Jan. 30, 1962 C. A. ANDERSON 3,018,713

VENTILATOR FOR BUILDING EAVES

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FIG. 1

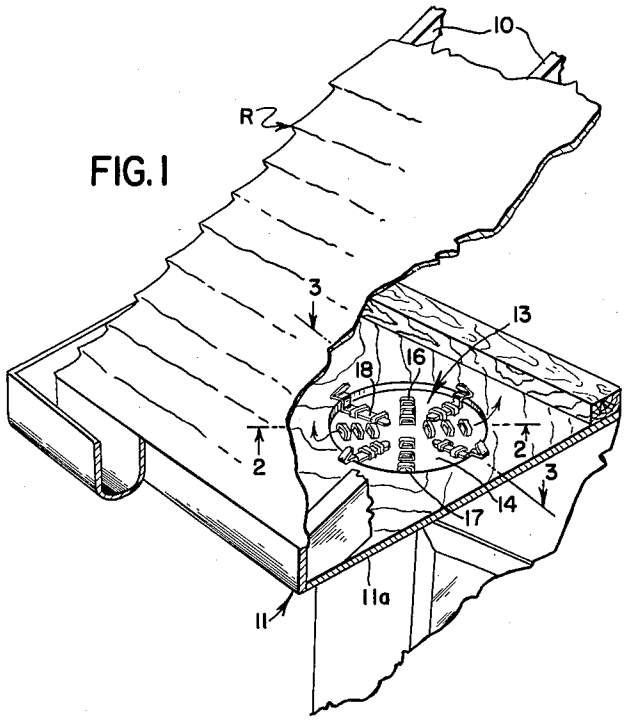

FIG. 5

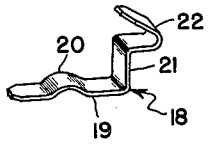

FIG. 6

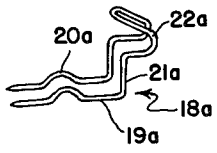

FIG. 3

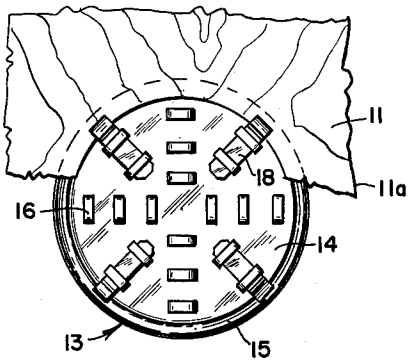

FIG. 4

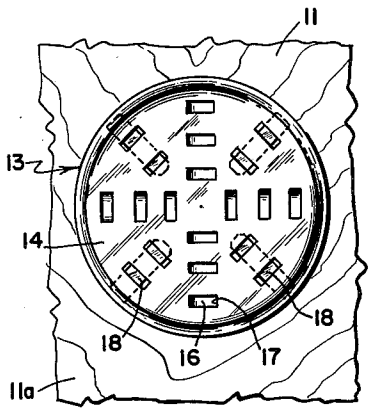

FIG. 2

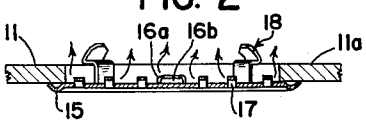

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FIG. 7

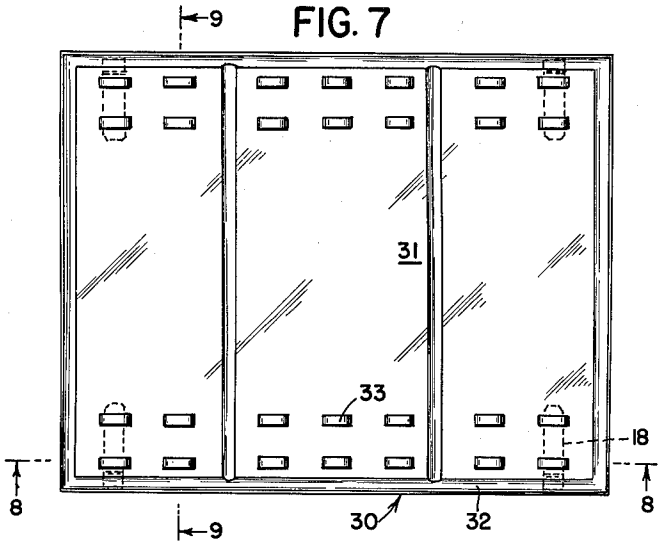


FIG. 8

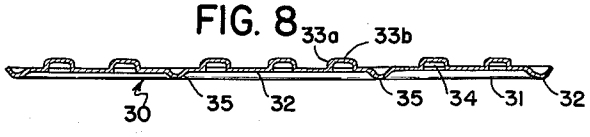


FIG. 9

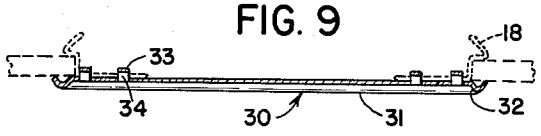


FIG. 10

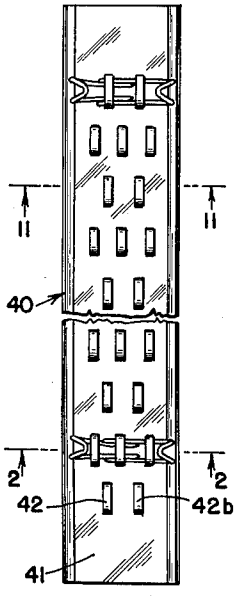


FIG. 11

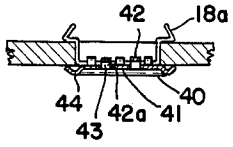
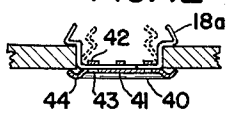


FIG. 12



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3,018,713

VENTILATOR FOR BUILDING EAVES

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Filed Aug. 23, 1960, Ser. No. 51,361
3 Claims. (Cl. 98—37)

This invention relates to ventilator apparatus and more particularly to ventilator apparatus for ventilating building eaves and the like.

An object of this invention is to provide a novel and improved ventilator apparatus, of simple and inexpensive construction, for use in ventilating building eaves.

Another object of this invention is to provide a novel and improved ventilator apparatus for use in ventilating building eaves, the ventilator apparatus including a plurality of louver-defining elements arranged and constructed to ventilate overhanging roof eave structures in a more efficient manner than any heretofore known comparable devices.

Another object of this invention is to provide a louvered-type ventilator apparatus for use in ventilating building eaves and including a plurality of flexible resilient attachment elements for readily attaching the apparatus to a roof eave structure.

A still further object of this invention is to provide a ventilator apparatus for ventilating building eaves, the ventilating apparatus having a plurality of louver-defining elements arranged and constructed to cause lateral dispersal of the air passing through the apparauts and including a plurality of resilient flexible attachment elements adapted to cooperatively engage the roof eave structure to define snap coupling therewith to thereby permit ready attachment of the ventilator apparatus to a roof eave structure.

These and other objects and advantages of my invention will more fully appear from the following description made in connection with the accompanying drawings wherein like character references refer to the same or similar parts throughout the several views, and in which:

FIG. 1 is a fragmentary perspective view of a roof eave construction incorporating my invention with parts thereof broken away for clarity;

FIG. 2 is a cross-sectional view on a slightly enlarged scale taken approximately along line 2—2 of FIG. 1 and looking in the direction of the arrows;

FIG. 3 is a top-plan view on a slightly enlarged scale taken approximately along line 3—3 of FIG. 1;

FIG. 4 is a bottom-plan view of the ventilator as illustrated in FIG. 3 of the drawings;

FIG. 5 is a perspective view of one type of attachment clip;

FIG. 6 is a perspective view of a modified form of the attachment clip;

FIG. 7 is a top-plan view of a different embodiment of my ventilator apparatus;

FIG. 8 is a cross-sectional view taken approximately along line 8—8 of FIG. 7 and looking in the direction of the arrows;

FIG. 9 is a cross-sectional view taken approximately along line 9—9 of FIG. 7 looking in the direction of the arrows, the attachment means and portion of the roof eave structure being indicated by dotted line configuration;

FIG. 10 is a top-plan view of a still further embodiment of my ventilator apparatus;

FIG. 11 is a cross-sectional view taken approximately along line 11—11 of FIG. 10 and looking in the direction of the arrows; and

FIG. 12 is a cross-sectional view taken approximately along line 12—12 of FIG. 10 and looking in the direction

of the arrows, certain of the parts illustrated in a different position by dotted line configuration.

Referring now to the drawings and more specifically to FIGS. 1 to 4, it will be seen that one embodiment of my invention is shown secured to the underside of an overhanging eave structure in closing relation to the ventilating opening formed therein. The roof structure, designated by the reference character R includes a plurality of inclined rafters 10 which extend outwardly beyond the vertical walls of a building to define overhanging eave structure 11. Although not specifically shown in the drawing, the rafters will be notched and will be secured to the vertical wall joist in a conventional manner as is well known in the art. The eaves 11 may be closed by ply wood panels 11*a* as best seen in FIG. 1 or may be closed by boards or the like.

In order to eliminate condensation of moisture in the attic areas above the ceiling of the house, ventilation is necessary and ventilators are installed at the roof gables. However, to obtain complete ventilation and to aid in cooling as well as heating a building it is also necessary to ventilate the overhanging eave structures so that air may circulate through the air pockets defined by these eaves. Ventilating openings 12 are formed in the eave panels 11*a* and my novel ventilating apparatus 13, as best seen in FIG. 1 is adapted to be secured to the eave panel 11 in closing relation to the opening 12.

In the embodiments shown in FIGS. 1 to 4, the ventilating opening 12 is of substantially circular shape and the ventilator apparatus is also of circular configuration but slightly larger than the opening 12. This ventilator apparatus 15 includes a substantially flat circular member or body 14 formed of rigid material and preferably of aluminum because of its rust-proof characteristic. Referring now to FIG. 2, it will be seen that member 14 is provided with an annular peripheral groove or channel 15*a* which serves to effectively reinforce the marginal portions of the member.

Member 14, as best seen in FIGS. 1 and 3, is also provided with a plurality of upwardly struck bridge or loop elements 16 each defining a louver. Each of these louvers 16 also define a ventilating aperture 17 through which air may circulate into the over-hanging eave structure as best seen in FIG. 1. It will be noted that each of the louvers 16 is of substantially U-shaped configuration and includes upstanding legs 16*a* interconnected by a bight portion 16*b*.

Referring now to FIG. 1, it will be seen that each of the louvers 16 cooperates with its associated ventilating aperture 17 to cause air passing through the latter from the exterior of the roof eaves to be dispersed in a lateral direction thus insuring complete circulation throughout the interior of the eave structure. It will also be seen that louvers 16 are arranged in radially extending rows so that air passing through the ventilating apertures 17 will be distributed in all directions thus insuring maximum circulation and ventilation of air within this attic eave space.

Means are also provided for quickly and securely attaching the flat body member 14 in closing relation to a ventilating opening 12 of a roof eave structure and these attaching means are in the form of elongate flexible resilient attachment members 18, as best seen in FIGS. 1, 5 and 6. The attachment member illustrated in FIGS. 1 to 5 is formed of substantially flat, rigid but resilient and flexible metallic material and includes a ventilator-securing portion 19 having an upwardly protruding medial portion 20, as best seen in FIG. 5.

This securing portion 19 is adapted to be inserted through a pair of aligned louvers 16 so that the upwardly protruding medial portion 20 cooperates with these louvers to cause the ventilating securing portion 19 to be

frictionally engaged by the flat body portion **14**. Attachment members **18** also include an upwardly extending leg portion **21**, the terminal end of which protrudes outwardly as at **22** also clearly shown in FIG. 5. When the securing portion **19** of each of the attachment members **18** is secured to the flat body member **14**, these upwardly extending leg portions **21** and their associated protruding terminal portions **22** may be caused to flex radially inwardly with respect to the axis of the flat body member **14** so that these outwardly protruding terminal portions will snap into place to firmly and quickly secure the flat body member **14** in closing relation to a ventilator opening **12**, as best seen in FIG. 1. It will, therefore, be seen that these attachment elements **18** cooperatively engage the edge of a ventilating opening formed in an eave structure to define a snap coupling arrangement therewith as illustrated in FIG. 2. This arrangement permits quick and ready attachment of the ventilator apparatus to the eave structure and obviates the need of securing the ventilator by conventional securing means such as nails or the like.

Referring now to FIG. 6 it will be seen that a modified form of the attachment member is illustrated and this modified attachment member, designated **18***a*, is of similar configuration to the one illustrated in FIG. 5 but is formed of an elongate wire or the like bent into U-shaped configuration. Each of these attachment members **18***a* includes a pair of legs of similar configuration and each including a ventilator-securing portion **19***a* having an upwardly protruding medial portion **20***a* in the manner of the embodiment of FIGS. 1 to 5. Each of the legs of the attachment members **18***a* also includes an upwardly extending portion **21***a* each having an outwardly protruding terminal portion **22***a* the ends of which are integrally joined by the bight of the member **18***a*. These attachment members **18***a* function in the same manner as the embodiments shown in FIG. 5. It will be noted that the louvers **16** besides performing their air-deflecting function also permit ready attachment and detachment of the attachment members **18** and **18***a* thus obviating the need of having apertures formed in the body member **14** through which screws or nails may be passed.

It is pointed out that the thickness of the boards which define the eaves panels vary in thickness and both embodiments of the attachment members **18** and **18***a* are accordingly constructed of boards or pressed wood preferably having a thickness of ⅜ inch, ⅝ inch or ¾ inch. It has been found that eaves panels constructed of pressed wood, which is used extensively, is exceedingly difficult to hammer nails or tacks into because of the inherent resiliency of the material. Screws have been used to secure conventional ventilating apparatus to eaves panels constructed of pressed wood and this method of attachment has been found to be time consuming and therefore undesirable. It will, therefore, be seen that a substantial savings in labor cost can be effected through the use of my device.

Referring now to FIGS. 7 to 9, it will be seen that a different embodiment of my ventilator apparatus designated generally by the reference numeral **30** includes a substantially rectangular flat body member **31** formed of a suitable rigid metallic material such as aluminum in the manner of the embodiment of FIGS. 1 to 4. This body member **31** is provided with a peripheral groove or channel **32**, as best seen in FIGS. 7 and 9 which serves to provide a rigid reinforced marginal portion. The body member **31** also is provided with upwardly struck bridge or loop elements defining louvers **33** each including legs **33***a* and bight portions **33***b* interconnecting the legs **33***a*. The upwardly struck louvers **33** also define apertures **34** through which air will pass in the manner of the embodiments shown in FIGS. 1 to 4. It will be noted that the louvers **33** are arranged in aligned pairs adjacent the longer sides of the members **30** and aligned selected pairs of these louvers are adapted to receive the ventilator-engaging portion of one of the attachment members **18** therein as illustrated by dotted line configuration in FIGS. 7 and 9. It will also be seen that a body member **31** is provided with intermediate reinforcing ribs or channels **35** which serve to strengthen intermediate portions of the ventilator apparatus.

Ventilator apparatus **30** may also be installed in the manner of the embodiments of FIGS. 1 to 4 and the attachment members **18** may be secured to aligned pairs of louvers **32** adjacent the corners of the ventilator body member **30**. When the ventilator apparatus **30** is secured to eave structure, air passing through the ventilating apertures **34** will be deflected laterally to affect complete distribution of the air.

Referring now to FIGS. 10 to 12, a still further embodiment of my ventilating apparatus is shown and is generally designated by the reference numeral **40**. This ventilating apparatus **40** includes an elongate substantially rectangular but narrow flat body member **41** preferably formed of rigid high strength material such as aluminum and which may be inserted between opposed spaced apart boards **11***b*, as seen in FIGS. 11 and 12. In this instance, the eaves rather than being formed of ply wood panelling may be covered with boards. A relatively narrow elongate ventilating opening **12***b* may be formed by adjacent spaced apart boards. Elongate body member **41** is also provided with a plurality of upstanding U-shaped bridge or loop elements **42** each including legs **42***a* and a bight portion **42***b*. These U-shaped members define louvers in the manner of the previously described embodiments and also define ventilating openings **42** through which air passes. Air will be deflected by these louvers **42** in the manner of the previously described embodiments and will be caused to pass laterally immediately after passing through the openings **43**.

Referring now to FIG. 10, it will be seen that a ventilator apparatus **40** is illustrated as including the modified form of the attachment members **18***a* and these attachment members will readily engage the opposed boards **11***b* of the eave structure **11**. This ventilator apparatus body member **41** is also provided with elongate longitudinally extending grooves or reinforcing channels **44** which extend along the longer edges thereof to effectively reinforce the same.

It will, therefore, be seen from the preceding paragraphs we have provided a novel building eaves ventilator which is readily attachable to a roof eave construction for ventilating the same. It will be noted from the foregoing description that the novel ventilator apparatus includes snap coupling attachment means which are arranged and constructed for ready positioning and attachment to an eave construction thus effecting a great saving in labor and time.

It will also be seen from the above description that my novel ventilator apparatus includes louver defining elements which are arranged and constructed to cause widespread air distribution through the air ventilator and into the attic eaves area thereby ventilating attic eaves structures in a more efficient manner than any heretofore known comparable devices.

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

What I claim is:

1. Ventilator apparatus for use in ventilating building eaves, said apparatus comprising substantially flat, rigid metallic member having a plurality of apertures formed therein and being adapted to be disposed in closing relation to a ventilating opening of a roof eave construction, said member having a plurality of spaced-apart bridge elements struck upwardly from one surface thereof and each being associated with one of said apertures, each of said bridge elements defining a louver cooperating with its associated apertures for causing air passing through

the latter to be directed laterally when said ventilator apparatus is connected to a roof eave construction, and a plurality of similar, resilient, flexible attachment elements, each having a portion thereof underlying certain of said bridge members and being frictionally engaged thereby and being detachable therefrom, each attachment element extending upwardly from said one surface of said member being adapted to frictionally engage a roof eave construction and cooperating therewith for securing the member in closing relation with the ventilating opening of such a roof eave construction.

2. The structure as defined in claim 1 wherein each of said attachment elements has an outwardly protruding upper terminal portion.

3. The structure as defined in claim 1 wherein each of said bridge elements is of substantially U-shaped configuration.

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