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ROOF VENTILATOR

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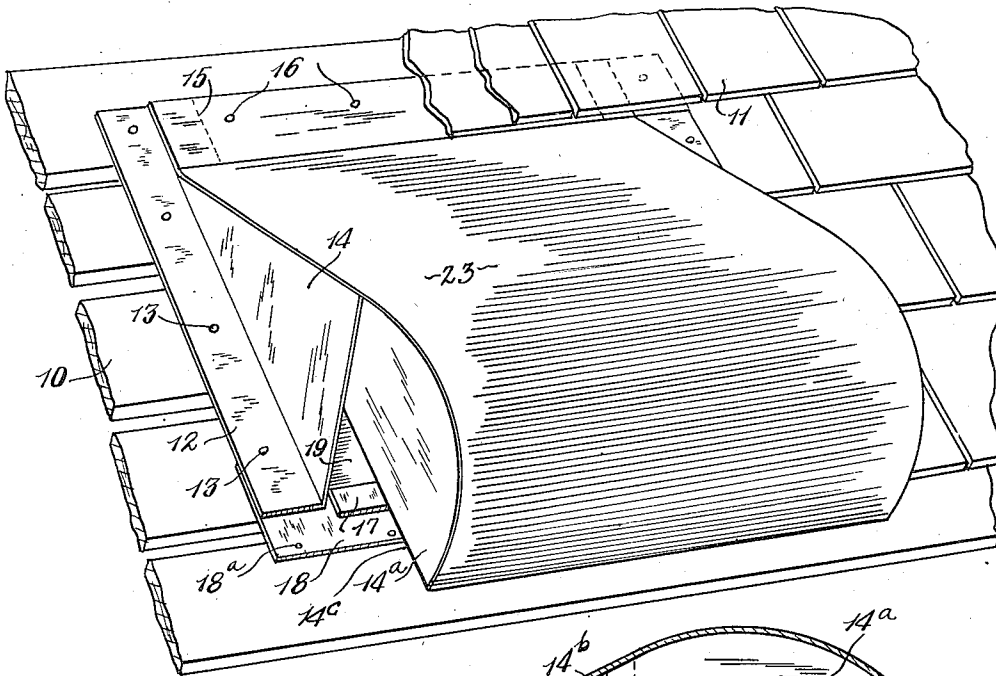


FIG. 1

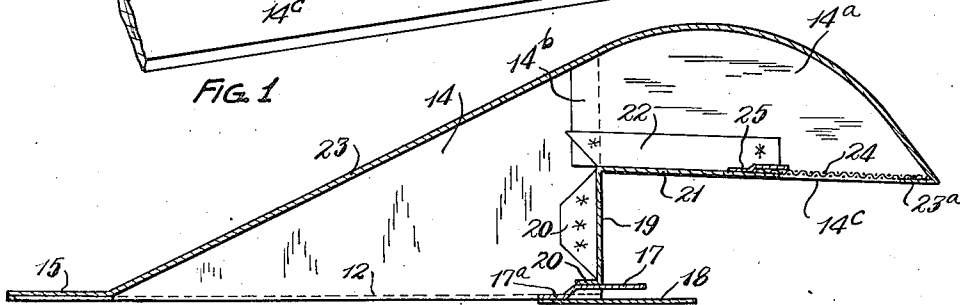


FIG. 3

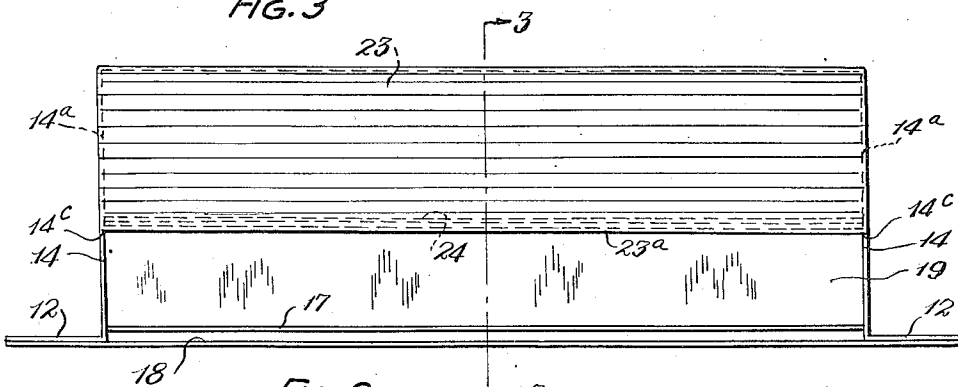


FIG. 2

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UNITED STATES PATENT OFFICE

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ROOF VENTILATOR

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9 Claims. (Cl. 98—42)

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This invention relates to ventilators, and more particularly to ventilators that are adapted for use with slanting roofs and has for its principal object to provide a ventilator of this character which will enable the circulation of air through the roof openings with which it cooperates and which will reduce to a minimum the ingress of rain, snow, or other moisture therethrough and thence through said opening.

I accomplish the foregoing object in and through the construction and arrangement of parts shown in the drawings hereof, wherein Fig. 1 represents a perspective view of my ventilator and of the parts of the roof to which it is applied and with which it cooperates; Fig. 2 a front elevational view of the ventilator shown in Fig. 1; and Fig. 3 a sectional view taken on the line 3—3 of Fig. 2 and looking in the direction of the arrows.

Describing the various parts by reference characters, 10 denotes sheathing boards of a roof of the slanting type and 11 the shingles, which may be of wood, tile, slate or felt, and which are supported by the said boards. 12 denotes side flashing members which are adapted to be inserted beneath the shingles and which are secured to the sheathing boards 10, as by nails 13.

14 denotes generally the rear sections and 14^a the front sections of the side members of the ventilator, the former of which are preferably integral with the side flashing members 12, which extend rearwardly beyond the rear sections 14 with the extensions 12^a of their rear ends overlapped by the side edges of the transversely extending rear flashing member 15 which is secured to the appropriate sheathing board as by means of nails 16. The rear sections 14 extend forwardly and upwardly in triangular shape from the rear and side flashing members while the front sections 14^a, the upper edges of which are forwardly and upwardly and then forwardly and downwardly curved, are secured to the upper portions of the rear sections, the rear portions of the front sections being shown as overlapped by the corresponding portions of the rear sections at 14^b and the overlapping portions being united, as by spot welding.

It will be noted that the bottoms of the front sections are in a plane substantially parallel with the plane of the front flashing member 18 and are vertically spaced from the latter plane, for a purpose to be described; also that the curvature of the upper edges of the forward sections provides, with the roof or cover section of the ventilator and the baffle means (to be described),

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a front hood having a downwardly directed discharge outlet at the front end thereof.

A front counter flashing member 17 projects beyond the front edges of the rear sections 14 and is deflected downwardly at its rear and secured to the front flashing 18 to provide therewith a rearwardly extending pocket or counter flashing for the reception of the shingles. The front flashing member 18 is overlapped at its rear by and secured to the front ends of the side flashing members 12 as by spot welding and is secured to the sheathing board therebeneath, as by nails 18^a.

19 denotes a transversely extending wall having a flange 20 at its base by which it is supported, as by spot-welding, upon the top of the counter-flashing member 17 and which unites the front edges of the lower sections 14 of the side members, forming an angle of substantially 90° with a plane including the lower edges of said side members, the lateral ends of the wall 19 being secured to the fronts of the sections 14, as by flanges 20 spot welded to the latter. The wall 19 forms a part of a baffle, the other part of which baffle is formed by a wall 21 which extends forwardly from the top of the wall 19 and which is united to the forward sections 14^a of the side members, with its bottom preferably in the plane of the bottom edges 14^c of the said sections, but which wall 21 terminates at a considerable distance forwardly from the vertical wall 19, for a purpose to be explained. The wall 21 is attached to the sections 14^a of the side members, as by means of flanges 22 spot welded to the latter.

From the flashing member 15, the cover or roof 23 of the ventilator extends forwardly and then downwardly, being secured to the upper edges of the rear and front sections 14 and 14^a of the side members and forming with the said front sections a front discharge hood. It will be seen that the side members can be considered to be provided with symmetrical recesses, or cut out sections, extending rearwardly from the front thereof to form overhanging front sections and that these recesses are united by the walls 19 and 21 and the screen 24. At its extreme forward end the cover is provided with a rearwardly extending flange 23^a which forms the front supporting member for a screen 24 which extends from one side member to the other, the rear end of the screen being supported upon the front of the wall 21, as by means of a metal strip 25 having its front portion spaced from the front of the wall 22 to form a pocket therewith for the reception

of the rear end of the screen and having its rear portion secured to said wall, as by spot welding.

The walls 19 and 21 of the baffle form an angle of approximately 90° with each other, it having been found in practice that by the use of this angular relation, efficient results have been obtained in preventing moisture, in the form of rain, snow or sleet, from being driven through the screen 24 by strong winds blowing upwardly along the roof in which the ventilator is installed and that the winds or currents of air which are delivered in a direction substantially parallel with the roof are largely deflected laterally by the open-ended pocket formed by the baffle members 19 and 21 and the portion of the roof therebelow, and that only a very small proportion of such strong winds or currents of air will pass through the screen and into the ventilator body. I have found that even better results are obtained by making the angle between these walls slightly acute whereby the wall 21 extends forwardly from the wall 19 and slightly toward the plane of the flashing 18 and of the portion of the roof to which the ventilator is secured. In practice the angle between these walls has been approximately 87° instead of 90°, and this angular relation between the walls has enabled the baffle formed thereby to cooperate most effectively, in connection with the portion of the roof beneath the wall 21 and the location of the outlet opening from the ventilator and the location of the screen 24, in obtaining a normally free outward circulation of air from the roof opening and also in minimizing the admission of rain, snow, or other moisture content of the air impelled by strong winds blowing upwardly along the roof on which the ventilator may be installed.

Having thus described by invention, what I claim is:

1. A ventilator of the character described comprising side members each having an upper edge extending forwardly and upwardly from the rear end thereof and thence forwardly and downwardly and each having a recess extending rearwardly from the front end thereof and defined by a rearwardly extending bottom edge of the upper front portion merging at its rear end with the upper end of the front edge of the rear portion of said side member which front edge extends downwardly from the point of merger, the said recesses being symmetrical, a baffle formed by a wall extending across the last mentioned edges of the recesses and also extending substantially the full width of the ventilator and a wall connected at its rear end to the upper end of the first mentioned wall and extending across the rearward portion of the bottom edges of the front ends of the recesses and also extending substantially the full width of the ventilator with its front spaced from the front ends of the front portions of the side members, a cover member secured to the top edges of the side members and extending to the front ends of the latter and forming therewith a forwardly and downwardly extending hood, and a screen interposed and supported between the front of the second baffle wall and the front ends of the upper portions of the side walls and the front end of the said cover member and extending the full width of the ventilator.

2. In the ventilator set forth in claim 1, the top edges of the side members being upwardly convexly curved above the second wall and the screen whereby the front of the cover will form

an upwardly convex hood with the screened outlet located in the front of said hood while the walls form an angular baffle at the rear of said outlet.

3. In the ventilator set forth in claim 1, the top edges of the side members being upwardly convexly curved above the second wall and the screen whereby the front of the cover will form a hood with the screened outlet, located substantially parallel to the lower edges of the side members and in the front of said hood, and the bottom edges of the upper front portions of the side members being substantially at right angles to the front edges of the lower rear portions of the side members, whereby the walls secured to said edges form a baffle the front and rear members whereof are at substantially right angles to each other, which baffle defines a baffle or ventilator surface immediately adjacent the ventilator outlet.

4. In the ventilator set forth in claim 1, the top edges of the side members being upwardly convexly curved above the second wall and the screen whereby the front of the cover will form a hood with the screened outlet located within the front of said hood, and the bottom edges of the upper front portions of the side members being slightly inclined rearwardly toward the front edges of the lower rear portions of the side members, whereby the walls secured to said edges form a baffle the front and rear members whereof form an angle with each other of slightly less than 90°.

5. In the ventilator set forth in claim 1, the top edges of the side members being upwardly convexly curved above the second wall and the screen whereby the front of the cover will form a hood with the screened outlet located within the front of said hood while the walls form an angular baffle at the rear of said outlet, a front flashing member supported at the bottoms of the downwardly extending edges of the fronts of the rear portions of the side members, a counter flashing member secured to the front flashing member and extending upwardly and forwardly therefrom to form a pocket for a portion of a course of shingles, and the base of the first mentioned wall extending to and being supported by the counter flashing member.

6. A ventilator of the character specified comprising side and rear flashing members adapted to be secured to the shingle supporting members of a slanting roof, side members comprising each a rear section secured at its bottom to the respective side flashing member and extending upwardly therefrom and forwardly and upwardly from the rear flashing member and a front section secured to the upper portion of each rear section and extending forwardly and upwardly and forwardly and downwardly therefrom and the front sections providing with their respective rear sections rearwardly extending symmetrical recesses, each of said recesses being defined by the front end of a rear section which is substantially normal to and extends upwardly from the respective side flashing member and which merges at its upper end with the portion of the bottom of the front section which extends forwardly therefrom, a cover member extending forwardly and upwardly from the rear flashing member and secured to the tops of the side members, a wall connecting the front ends of the rear sections of the side members and being substantially coextensive in width with the height of said ends, a wall extending forwardly from the

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upper end of the first mentioned wall and connecting the bottoms of the front sections of the side members, the front end of said cover member projecting beyond the front end of the second wall with its end in substantially the plane thereof and forming a discharge outlet with the second wall and with the sides of the front sections of the side member, a screen supported between the front end of the cover member and the front end of the second wall, and a flashing member secured to the bottoms of the front ends of the rear sections of the side members and extending forwardly therefrom beneath the first mentioned wall.

7. A ventilator of the character specified comprising side and rear flashing members adapted to be secured to the shingle supporting members of a slanting roof, side members comprising each a rear section secured at its bottom to the respective side flashing member and an overhanging front section having a lower surface vertically above but offset from and substantially parallel to the lower surface of the said rear section, said rear section having exposed front edges, a cover member associated with said rear flashing member and secured to the top edges of said side members, a wall secured to and extending between the exposed front edges of said rear sections and completely covering same, a wall associated with the upper end of said first wall and secured to and extending between the lower surfaces of the said front sections of said side members, said second wall extending about one half the length of said overhanging front sections, and a screen secured to and between the bottom edges of said overhanging front sections to form a completely enclosed air passageway in the ventilator whereby air must flow in under the overhanging portion thereof and then vertically upwardly through said screen to enter the ventilator.

8. A ventilator of the character specified comprising side and rear flashing means adapted to be secured to a slanting roof, a pair of side members each having a rear section secured at its

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lower edge to the respective side flashing means in spaced but parallel relation and an overhanging front section having a lower surface vertically above but offset from and substantially parallel to the lower surface of the said rear section to expose front edges of said rear sections, a cover member associated with said rear flashing member and secured to the top edges of said side members, a wall secured to and extending between the front edges of said rear sections and completely covering same, a wall positioned against the upper end of said first wall and secured to and extending between the lower edges of the said front sections of said side members, said second named wall exposing a portion of the area between the lower edges of said front sections, and a screen associated with said second named wall and the lower edges of said overhanging front sections to cover the exposed area therebetween to form an air opening in the ventilator whereby air must flow into the ventilator under the overhanging front portion thereof and then vertically upwardly through said screen to enter the ventilator.

9. In the ventilator as described in claim 7, said second named wall being associated with said first named wall and being inclined downwardly towards the plane defined by the lower edges of said rear sections so as to form an exposed angle between said walls of slightly less than 90°.

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