

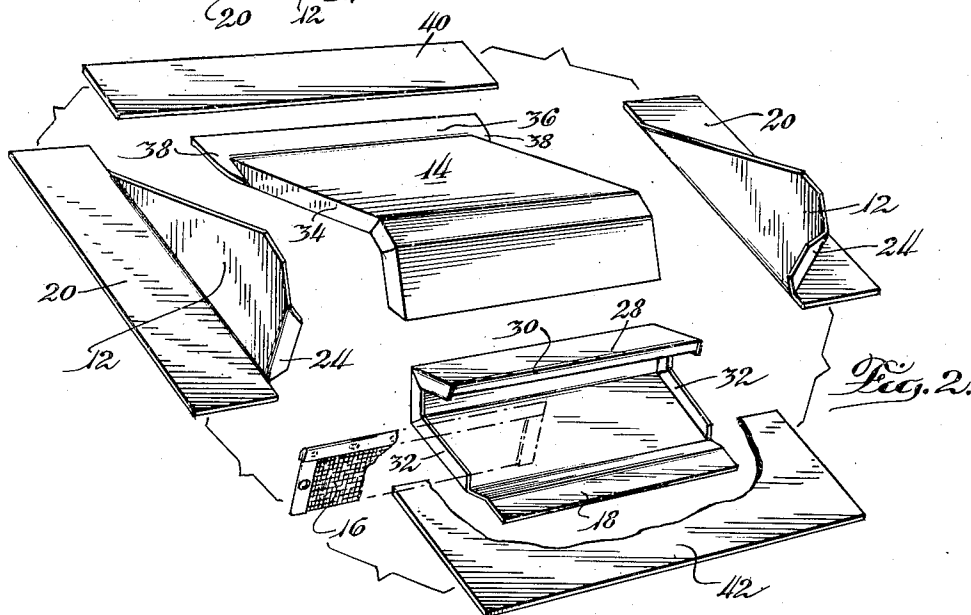
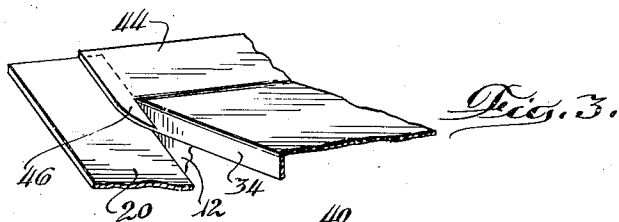
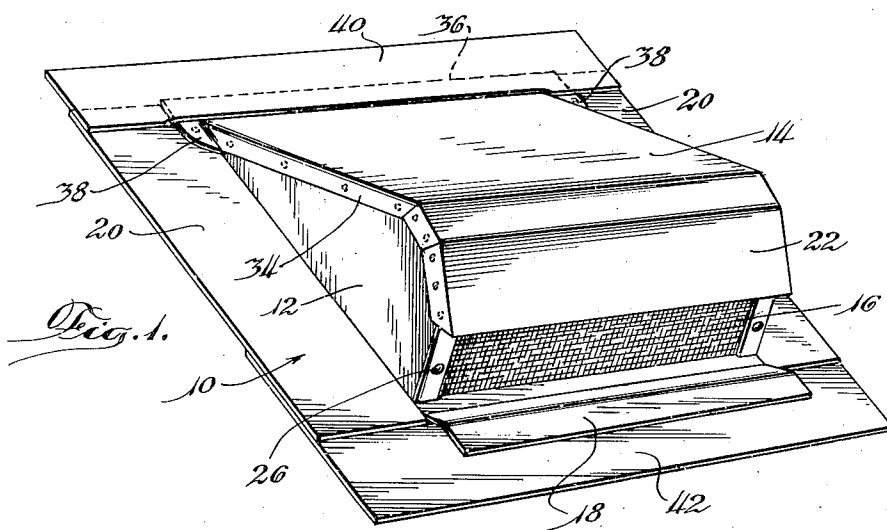
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ROOF VENTILATOR

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ROOF VENTILATOR

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The present invention relates to roof ventilators of the type used for ventilating the attic space of buildings with pitched roofs. More particularly, this invention relates to constructional features which have been incorporated in a roof ventilator of the general type shown in my Patent No. 2,300,842 granted November 3, 1942, for "Louvers for slant roofs."

One of the objects of the present invention is to provide an improved slant roof louver or ventilator of the general type illustrated in the above referred to patent, but which may be fabricated at lower cost.

Yet another object is to provide an improved slant roof louver of the above type which has the advantage of being leakproof without the necessity for soldering or similar operations.

Still another object is to provide a novel slant roof louver of the above type which is more readily fabricated of metals such as aluminum and its alloys which are not easily soldered.

Other objects and advantages will become apparent from the following description of a preferred embodiment of my invention which is illustrated in the accompanying drawings.

In the drawings:

Fig. 1 is a perspective view of a roof ventilator embodying the present invention;

Fig. 2 is an exploded view showing the structural elements which are assembled to form the ventilator of Fig. 1; and

Fig. 3 is a fractional perspective view showing a structural variation which may be incorporated in the device of Fig. 1.

The ventilator of the present invention is quite similar in many respects to the ventilator which forms the subject matter of my earlier patent previously referred to. Essentially, it provides a sheet metal flat frame or flashing strip indicated generally by the numeral 10 which when the device is positioned above an opening in a roof is covered by the shingles or other roofing material. Two generally triangular side members 12 extend upwardly along the sides of the roof opening and are covered by a slanting roof member 14, the forward edge of which is inclined downwardly and overhangs a rectangular ventilating opening at the front of the device. This rectangular opening is defined by the side members 12, the roof member 14 and the forward transverse portion of the frame 10. Preferably this opening is covered by a screen or grill 16. A baffle strip extends inwardly at the bottom of the opening and curves upwardly and thence forwardly and finally downwardly in a position behind the

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grill 16 and below the roof 14 and serves as a trap to catch rain which may be driven into the opening 16. The forward edge of this baffle extends outwardly to form a flashing member or drip cap 18 which is bent into a position above the forward frame member 10 to form a transversely extending pocket into which the upper edges of the first row of shingles in front of the ventilator are inserted. This prevents water from getting underneath the upper edges of this row of shingles and improves the appearance of the device since otherwise in order to prevent water from getting beneath the shingles it would be necessary to place this row of shingles beneath the forward transverse portion of the frame 10.

The above general description of the device is consistent with the earlier disclosure in the before-mentioned patent. The principal feature of the present invention is in the arrangement of parts which facilitates the construction of a louver of this type. These parts are formed as follows:

Each of the upstanding side members 12 together with the adjacent side frame members 20 of the flashing strip is formed of one piece of sheet metal. It is formed by trimming the piece of sheet metal to proper form and bending the side member 12 at right angles to the frame forming member 20 so that the upstanding member 12 is approximately triangular excepting that near its forward edge, portions thereof are cut away so as to fit the overhanging downwardly sloping visor portion 22 formed at the forward edge of the roof portion 14. Also, the forward vertical edge of the upstanding portion 12 is bent inwardly at right angles to form a tab 24 which acts as a bracket to which the grill 16 is secured by means of rivets or sheet metal screws indicated at 26.

Two of these combination upstanding side members and side frame members are formed, one of which is the reverse complement of the other. The combination baffle and drip cap is inserted between these members and preferably is formed of a strip of sheet metal or similar gauge which is bent as is indicated in Fig. 3 to provide the drip cap portion 18 at the forward edge thereof. Behind this drip cap portion of the sheet metal extends rearwardly in approximately the same plane as the side frame members 10 to a position well behind the grill 16. It is then bent upwardly and then forwardly to form a top member 28 which lies beneath the roof portion 14 and is approximately parallel thereto. At the extreme forward edge of the top portion 28 the strip is bent downwardly for a short distance as

at 30. Along the side edges the baffle member is formed to provide inwardly turned flanges 32 which may easily be spot welded to the upstanding side members 12.

The roof member 14 is formed to fit over the top edges of the side members 12 and has downwardly turned flanges 34 at its edges which lie in a position outside the side members 12 and are spot welded directly to the upstanding side members 12. At its rearward edge the roof member 14 is formed to provide a flat strip 36 which extends completely across the width of the roof member 14 and somewhat therebeyond to form end tabs 38 in the plane of the strip 26 which are integral with and form a portion of the side flanges 34. The strip 36 therefore, including the tabs 38, may be considered essentially as a shallow U-shaped flat strip which extends across the back of the top member 14 and down along the side edges thereof for a distance equal approximately to the angular dimension across the flange 34 which is taken at the angle the major portion of the roof member 14 takes with respect to the surface upon which the ventilator is mounted.

In assembling the roof member 14 to the side members 12 the flanges 34 are spot welded to the side members 12 at intervals and in addition preferably the tabs 38 are spot welded directly to the upper face of the side frame members 20. The upper transverse flat frame member indicated specifically by the numeral 40 is then put into a position such that it extends across the full width of the structure between the outside edges of the two side frame members 20 and lies with its forward edge just above the juncture of the transverse strip 36 with the slanting portion of the member 14. This transverse frame member 40 is then spot welded to the side frame members 20 and at intervals across the strip 36. A similar forward frame member 42 lies in a position beneath the combination baffle and drip cap 18 and extends forwardly into a position somewhat ahead of the forward edge of the drip cap 18. This forward transverse frame member 42 is rectangular and extends between the outer edges of the side frame members 20 and is secured to these side members by spot welding.

With this structure it will be seen that without any soldering or similar treatment the downhill course of water over the ventilator will not enter any seam between two strips of metal which are joined together. Further, the device is even well sealed against water which is driven in an upwardly direction by the wind. Particularly is this significant at the points where the upper edges of the slanting roof 14 join the side frame members 20 and the upstanding side members 12, these corners ordinarily being difficult to seal. Note that the tabs 38 lie partially beneath the transverse strip 40 or partially overlap the side frame members 20, and, further, that for a considerable distance the tabs 38 are sandwiched between the frame members 40 and 20.

The alternative arrangement illustrated in Fig. 3 accomplishes essentially the same purpose without the use of the separate transverse piece 40. This is accomplished simply by widening the strip 36 in a rearwardly direction so that it has approximately the width of the strip 40. This transverse strip indicated in Fig. 3 by the numeral 44 is spot welded or otherwise suitably secured to the top surfaces of the side frame mem-

bers 20 which are extended rearwardly somewhat so that their rear ends are approximately flush with the rear edge of the transverse strip 44. At its ends the strip 44 has forwardly projecting side tab extensions 46 similar to the tabs 38 which merge into the side flanges 34 without the necessity for an extra seam at this point.

The principal feature of the present invention is to provide a structure such that the elements thereof will assemble easily to form a louver or ventilator of the type described. In addition, it is an advantage that these elements can be fabricated from ordinary galvanized iron or of hardened aluminum relatively easily without any requirement that the metal be deformed excessively at any point. This structure therefore overcomes the objection sometimes found in louvers of this type that special materials must be used because of the radical deformation of the metal required to provide the necessary shapes.

In the structure shown, all bends are of the straight forward well understood right angle type excepting for the provision of the tabs 38 and 46 and it will be appreciated that the shaping of the metal at this point requires only a mild stretching operation which will not crack a galvanized coating or hardened aluminum. Normally, the angle between the plane of the transverse strip 36 or 44 and the plane of the major portion of the roof 14 is not very great and the stretching of the metal in the tabs 38 is only slight in forcing the metal to conform to the shape shown. The tabs 38 or 46, however, have a decided advantage in providing a good overlapping seal at the upper corner of the ventilator where the roof member 14 joins the upstanding side members 12 and the side frame members 20. Normally, this is a place where leakage can be expected unless considerable pains are taken to ensure a tight joint. Ordinarily, it is advisable to solder the joints at these points if the tabs 38 or 46 are omitted and the invention therefore provides a ventilator which may be manufactured at lower cost and with fewer operations and which in addition provides a better and more positive water seal at the point where sealing ordinarily is most difficult. The invention further provides this advantage even though the ventilator is fabricated from ordinary low cost structural materials.

Having described my invention, what I claim as new and useful and desire to secure by Letters Patent of the United States is:

1. As an article of manufacture, a slant roof ventilator comprised of a generally rectangular sheet metal flat frame formed of side, top and bottom members, said frame being connected at its two side inner edges to integrally formed upstanding side members which in turn are joined to a roof forming member which surmounts the side frame members and has downwardly turned edge flanges for overlapping the upper edges of said upstanding side members, said elements together forming an opening at the forward portion of the ventilator, the rearward edge of the roof forming member being integrally connected to a transverse strip which extends between the side flat frame members and which is formed to provide end tabs joined integrally to said transverse strip and to the downwardly turned flanges along the side edges of the roof member, said tabs extending forwardly well beyond the corner formed where the roof member joins the transverse member and the side frame members.

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2. As an article of manufacture, a slant roof ventilator comprised of a generally rectangular sheet metal flat frame formed of side, top and bottom members, said frame being connected at its two side inner edges to integrally formed upstanding side members which in turn are joined to a roof forming member which surmounts the side frame members and has downwardly turned edge flanges for overlapping the upper edges of said upstanding side members, the rearward edge of the roof forming member being integrally connected to a transverse strip which extends between the side flat frame members and which forms said top member and which is formed to provide flat tabs joined integrally to said transverse strip and to the downwardly turned flanges along the side edges of the roof member, said tabs

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extending forwardly well beyond the corner formed where the roof member joins the transverse member and the side frame members and said tabs being in face to face contact with said side frame members.

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REFERENCES CITED

The following references are of record in the file of this patent:

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Number	Name	Date
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2,447,472	Donley -----	Aug. 17, 1948