May 1, 1951 G. H. SCHNEIDER 2,551,223

SLANT ROOF VENTILATOR

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FIG. 1.

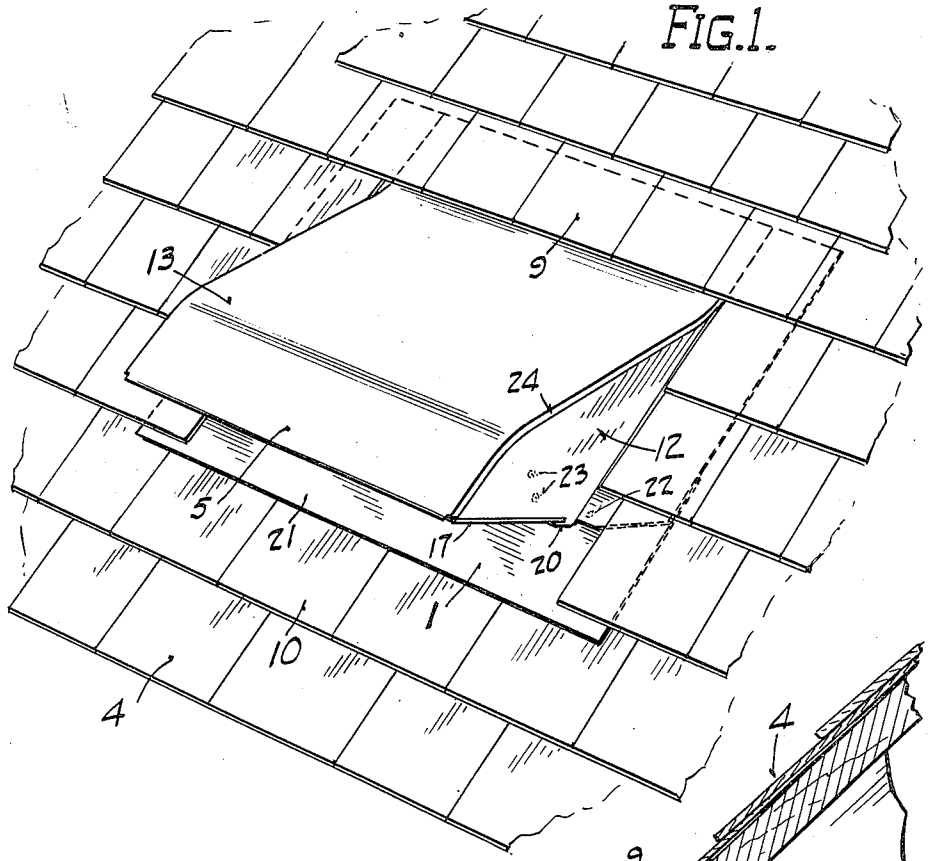
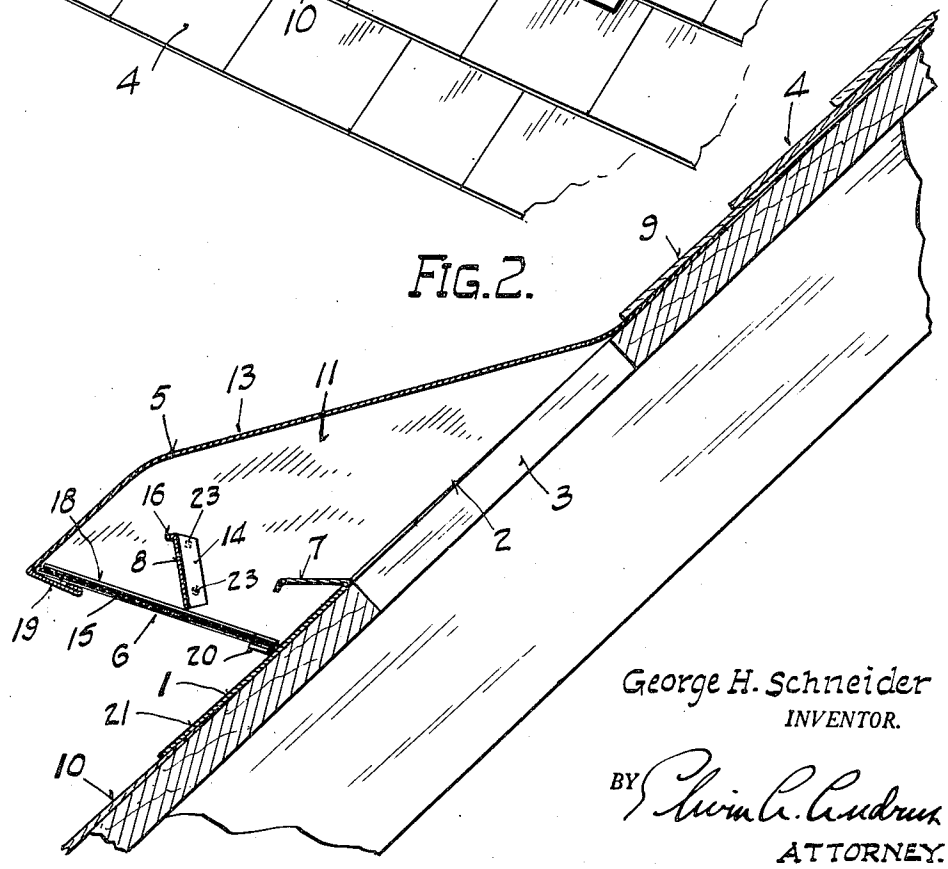


FIG. 2.



George H. Schneider
INVENTOR.

BY Elvin A. Andrus
ATTORNEY.

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FIG. 3.

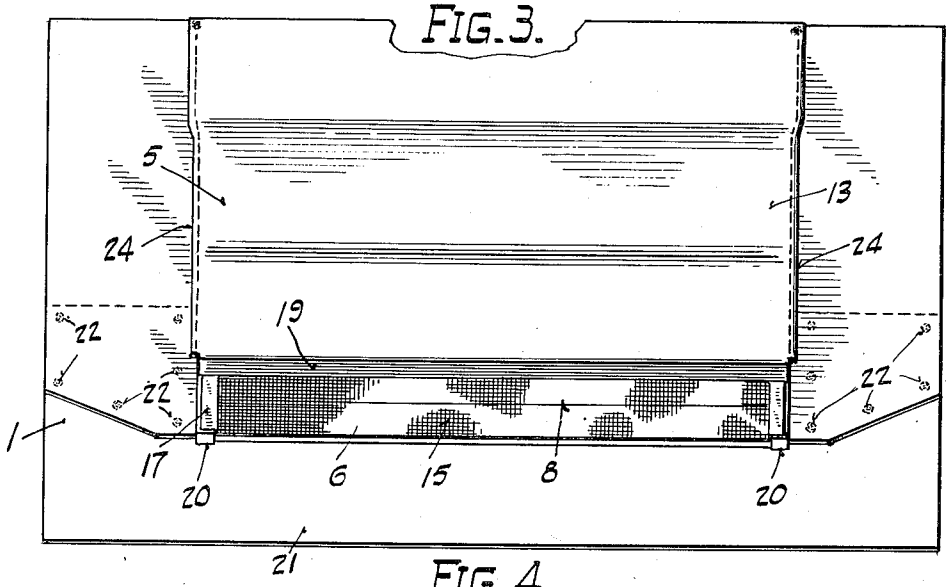
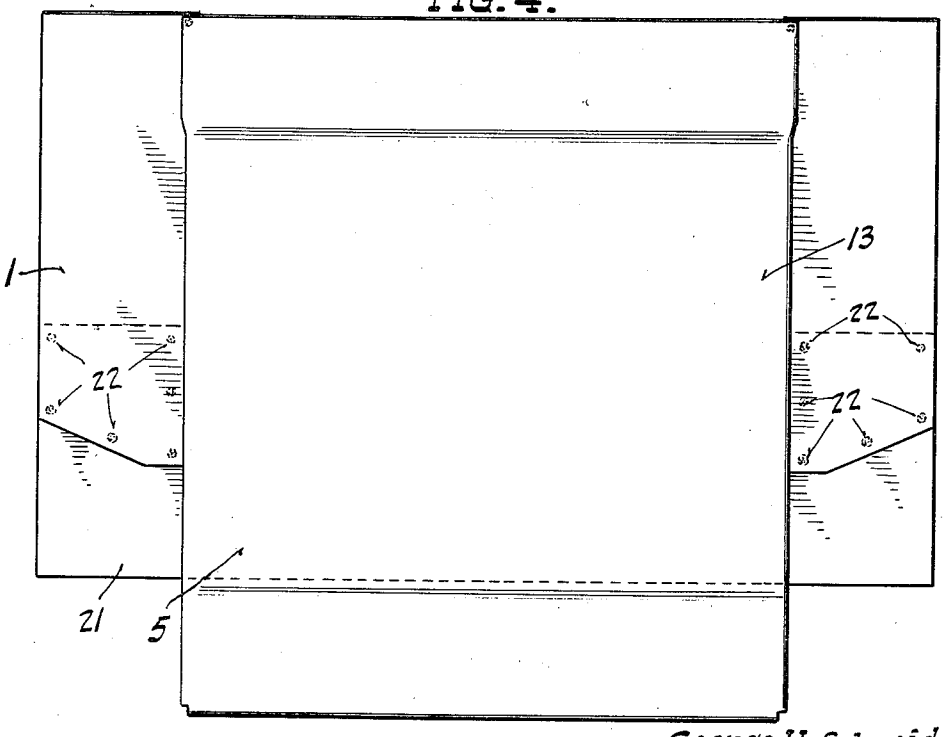


FIG. 4.



George H. Schneider
INVENTOR.

BY Irwin L. Lindsay

ATTORNEY.

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FIG. 5.

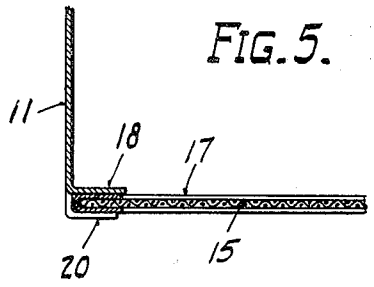


FIG. 6.

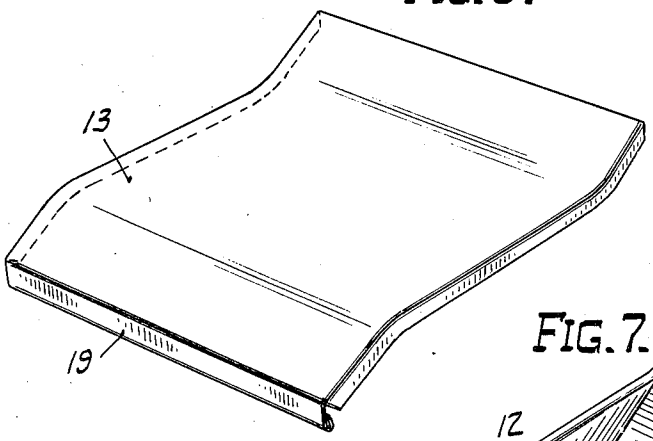


FIG. 7.

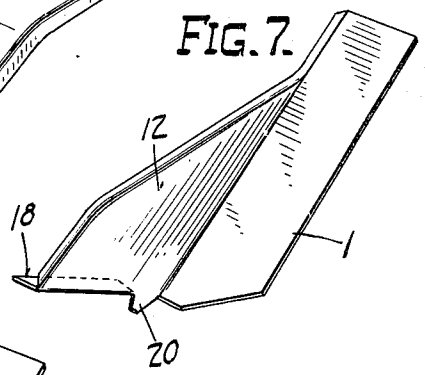


FIG. 8.

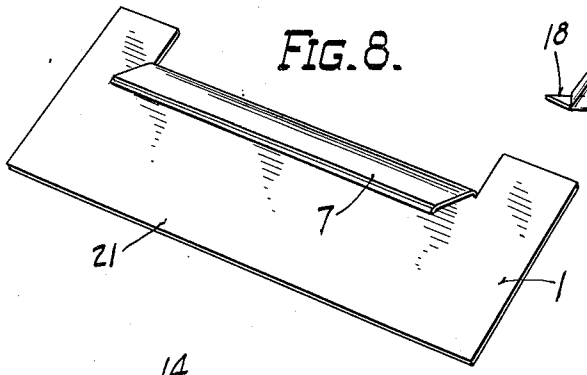
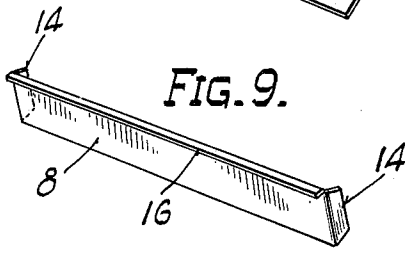


FIG. 9.



George H. Schneider
INVENTOR.

BY Irwin A. Cushman

ATTORNEY.

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2,551,223

UNITED STATES PATENT OFFICE

2,551,223

SLANT ROOF VENTILATOR

George H. Schneider, Milwaukee, Wis., assignor to Inland Steel Products Company, a corporation of Delaware

Application October 24, 1945, Serial No. 624,121

4 Claims. (Cl. 98—42)

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This invention relates to slant roof ventilators for use on pitched roofs generally constructed of shingles.

One of the principal objects of the invention is to increase the capacity of such ventilators for a given ventilator size without endangering leakage of rain and snow in case of storms.

Another object of the invention is to provide a front opening and through passage for the ventilator that approaches in capacity the opening of the ventilator in the plane of the roof.

Another object is to simplify the construction and arrangement of parts in a slant room ventilator, and to thereby provide a less costly and more readily fabricated and assembled ventilator.

Another object is to improve the baffle construction for keeping out the rain and snow in case of storm.

Another object is to simplify the construction and mounting of the screen on the front opening of a slant roof ventilator.

Another object is to eliminate the requirement for soldering to seal overlapping joints, and to provide the joints between the parts in such locations and manner as to prevent leakage.

Another object is to improve the appearance and sales appeal of a slant roof ventilator.

The accompanying drawings illustrate a slant roof ventilator embodying the invention and the views therein are as follows:

Figure 1 is a perspective view showing the ventilator disposed on the slant roof, as in service;

Fig. 2 is a vertical central section through the ventilator and a part of the roof;

Fig. 3 is a front elevation of the ventilator;

Fig. 4 is a top plan view of the ventilator;

Fig. 5 is a detail section showing the mounting for one end of the screen;

Fig. 6 is a perspective view of a partially formed top or roof piece prior to assembly;

Fig. 7 is a perspective view of the formed right side piece prior to assembly;

Fig. 8 is a perspective view of a formed front piece prior to assembly; and

Fig. 9 is a perspective view of the baffle piece prior to assembly.

The ventilator comprises in its general outlines, a flat rectangular sheet metal base 1 having a central rectangular opening 2 therein adapted to register with an opening 3 through the slant roof 4, and a dormer 5 over the opening having a front screened opening 6 sheltered from rain, and internal baffles 7 and 8 for keeping the rain and snow from passing through the ventilator and entering the opening in the roof.

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The metal base 1 is adapted to fit beneath the upper shingles 9 and to fit over the lower shingles 10, as shown in Figs. 1 and 2, and to under and overlap therewith for a substantial distance all around the ventilator to prevent leakage.

The dormer 5 has vertical side walls 11 and 12 supporting a curved roof piece 13 and providing a front opening 6 of substantial height and capacity.

The baffle 7 is disposed rearwardly of the opening 6 and extends upwardly and forwardly from the front edge of opening 2, towards the top or outer edge of opening 6. The upper edge of baffle 7 is spaced from the upper edge of opening 6 a distance equal to the height of opening 6, and is also spaced from the roof piece 13 nearly the same distance so that the air passage over the baffle 7 is substantially equal to the capacity of the opening 6.

The baffle 8 extends between the side walls 11 and 12 of dormer 5, and has end flanges 14 spot welded to the corresponding side walls to hold the baffle in place. The baffle 8 is preferably disposed in a substantially vertical plane bisecting the distance between the upper edge of baffle 7 and the upper edge of opening 6. The lower edge of baffle 8 approximately bisects the screened opening 6 just to the rear of the screen 15. The upper edge of baffle 8 is spaced at all points from roof piece 13 a distance nearly as great as one-half the height of opening 6 so that the air passage over the baffle is substantially equal to the capacity of the upper half of opening 6. Likewise the air passage below baffle 8 and between it and baffle 7 is equal to the capacity of the lower half of opening 6.

The baffle 8 preferably has a short forward lip or flange 16 on its upper edge serving as a shield against rain and snow tending to pass upwardly over the baffle. In construction, when the ventilator is positioned on a roof of ordinary pitch the upper edge of opening 6 is in front and below the level of the upper edge of baffle 8, and the lower edge of baffle 8 is in front and below the level of the upper edge of baffle 7, so that there is practically no tendency for rain and snow to enter the ventilator horizontally in case of storm.

The screen 15 slants backwardly and downwardly from the outer edge of the roof piece 13 so that it is sheltered from ordinary rain by the roof piece. The screen is constructed with a sheet metal binding 17 covering its edge portions to protect and stiffen the same.

The screen 15 is mounted in place against an inwardly-turned flange 18 at the forward edge of each side wall 11 and 12 and is held by a flap 19 at the top formed by turning downwardly thereover an edge portion of the roof piece 13, and by a small finger 20 near each bottom corner formed by a cut-out portion of the corresponding flange 18 and bent inwardly over the front of the screen at the edge.

The bottom edge of the screen 15 rests freely on the base 1 and the top edge of the screen engages the inside surface of top piece 13 with the flap 19 extending downwardly over the front side. The ends of the screen 15 register with the corresponding side walls 11 and 12 and lie against the flanges 18.

The flap 19 extends downwardly for a short distance, preferably a little less than the height of the baffle 7, to define the upper edge of the front opening and guard the upper portion of the ventilator against rain. The front opening of the ventilator is of substantially the full width between the sides 11 and 12 and of a height corresponding to the height of the opening through base 1 and between the front edge of the latter opening and the top piece 13. This construction provides a large passage for air through the ventilator and at the same time keeps the rain and snow out. The front opening is considerably greater in height than one-half the height of the hood above the base.

The baffle 7 is considerably lower than in ventilators having a so-called splash pocket, and the additional separate baffle 8 is arranged to cooperate with baffle 7 without restricting the passage of air through the ventilator.

The two baffles 7 and 8 provide substantially complete vertical coverage for the front opening to thereby prevent infiltration of rain and snow through the ventilator.

Fabrication of the ventilator is simplified by constructing the base and hood from four parts which are secured together along lines that eliminate danger of leaks.

The roof piece 13 extends from the front edge and flap 19 back to the upper edge of base 1 and constitutes both the roof for the dormer and the upper rear leg of the base, as shown in Fig. 6.

The base 1 is made up of four pieces: the front leg being plate 21, the rear leg being the upper end of roof 13, and the side legs being the bottom flange on each of the sides 11 and 12.

The side walls 11 and 12 are formed integral with the corresponding side legs of base 1, as shown in Fig. 7, by bending the side walls upwardly from the plane of the base.

The front leg 21 of base 1 extends for the full width of the base and back under the side legs of wall pieces 11 and 12 to which it is spot welded as at 22. The baffle 7 constitutes a flange bent upwardly from the front leg 21 between side walls 11 and 12 and which defines the front edge of the opening through the base.

In assembling the ventilator, the side walls 11 and 12 are first assembled on the front leg 21 and secured thereto by the welds 22. The baffle 8 is then positioned between the side walls 11 and 12 and its end flanges spot welded to the corresponding side walls as at 23. The roof piece 13 is then applied and joined to the upper edges of side walls 11 and 12 and to the inner edges of the side legs of base 1 near the top by crimping as at 24. The screen 15 is then placed in position against flanges 18 and flap 19 bent inwardly thereover. Fingers 20 are then bent inwardly against the screen to complete the assembly.

The fabrication and assembly operations are simple and rapid, making a ventilator that can be constructed without expensive machinery or labor.

The ventilator is free from transverse joints of the kind that are exposed to the elements or require soldering to prevent leakage.

The smooth curved lines of roof piece 13 harmonize with any type of roof and tend to give a pleasing appearance to the ventilator as well as being more efficient in shedding rain. By reason of the shape of the roof piece 13 extending smoothly back under the shingles of the roof, there is no tendency for the water to back up under the shingles or for twigs and leaves to catch near the bottom edge of the shingles resulting in undesirable roof leakage.

Various embodiments of the invention may be employed within the scope of the accompanying claims.

I claim:

1. A slant roof ventilator comprising a flat base to be disposed substantially in the plane of a slant roof and having a central substantially rectangular opening to register with a corresponding ventilating opening in the roof, a hood for said opening disposed to protect the same from weather elements and providing a free air passage therefrom to a front exterior opening facing down the roof and bounded by vertical side walls and a connecting upper roof member therefor, a baffle constituting a flange bent upwardly and forwardly along the front edge of the opening in the base member between the side walls of the hood and spaced rearwardly from the front opening of the hood, and a second substantially vertical baffle plate secured at its ends to the side walls of the hood and disposed to extend from adjacent the front opening at an angle substantially midway between the upper edge of the first baffle and the upper edge of the front opening to divide the latter into substantially upper and lower halves and defining a free air passage over the baffle plate between the same and the hood of dimensions approximating the upper half of the front opening, said second baffle being spaced from said first baffle to define a free air passage therebetween of dimensions approximating the lower half of the front opening.

2. A slant roof ventilator comprising a flat base to be disposed substantially in the plane of a slant roof and having a central substantially rectangular opening to register with a corresponding ventilating opening in the roof, a hood for said opening disposed to protect the same from weather elements and providing a free air passage therefrom to a front exterior opening facing down the roof and bounded by vertical side walls and a connecting upper roof member therefor, a baffle constituting a flange bent upwardly and forwardly along the front edge of the opening in the base member between the side walls of the hood and spaced rearwardly from the front opening of the hood, and a substantially vertical second baffle plate secured at its ends internally to the side walls of the hood, the lower edge of said second baffle dividing the front opening into substantially equal upper and lower openings, and the upper edge of said second baffle being spaced from the roof member of the hood to provide an air passage therebetween of dimensions substantially equal to said upper opening.

3. A slant roof ventilator comprising a flat

base to be disposed substantially in the plane of a slant roof and having a central substantially rectangular opening to register with a corresponding ventilating opening in the roof, a hood for said opening disposed to protect the same from weather elements and providing a free air passage therefrom to a front exterior opening facing down the roof and bounded by vertical side walls and a connecting upper roof member therefor, a baffle constituting a flange bent upwardly and forwardly along the front edge of the opening in the base member between the side walls of the hood and spaced rearwardly from the front opening of the hood, and a substantially vertical second baffle plate secured at its ends internally to the side walls of the hood, the lower edge of said second baffle being disposed in front of and below the upper edge of said first named baffle to cooperate therewith and dividing the front opening into substantially equal upper and lower openings and the upper edge of said second baffle being spaced from the roof member of the hood to provide an air passage therebetween of dimensions substantially equal to said upper opening.

4. A slant roof ventilator comprising a flat base to be disposed substantially in the plane of a slant roof and having a central substantially rectangular opening to register with a corresponding ventilating opening in the roof, a hood for said opening disposed to protect the same from weather elements and providing a free air passage therefrom to a front exterior opening facing down the roof and bounded by vertical side

walls and a connecting upper roof member therefor, a baffle constituting a flange bent upwardly and forwardly along the front edge of the opening in the base member between the side walls of the hood and spaced rearwardly from the front opening of the hood, and a substantially vertical second baffle plate secured at its ends internally to the side walls of the hood, the lower edge of said second baffle being disposed in front of and below the upper edge of said first named baffle to cooperate therewith and dividing the front opening into substantially equal upper and lower openings and the upper edge of said second baffle being spaced from the roof member of the hood to provide an air passage therebetween of dimensions substantially equal to said upper opening and said second baffle being spaced from the upper edge of said first named baffle to provide an air passage therebetween of dimensions substantially equal to said lower opening.

GEORGE H. SCHNEIDER.

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