Feb. 10, 1953 R. G. GUNTER 2,627,634

VENTILATED METAL AWNING

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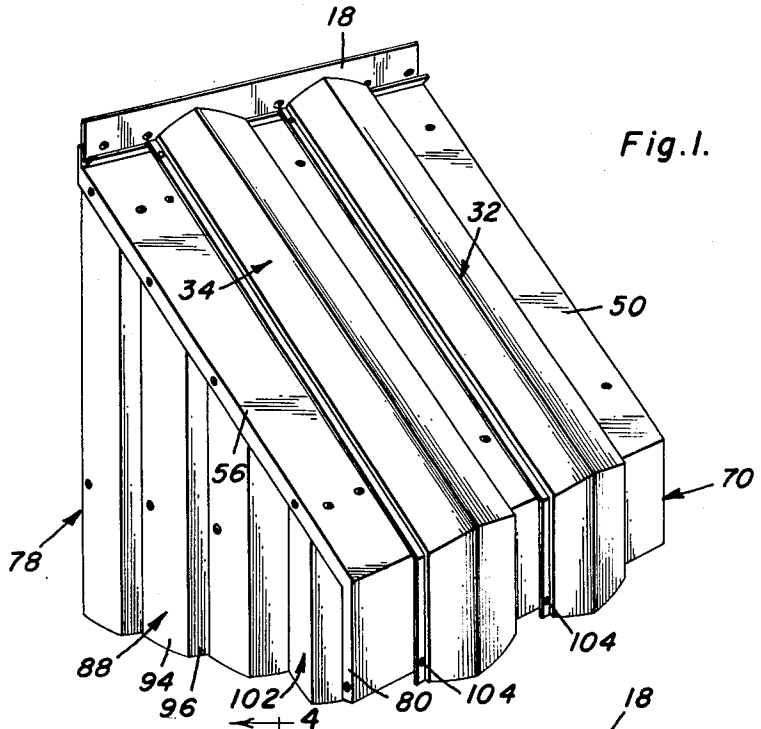


Fig. 1.

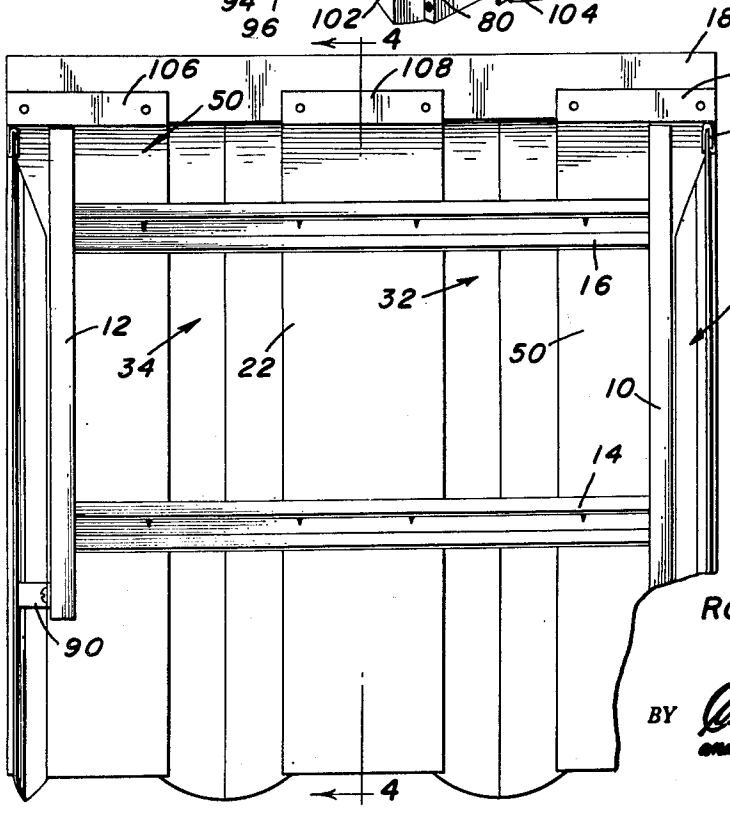


Fig. 3.

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VENTILATED METAL AWNING

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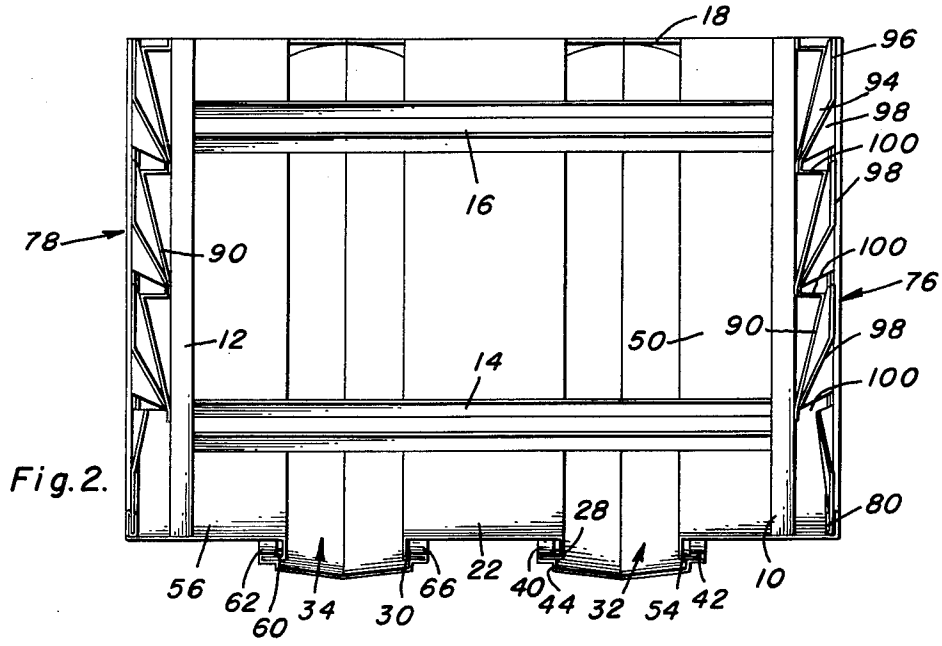


Fig. 2.

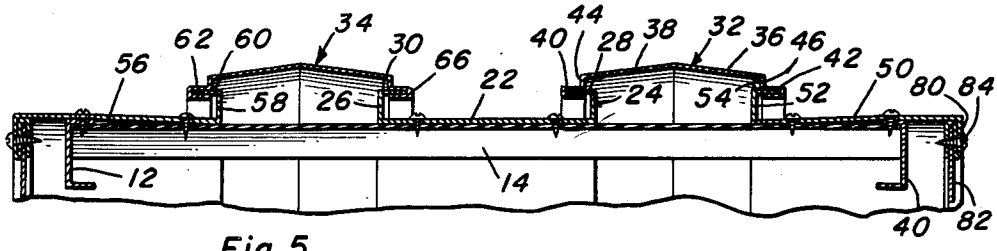


Fig. 5.

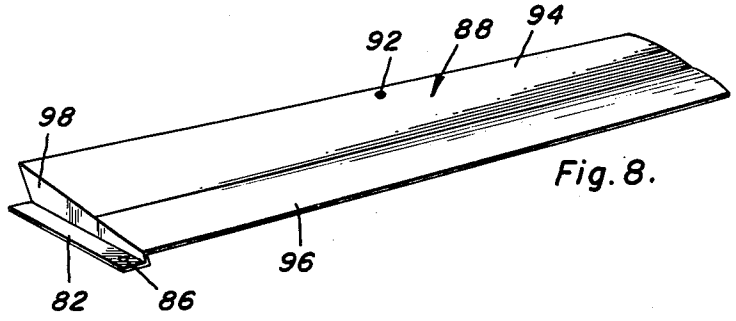


Fig. 8.

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VENTILATED METAL AWNING

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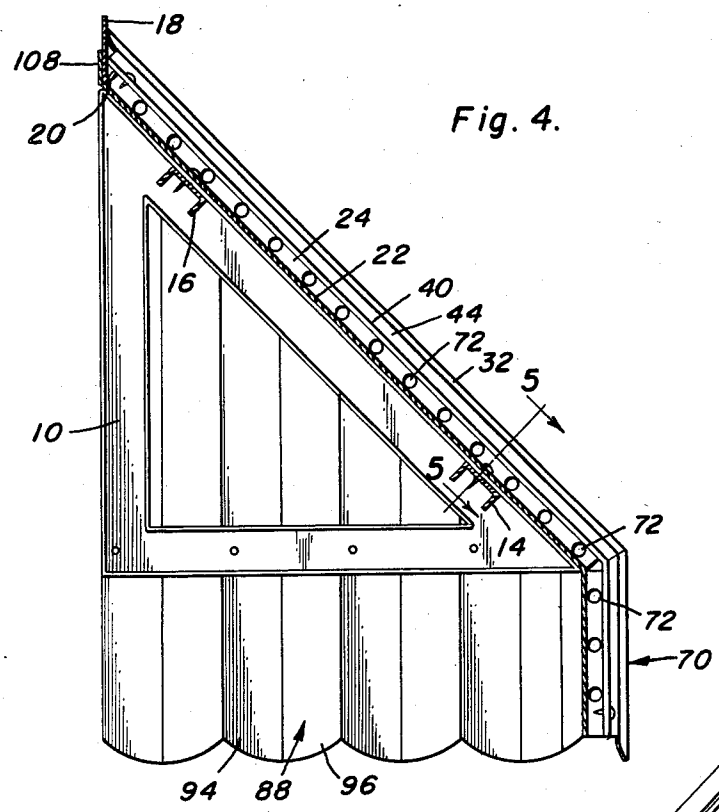


Fig. 4.

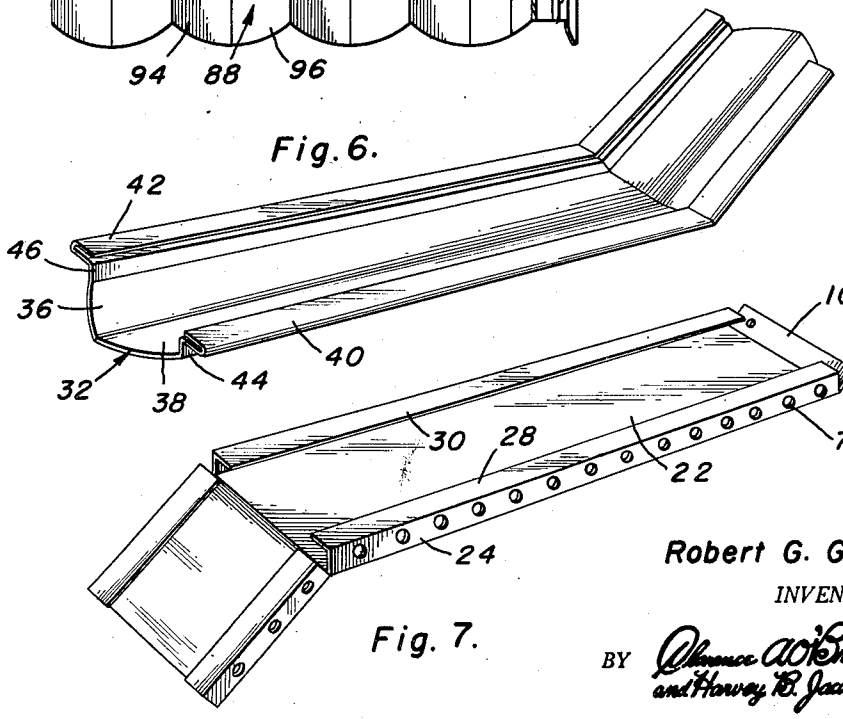


Fig. 6.

Fig. 7.

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UNITED STATES PATENT OFFICE

2,627,634

VENTILATED METAL AWNING

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Application August 5, 1949, Serial No. 108,726

6 Claims. (Cl. 20—57.5)

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This invention relates to novel and useful improvements in metal awning constructions.

An object of this invention is to improve the structure of awnings generally known as the rigid type by an arrangement of plates juxtaposed with respect to each other to form side panels whereby the plates being spaced from each other form vertical air passages, said plates being disposed in side-by-side relation, together with an improved ventilating top or roof construction consisting of strips and other members having certain horizontal flanges and fastening members of overlapping panels whereby protective shields are formed for ventilating openings provided in the vertical legs of the various members.

Another object of this invention is to improve the top or roof of a rigid awning through the utility of forming it entirely of overlapping members and locking the members together by sliding them with respect to each other, a slide locking device being provided specifically for this purpose.

Ancillary objects and features will become apparent in following the description of the preferred from of the invention, illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of one form of the invention;

Figure 2 is a bottom view of the device shown in Figure 1;

Figure 3 is a rear view of the device shown in Figure 1;

Figure 4 is a sectional view of the device shown in Figure 1;

Figure 5 is a sectional view taken substantially on the line 5—5 of Figure 4 and in the direction of the arrows;

Figure 6 is a perspective view of one of the dome panels or strips used in the proof construction;

Figure 7 is a perspective view of the center channel employed in the improved construction; and

Figure 8 is a perspective view of one of the side plates which cooperates with others to form the ends or side panels of the awning.

To my knowledge, awnings of the rigid type are well known and used quite extensively at this date. My invention consists of certain structural improvements in metal awnings, rendering the awning construction simple to assemble, and after assembly, rigid and strong. My invention also consists of improving the structural relationship of various parts so that ventilation is improved, this being a factor of major importance particularly in hot, sunny climates.

Various conventional structures are employed in the invention such as the main frame or framing which consists of a pair of triangular shaped end frame members 10 and 12, respectively, con-

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nected by channel shaped cross members 14 and 16, respectively. These cross members are on the longest legs of the right triangular shaped end frame members 10 and 12.

Disposed at the top of the main frame is a flashing piece 18 having a gutter 20 formed at the base thereof. The flashing is to serve its usual purpose of a rain deflector.

Referring now to the roof structure, attention is invited to Figure 5, where there is disclosed a lower, and, in this instance, center channel member 22 having upstanding legs 24 and 26, respectively, at the edges thereof; and substantially parallel flanges 28 and 30, respectively, project from the upper edges of the legs 24 and 26. These flanges are formed by turning inwardly of the channel the upper edge margins or ends of the legs, so that they are directed toward each other. The channel 22 is fixed to the cross members 14 and 16 by means of metal screws or the like.

An upper and inverted channel 32, forming a dome, is juxtaposed with respect to the lower channel member 22 at one side thereof. A similar upper channel 34 is disposed on the other side of the lower channel member 22. These upper channels 32 and 34 are ridged centrally to form a pair of sections 36 and 38, which slope downwardly from a longitudinal center line and at an obtuse angle so as to deflect rain and also to form an article of pleasing appearance. Substantially U-shaped locking means or members 40 and 42, respectively, are formed by turning inwardly the longitudinal margins of the upper channels 32 and 34. As illustrated, these project from depending legs 44 and 46, which are integrally formed at the longitudinal edges of the sections 36 and 38. These substantially U-shaped locking members are provided by turning outwardly the marginal edges or ends of the depending legs 44 and 46, and serving to hold the upper channels 32 and 34 (identical locking structures provided for both) in place. The locking member 40 has a flange 28 fitted therein. In assembly, the locking member 40 is simply slid on the flange 28. It should be noted that, as illustrated, the free longitudinal edge of the U-shaped locking member 40 terminates short of the upstanding portion of the upstanding leg 24 of the lower channel 22, whereby the interlocking members 28 and 40 wholly overlie the web member of the lower channel 22 and wholly and protectively overhang the upstanding leg member 24, which is provided with ventilation apertures, as hereinafter described.

An end panel or member 50 is rigidly secured to the cross member 14 and also to a part of the framing piece 10. This end member is provided with an extension 52 which is perpendicular to the plane of the end member. The extension 52 has a flange 54 projecting therefrom which is

parallel to the flanges 28 and 30, respectively. The locking member 42 is slid on the flange 54 at the same time that the locking member 40 is slid on the flange 28.

An identical roof end panel or member 56 is disposed on the cross member 14 and on the frame member 12. The said end member 56 is also provided with an extension 58 together with a flange 60 extending therefrom so that the locking member 62 which is identical to the locking member 40 may be slid thereon. The opposite side of the dome forming member has a substantially U-shaped locking member 66 fixed thereto which is to be slid on the flange 30 at the same time that the locking member 62 is being slid on the flange 60.

The lower end of the dome forming members 32 and 34 as well as the end members 50 and 56 together with the channel 22 are all bent downwardly to form the skirt, generally indicated at 70 (Figure 1). This forms a lock, preventing relative movement of the parts.

One or more apertures are provided in each leg of the channel 22. As disclosed, there is a plurality of apertures 72 formed in the leg 24 and a similar number is provided in the leg 26. However, if found desirable, one elongated slot may be used or other adaptations and variations employed. However, inherent in the structure is the protection from rain going directly through the opening 42. As mentioned above, the interengaged flange 28 and locking member 40 wholly overlie the flat web member of the lower channel 22 and wholly overhang the apertured leg 24, thereby providing a shield for the openings 72 in the leg 24. A similar construction and result is found in connection with the leg 26. Identical structural arrangement and result is employed in connection with the extensions 52 and 58 which are parallel to the legs 24 and 26 and serve a similar function as the legs. Due to the dome forming members 32 and 34, elongated channel-shaped air chambers are formed above the main level or surface of the awning construction consisting of the end members 50 and 56, together with the web of the channel 22. This allows for free circulation and the presence of the small risers 46 and 44 enhances this circulation in that it raises the top of the dome forming members 32 and 34 so as to permit ample volume below the dome forming members 32 and 34.

There are, of course, two side panels 76 and 78 respectively fixed to the frame of the structure. However, both of these panels are identical. Accordingly, a description of the specific structure of one should suffice for a clear understanding of the structure of the other. Referring to the end member 50, it is apparent from an inspection of Figure 5 that there is a clamp formed by bending the outside longitudinal edge to a substantially S-shaped longitudinal strip 80. Between two of the folded portions of the S-shaped clamp is the tongue 82 of one of the side plates (Figure 5). Metal screws 84 being passed through the substantially S-shaped clamp strip 80 and also passed through a suitable opening 86 in the tongue 82 hold the side plates 88 in place.

A sawtooth bracket 90 is fixed to the horizontal part of the end frame 10 by any suitable means such as metal screws, riveting, bolting or the like. This sawtooth bracket 90 has metal screws secured therein which also pass through suitable openings as 92 (Figure 8) formed in each plate 88. Accordingly, each plate 88 is supported

at the top thereof and also intermediate its ends. This adds to the strength and rigidity of the entire device.

The specific structure of the plates forming the sides 76 and 78 may be seen best in Figure 8. The plate 88 consists of a pair of integral sections 94 and 96, respectively, which are joined at an angle slightly less than 180° but more than 90°. A flange 98 extends from the general plane of the plate 88 and has the tongue 82 integral therewith and extending parallel to the said general plane of the plate 88. This forms an offset for the plates 88.

As disclosed in Figure 2, the end plates 88 are juxtaposed with respect to each other. However, the sections 96 are spaced from the adjacent sections 94 to form ventilating openings or passages 100 so as to allow air to pass freely therethrough. Each section 94 is substantially vertically disposed and the sections are substantially coplanar. But since the sections 94 and 96 of each side panel are joined in an included angle which is obtuse, each section 96 is disposed at an angle with respect to the plane of the sections 94. The space between the sections 96 and the adjacent sections 94 of other panels has been designated at 100.

Viewing Figure 5, it is readily apparent that the upper channels 32 and 34 overlap the lower channel 22, and also overlap the end members 50 and 56, respectively. Hence, all of the elements are in series overlapping in the roof construction, while the end pieces or plates 88 are in side-by-side relation as disclosed in Figure 2.

Wherever it is found necessary, metal screws are employed, as through the S-shaped clamp 80 at the lower ends thereof, joining the lower part of the last plate 88 in the side 78. Metal screws 104 are also passed through the clamp members and flanges at the lower end of the skirt 70 so as to join the various members firmly.

Reference to Figure 3 shows that the end members 50 and 22 are provided with extensions 106 and 108, respectively, which are disposed behind the flashing 18 and that suitable screws, rivets, or the like are passed therethrough, anchoring the flashing tightly in place.

Having described the invention, what is claimed as new is:

1. In the roof of a ventilated metal awning, the structural combination of a pair of elongate lower channels each having a substantially flat web member and a ventilation apertured, upstanding, longitudinally marginal leg member whose upper end is turned inwardly of the channel as a flange providing an elongate locking tongue wholly overlying said web member and wholly overhanging the ventilation apertures of said leg member, said lower channels lying side by side in mutually spaced relationship and with their said upstanding legs disposed in opposing adjacency; a correspondingly elongate, upper channel inverted with respect to said lower channels and bridging the space between the latter, said upper channel having inturned longitudinal margins forming U-shaped locking members which respectively receive the inturned locking flanges of the said lower channels in interlocking engagement, the bends of the respective U-shaped locking members providing the outer longitudinal edges of said upper channel, and the free longitudinal edges thereof terminating short of the upstanding portions of the leg members of said lower channels, whereby the said interlocking members of said lower and upper channels wholly

overlie the said web members of the lower channels and wholly overhang the said ventilation apertures of the leg members of said lower channels, providing protection therefor against the weather.

2. The combination recited in claim 1, wherein the lower channels have said upstanding leg members provided at both longitudinal margins of their respective web members; and additional upper channels are fastened in similar interlocking engagement to those upstanding leg members which are disposed along the outermost margins of said lower channels.

3. The combination recited in claim 2, wherein the upper channels have web members ridged centrally and sloping downwardly at each side thereof in substantially dome formation.

4. The combination recited in claim 3, wherein the upper channels have depending leg members at and extending along opposite longitudinal margins of their web members, and the U-shaped locking members are formed as out-turned end portions of said leg members.

5. The combination recited in claim 1, wherein the upper channel has a web member ridged centrally and sloping downwardly at each side thereof in substantially dome formation.

6. The combination recited in claim 1, wherein the upper channel has depending leg members at and extending along opposite longitudinal margins of a web member, and the U-shaped locking members are formed as out-turned end portions of said leg members.

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