Feb. 1, 1944. A. G. SIEBENLIST 2,340,570

LOUVER VENTILATOR

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Fig. 1.

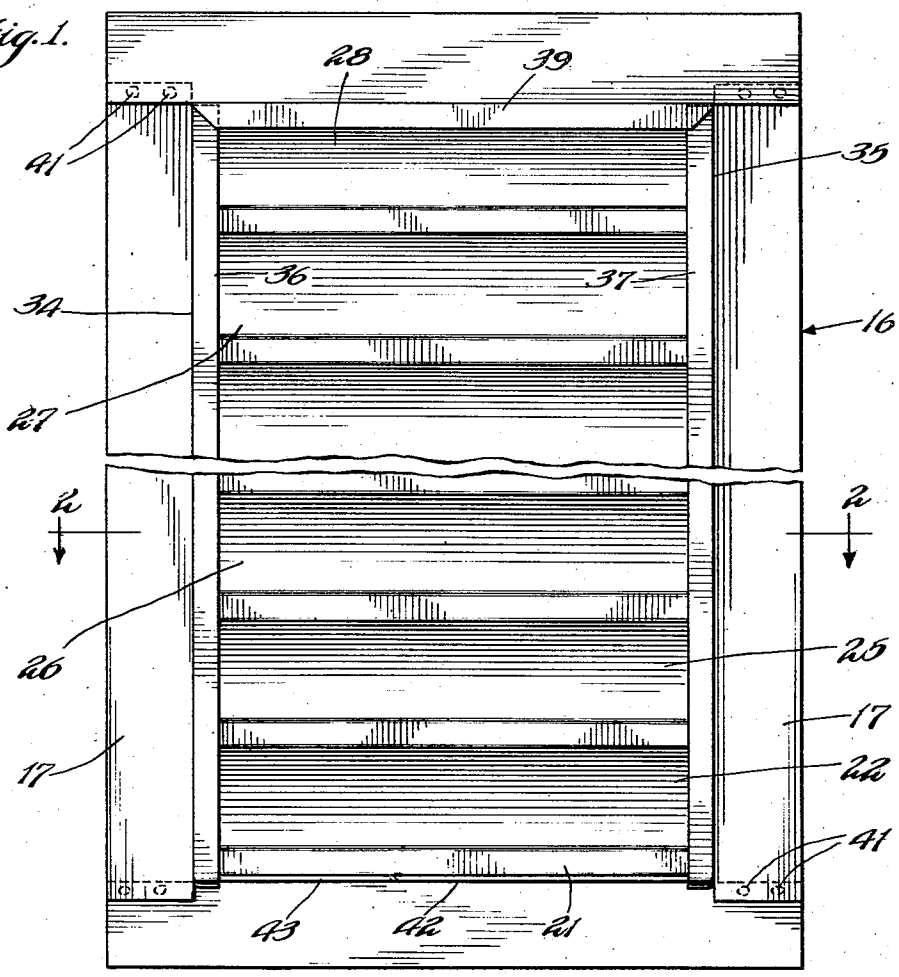
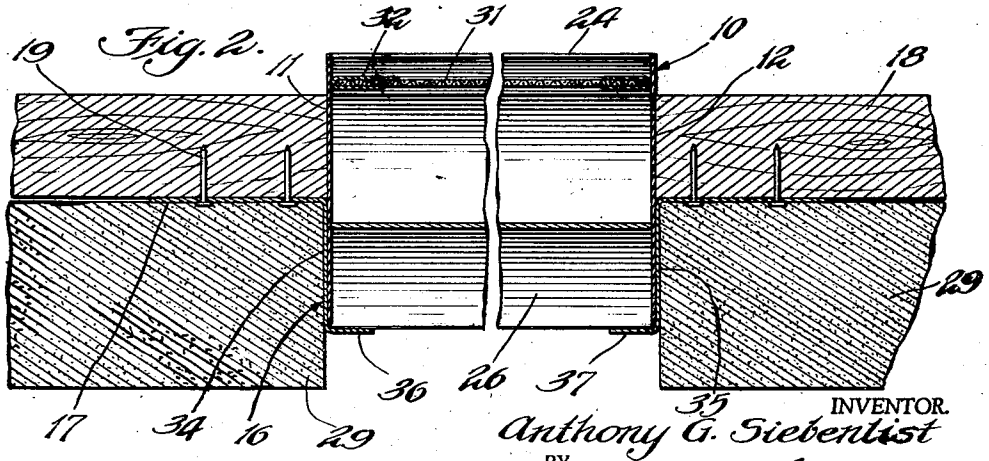


Fig. 2.



INVENTOR.
Anthony G. Siebentist
BY
Williamson Hubbell Fuller & Knight
ATTYS.

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Fig. 3.

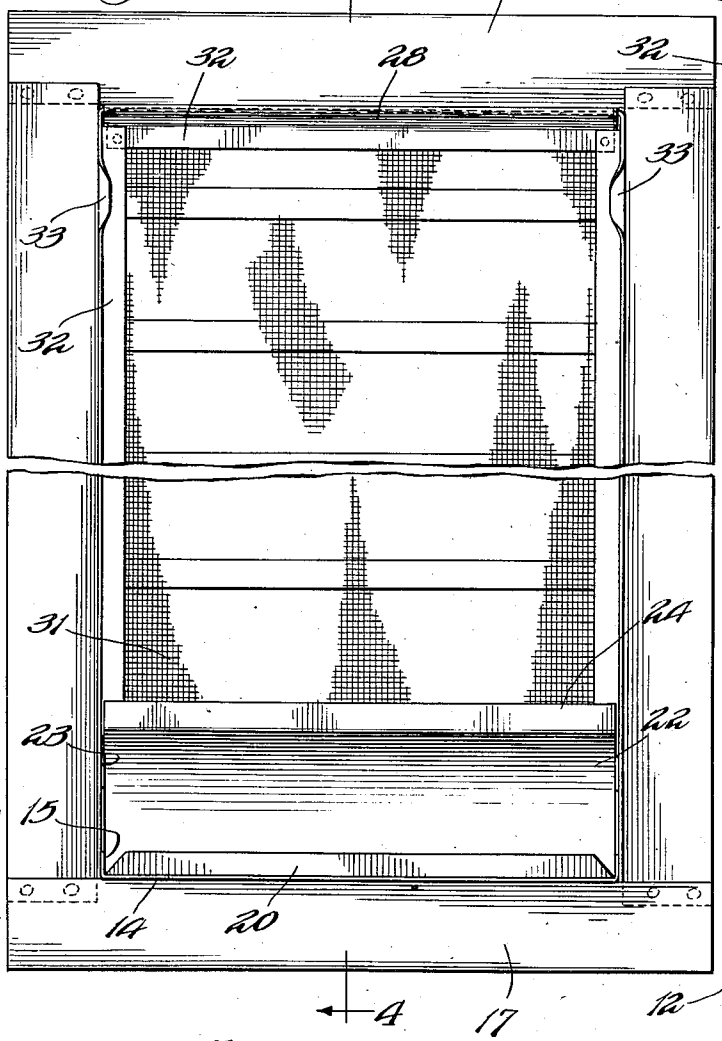


Fig. 4.

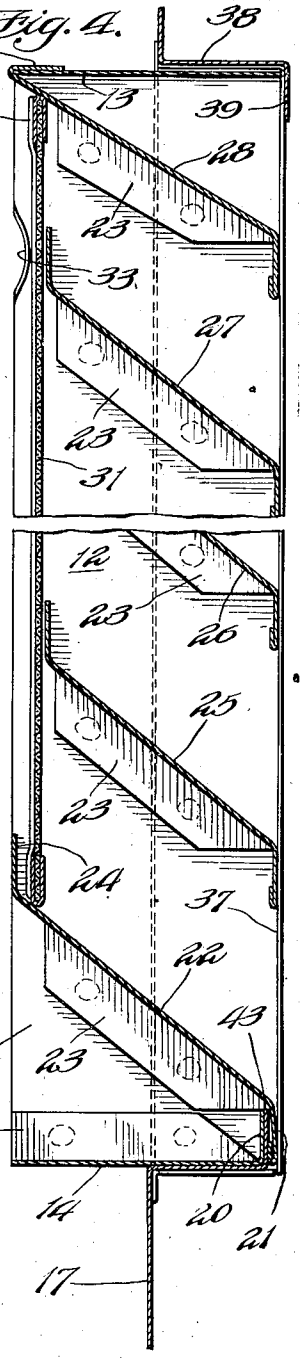
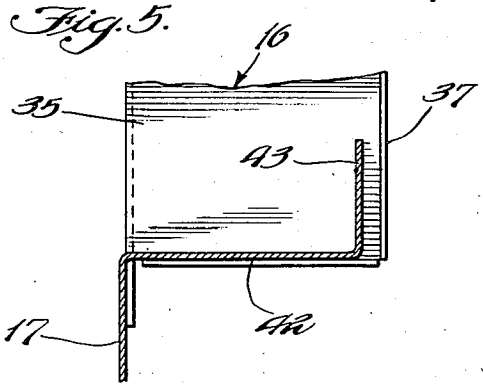


Fig. 5.



INVENTOR.
Anthony G. Siebenlist
BY
Williamson Hubley Graves & Dwight
ATTYS.

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Fig. 6.

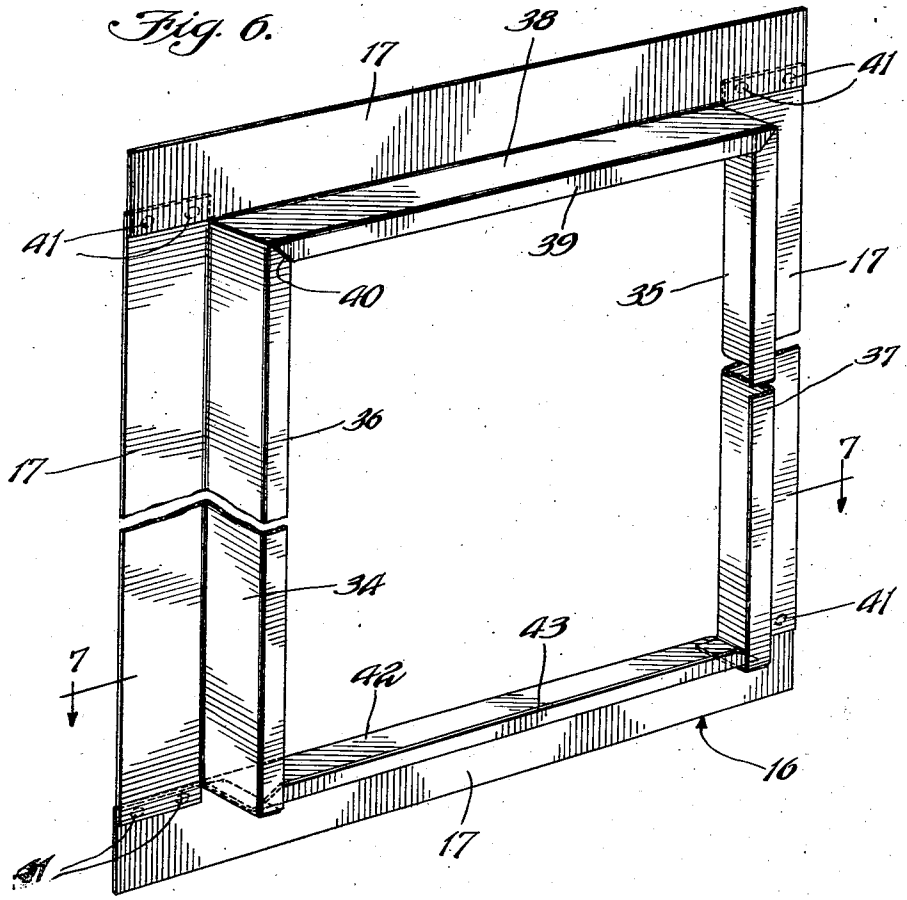


Fig. 7.

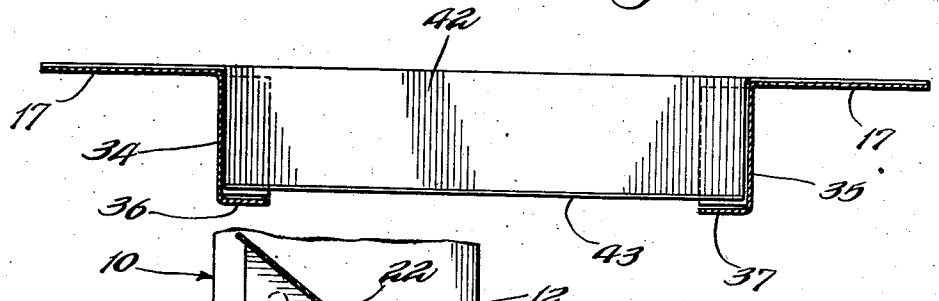
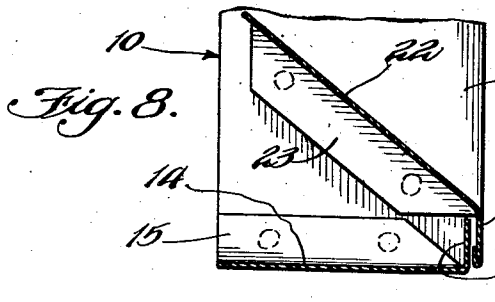


Fig. 8.



INVENTOR.
Anthony G. Siebenlist
BY
Wilkinson Huxley Byron & Knight
ATTYS.

Patented Feb. 1, 1944

2,340,570

UNITED STATES PATENT OFFICE

2,340,570

LOUVER VENTILATOR

Anthony G. Siebenlist, Milwaukee, Wis., assignor to Milcor Steel Company, Milwaukee, Wis., a corporation of Delaware

Application June 27, 1941, Serial No. 400,023

4 Claims. (Cl. 98—121)

The invention relates to ventilators and has more particular reference to a stationary louver ventilator having an improved construction of nailing flange for securing the device as a unit within an opening in a wood frame, brick or masonry wall.

The primary object of the invention is to provide an improved louver ventilator of the type permitting air circulation within a dwelling or the like so as to carry off the summer heat and relieve conditions of destructive humidity, a ventilator that can be easily installed and one that will be strong and rugged in construction.

Another object resides in the provision of a ventilator having a removable wire screen which will be securely held in place by means bent from the louver members and side walls of the frame.

Another object is to provide an enclosing frame for the ventilator proper which will provide a nailing flange for securing the structure as a unit within an opening in a wood or brick wall and which will have interlocking association with the ventilator so that the latter may be removed therefrom.

Another object resides in the provision of a ventilator of the type described and also an enclosing frame for association therewith having an upstanding lip for interlocking with the bottom louver member and the base wall member of the ventilator.

With these and various other objects in view, the invention may consist of certain novel features of construction and operation as will be more fully described and particularly pointed out in the specification, drawings, and claims appended hereto.

In the drawings which illustrate an embodiment of the invention and wherein like reference characters are used to designate like parts—

Figure 1 is a front elevational view of the ventilator of the invention;

Figure 2 is a horizontal sectional view taken substantially along the line 2—2 of Figure 1 and illustrating the nailing flange provided by the removable frame for the ventilator;

Figure 3 is an elevational view of the rear surface of the ventilator showing the wire screening and retaining means therefor;

Figure 4 is a vertical sectional view taken substantially along line 4—4 of Figure 3 and illustrating the arrangement of the louvers within the ventilator and the surrounding frame therefor providing the nailing flange;

Figure 5 is a detail sectional view illustrating the construction of the bottom wall of the surrounding frame for removably interlocking the frame with the ventilator;

Figure 6 is a perspective view of the said frame clearly illustrating the nailing flange provided thereby and the construction of the bottom wall;

Figure 7 is a horizontal sectional view taken substantially along line 7—7 of Figure 6; and

Figure 8 is a detail sectional view illustrating the interlocking structure provided by the bottom wall and bottom louver member of the ventilator.

Referring to the drawings, the ventilator of the invention is substantially rectangular, having a plurality of louver members suitably secured within the side walls thereof and also having a wire screen removably fastened to the rear. In accordance with the invention the ventilator proper is removably positioned within an enclosing frame which provides a nailing flange whereby the structure as a unit can be secured within an opening in a wood frame, brick or masonry wall. The enclosing frame is provided with an upstanding lip adapted to enter a slot formed by the bottom wall and bottom louver member of the ventilator for the purpose of removably retaining the ventilator within the enclosing frame.

As best shown in Figure 2, the rectangular frame of the ventilator indicated by numeral 10 is formed by the side wals 11 and 12, the top wall 13, Figure 4, and the base member 14, which has formed integrally therewith tabs 15 on the respective sides, located within the side walls for securement thereto. The enclosing frame, Figures 2 and 6, indicated in its entirety by numeral 16, is likewise rectangular in shape and said frame is formed to provide an opening of sufficient size to closely fit the ventilator and which is interlocked with the ventilator by novel structural means so as to effectively retain the parts in associated relation while permitting easy removal. The enclosing frame also provides marginal flanges 17 which extend laterally outward from the ventilator so that the said flanges can be placed against a wood frame such as 18, Figure 2, and secured thereto by the nails 19 to fasten the frame and thus the ventilator within the opening provided theerfor.

Referring more particularly to the ventilator proper, the side walls 11 and 12 and top wall 13, which may be integral therewith, are joined along the base by the member 14. Said member in addition to having the bent tabs 15 also provides an upstanding portion 20 which is shown in Figure 8 as spaced some distance from the depending front

flange 21 of the base louver member 22. The said louver 22 has an upstanding flange 24 along the rear edge thereof as illustrated in Figure 4 for the purpose of retaining in place the wire screening which is located within the rear of the ventilator. Louver member 22 also has depending tabs 23 bent from the respective ends which engage the inside surface of the walls 11 and 12 and are secured to said walls as by spot welding or other suitable means. Other louver members similar in construction to 22 are located within the ventilator opening. The members 25, 26, 27 and 28 are each disposed in proper spaced relation with each other and are substantially parallel to member 22. It will be understood that each member has downwardly bent tabs 23 on the respective ends thereof which are utilized in a manner as described to secure the same to the ventilator side walls. The top louver member 28 has a rear portion 30 which is bent around the rear edge of top wall 13 and which may be suitably secured to said top wall. This construction insures a water-tight connection between the top and said louver member.

The wire screen for the present ventilator is best shown in Figures 3 and 4, wherein it will be observed that the wire mesh screen 31 is held within a metal frame indicated by numeral 32. The frame is of a size to fit within the rear opening provided by the side walls, the bottom louver member 22, and the top louver member 28. The position of the wire screen frame within the opening is determined by upwardly bent ends on the louver members 25, 26 and 27 and the said wire screen frame is securely held within said opening by the upstanding retaining flange 24 and by the bent tabs 33 which engage the frame in the vicinity of the upper end thereof. It will be observed that the tabs are bent from the metal of the side walls 11 and 12 and said tabs securely hold the frame in place although permitting ready removal since it is only necessary to bend the tabs outwardly.

The enclosing frame for the louver type ventilator is best shown in Figure 6. The side walls 34 and 35 are each formed by an independent metal strip and the metal strips are bent to provide an outwardly directed nailing flange 17 at the rear of the frame and inwardly directed face flanges 36 and 37, respectively, at the front of the frame and of less width than the nailing flange. The top wall 38 also has a nailing flange 17 and a face flange 39 which, as shown, overlaps members 36 and 37 and is cut diagonally at the ends as at 40 for the purpose of improving the appearance of the frame. Numerals 41 indicate the locations wherein the nailing flanges of the respective members are spot welded for securement to each other.

The construction of the bottom member 42 of the enclosing frame is different from that of the top wall since the bottom provides an upstanding lip 43 which is spaced inwardly from the plane of the flange members 36, 37 and 39 and by reason of said construction the lip functions to retain the enclosing frame in connected relation with the ventilator. The metal strip from which the bottom wall is formed likewise provides a nailing flange 17 and the flanges from the side walls overlap therewith to permit securement of the parts to one another by the spot welding as at 41. It will be observed that the depth of the side walls 34, 35 and 38 is substantially half that of walls 11, 12 and 13. Accordingly, with the ventilator in connected position within the enclosing frame the nailing flanges 17 extend laterally outward from around the perimeter of the ventilator and are located substantially one-half the total depth thereof.

The ventilator of the invention has the advantage that the same may be installed within an opening of any thickness in a frame or brick wall and an absolutely water-tight installation is insured by reason of the nailing flanges 17 which are positioned between the wood frame 18 and the facing brick work 29, as will be clearly understood by reference to Figure 2. Adequate ventilation is insured by the opening thus provided which is screened and as a result of the downward and outward slope of the louver members rain is also prevented from entering the interior of the dwelling or other structure equipped with the present ventilator. The enclosing frame, designated in its entirety by numeral 16, provides a rectangular opening to just fit the ventilator 10. When inserted within the frame opening the ventilator has an interlocking connection with the frame as a result of the upstanding lip 43 on the bottom wall 42, which lip enters the slot provided by portion 20 and the depending front flange 21 of the base louver member of the ventilator. The connected relation of the parts is shown in Figure 4. The face flanges 36, 37 and 39 function as a stop to properly position the ventilator unit within the supporting frame since said facing flanges have contact with the front edges of the side walls 11 and 12 and top wall 13, respectively. It will be observed that the walls 34 and 35 partly overlap the side walls and that top wall 38 partly overlaps the top wall 13 of the ventilator. Also the bottom wall 42 underlies the base member 14 of the ventilator. Actually the bottom wall of the ventilator is formed by the base louver member 22 since when viewed from the front the member 14 is not visible. The ventilator is securely held within the frame since the parts are designed to have a relatively tight fit and this relation is further maintained as a result of the interlocking connection which lip 43 of the frame has with the upstanding portion 20 and the depending front flange 21 of the base louver member.

The invention is not to be limited to or by details of construction of the particular embodiment thereof illustrated by the drawings as various other forms of the device will of course be apparent to those skilled in the art without departing from the spirit of the invention or the scope of the claims.

What is claimed is:

1. In a ventilator, a ventilator unit providing a louver opening and comprising spaced parallel side walls, a top wall connected to the side walls, a base member also connected to the side walls, and a plurality of louvers within said opening having securement to the said side walls, said louvers sloping downward and outward and the bottom louver having a front depending flange, an upstanding portion associated with the base member and disposed rearwardly of and in spaced relation with the front flange to form a slot therewith, a supporting frame in surrounding relation with the ventilator unit and including wall portions overlapping the walls respectively of the ventilator unit for approximately one-half of their depth, one wall portion of the frame providing a lip adapted to enter the aforementioned slot for releasably holding the frame and said ventilator unit in assembled relation.

and flanges extending laterally outward from at least two wall portions of said frame to form nailing flanges, said flanges being disposed substantially centrally of the depth of the ventilator unit.

2. In a ventilator, a ventilator unit and supporting frame therefor as defined by claim 1 wherein the frame is additionally provided with at least one facing flange extending laterally inward from the front edge of a wall portion of the frame and adapted to have contact with a front edge of the ventilator unit when the frame and unit are in assembled relation.

3. A ventilator unit of the character described, including spaced parallel side walls connected by a top wall and by a base member to form a louver opening, a plurality of louvers within said opening having securement to the side walls, said louvers sloping downward and outward and the bottom louver having a front depending flange, and a portion projecting from the base member and positioned rearwardly of and in spaced relation with the front flange to form a slot therewith.

4. A supporting frame for a ventilator of the character described, comprising wall portions arranged to form a substantially rectangular opening adapted to receive a ventilator unit, said portions providing spaced side walls, a top wall, and a bottom wall, nailing flanges extending laterally outward from the rear edge of each of said walls, front facing flanges extending laterally inward from the front edges of the side walls and top wall respectively and all lying in substantially the same plane, and the bottom wall of the frame having a lip bent therefrom and disposed in a plane parallel to but spaced from the plane of the said facing flanges.

ANTHONY G. SIEBENLIST.