the gasket and the screen 15 are securely clamped against the wall in fully overlying relation to the wall opening.

In use, the operator first determines the number and location of ventilators necessary to effectively maintain the interior of the wall dry and, after determining the locations, proceeds to drill the several openings through the outer web of the selected blocks **5**. After the several openings have been drilled, the required number of ventilators are assembled by disposing the gasket and screen against the open side of the hood **7**, after which the bolt **11** is inserted through the opening **10** and the opening **16** and the toggle head threaded upon the free end of the bolt. The bolt and the toggle head are then inserted through the opening **6** to the point where the head **12** can pivot around to be transversely disposed and extend beyond the opposite sides of the inner end of the opening **6**. With the hood, the gasket and the screen then being held in proper position against the wall whereby it is vertically disposed and in fully overlying relation to the opening **6**, the bolt is operated by a screwdriver or the like to cause the toggle head **12** to bind against the inner face of the web and firmly bind the hood and its associated parts in firm and weathering engagement against the face of the block. In such clamped position, the hood will be held against displacement. The mounted hood thus presents an ornamental type of ventilator and, as exterior air currents roll over the hood, they create a suction action at the lower open end **9**, pulling the interior air in a circulatory manner through the openings of the blocks for discharge. With the ventilators arranged at various points around the building, it will be apparent, that with a suction created at those ventilators opposed to the prevailing air currents, air will enter those ventilators upon the opposite side of the building, creating a steady flow of air throughout the walls and absorbing any moisture that would ordinarily tend to be absorbed by the blocks. Thus, the flow of air maintains the interior walls dry at all times and permits of the interior walls being painted or plastered directly upon the blocks.

It will thus be apparent, that an extremely simple and highly effective means has been provided for the ventilation of hollow masonry walls. The hood readily lends itself to manufacture from aluminum or other metals and also plastics and may be colored in various shades to blend with the color of the exterior surface of the walls. While the device has been illustrated as being applied directly to the block, it will be apparent, that when the exterior walls are stuccoed, that the device will obviously have a bearing against the exterior surface. The hoods are ornamental in appearance and easily installed and may be stamped or otherwise formed at a relatively low cost.

It is to be understood, that the invention is not limited to the precise arrangement shown, but that changes are contemplated as readily fall within the spirit of the invention as shall be determined by the scope of the subjoined claim.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

A ventilator for hollow concrete block walls and whereby to create air circulation within the walls for discharge to the exterior, that comprises a hollow hood that is adapted to be disposed over an opening formed through an outer web of concrete block embodied in the wall, the said hood being semi-circular in cross-section and formed open at its rear side and bottom and with the open bottom defining a relatively large semi-circular air discharge opening, the open rear of the hood defining an elongated upwardly tapering opening having marginal edges that are flat and co-planar and that are convergent upwardly and whereby to constitute an uninterrupted bearing surface throughout the height of the hood, a flat compressible weathering gasket for the hood that is shaped to conform to the rear opening and that is co-extensive with the marginal edges, the gasket being provided with an elongated opening having a dimension greater than the opening formed in the block, an insect screen co-extensive with and disposed over the gasket and with the hood, the gasket and the screen disposed in overlying relation to the face of the block and in overlying relation to the block opening and whereby the block opening is fully exposed through the opening of the gasket for communication with the hood and whereby air within the hollow block wall may be discharged through the discharge opening of the hood and a toggle bolt passing through the hood, the gasket and the screen and arranged co-axial with the block opening whereby a toggle head carried by the bolt may have clamping engagement upon the inner surface of the block web to either side of the block opening and whereby to securely clamp the hood and its associated gasket and screen in weathering engagement with the outer face of the block.

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