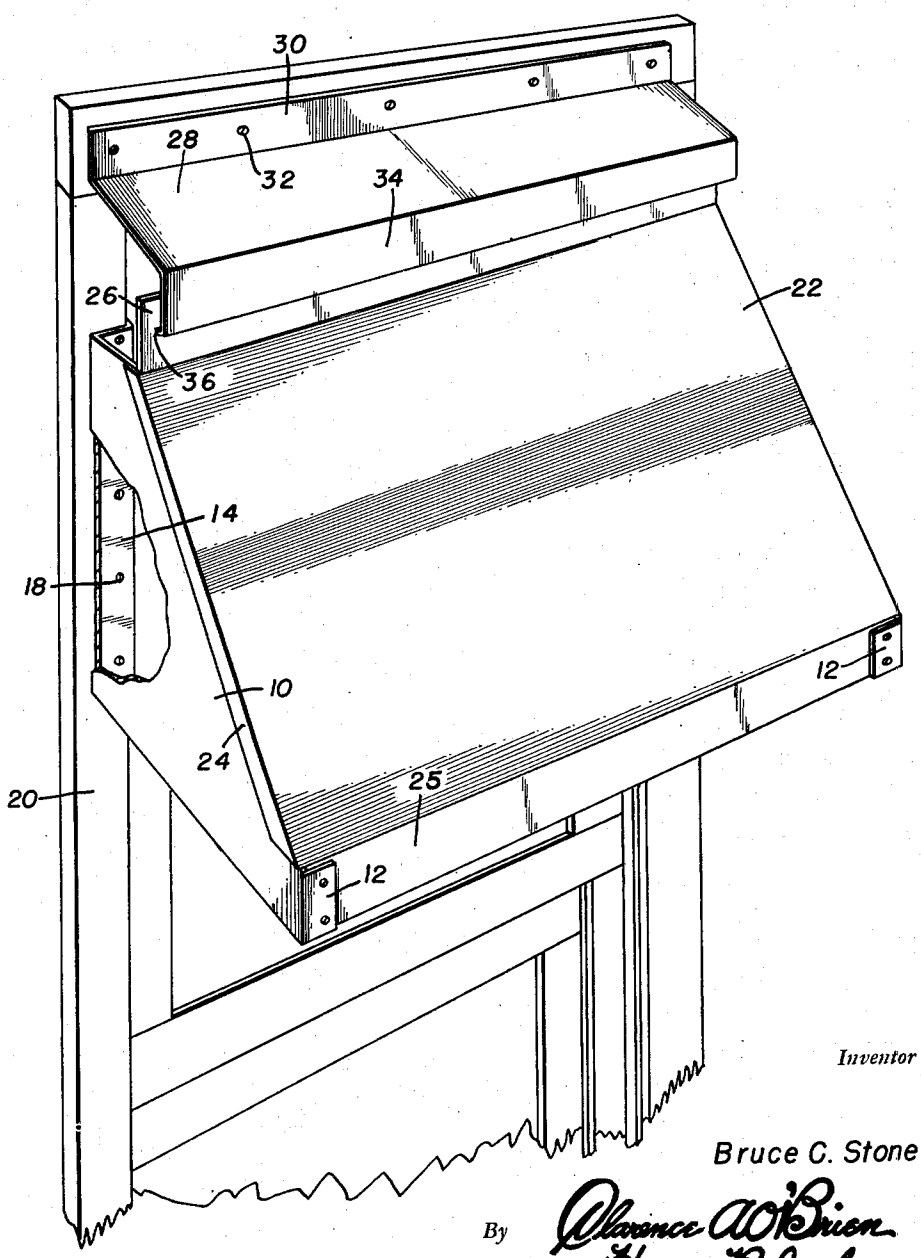
Dec. 12, 1950 B. C. STONE 2,533,846

RIGID AWNING

Filed March 14, 1947 3 Sheets-Sheet 1

Fig. 1.



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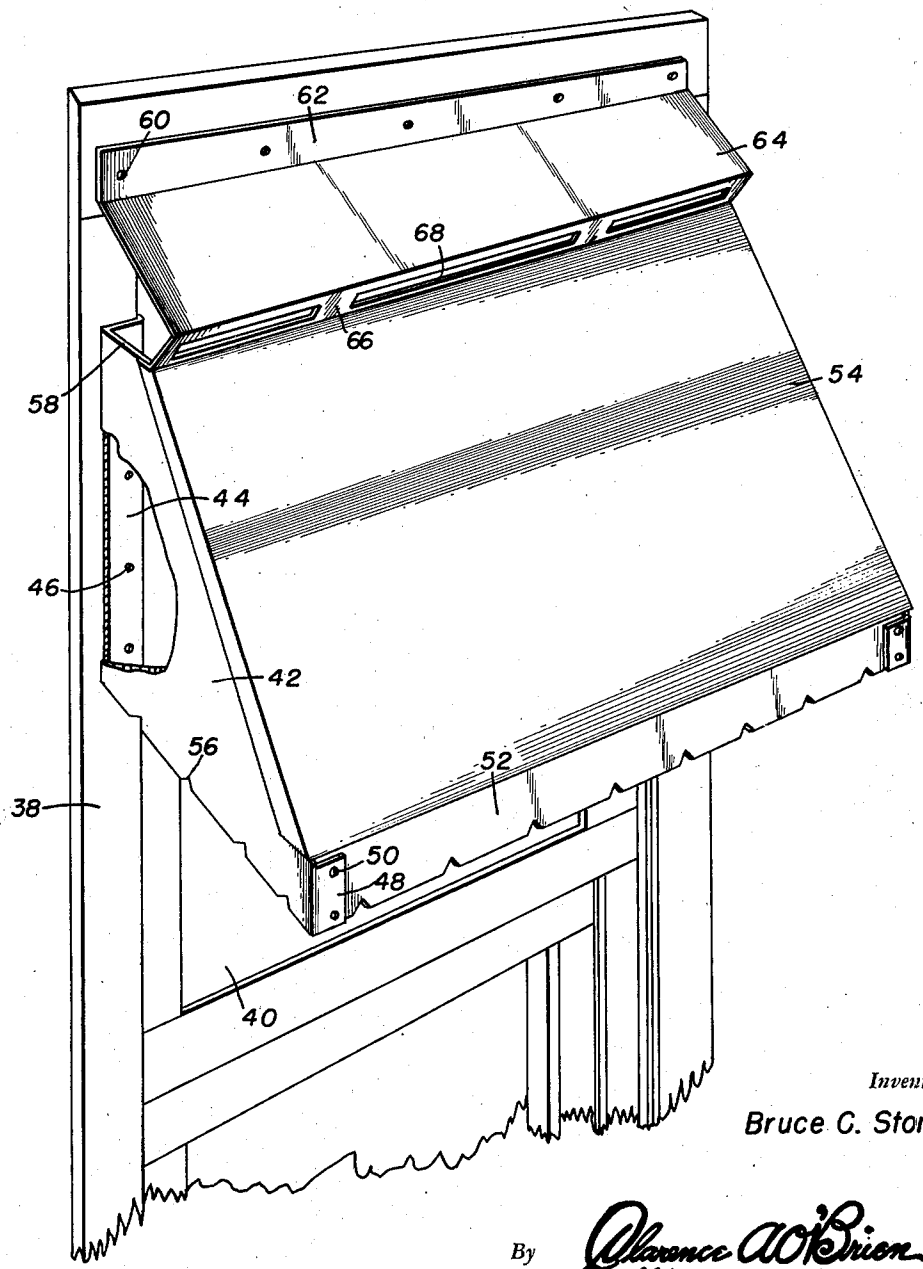
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RIGID AWNING

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Fig. 2.



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RIGID AWNING

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Fig. 3.

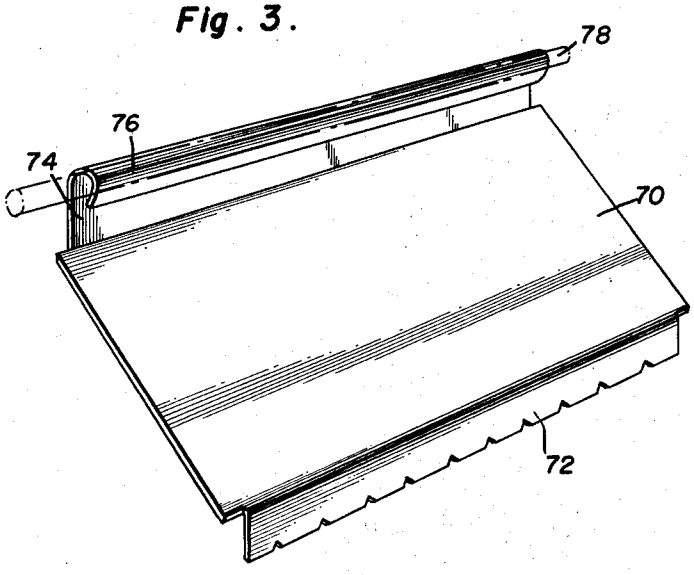


Fig. 5.

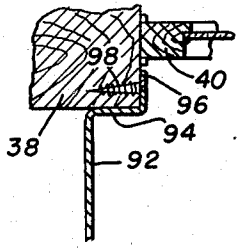


Fig. 6.

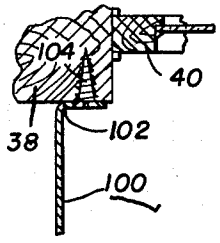


Fig. 4.

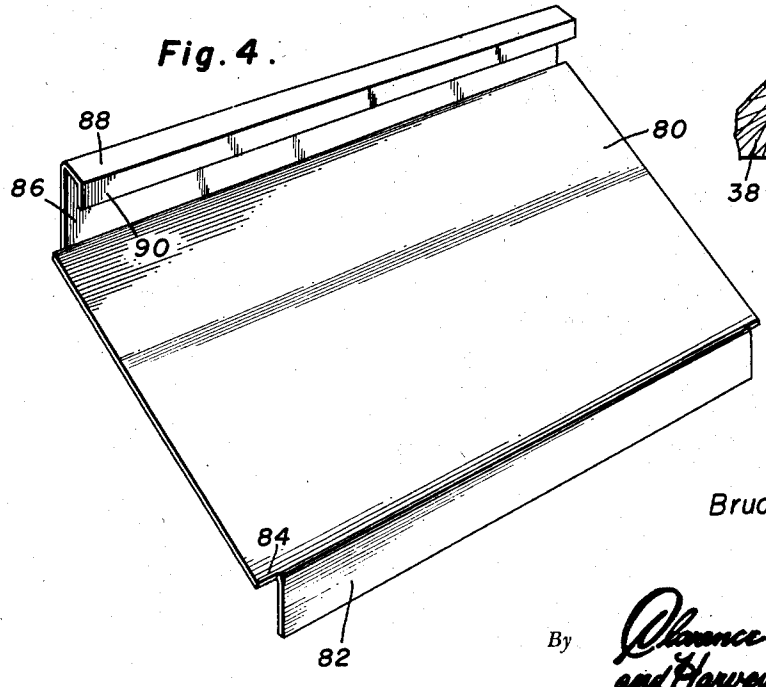
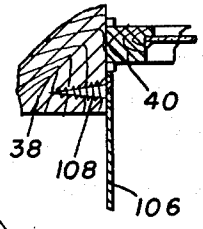


Fig. 7.



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UNITED STATES PATENT OFFICE

2,533,846

RIGID AWNING

Bruce C. Stone, Fairmont, W. Va.

Application March 14, 1947, Serial No. 734,691

3 Claims. (Cl. 20—57.5)

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This invention comprises novel and useful improvements in a rigid awning and more specifically pertains to an awning of aluminum or other metal which is provided with a ventilating or air circulating means.

The principal objects of the present invention reside in providing an awning which may be readily constructed of rigid sheet metal; which may be easily and readily assembled or disassembled by unskilled labor with a minimum of effort; wherein a novel and efficacious means is provided for insuring the circulation of air from under the awning; wherein the parts of the awning may be secured in a water-tight manner to a supporting surface; and wherein a structure is provided by effecting the principles of this invention in a variety of inexpensive arrangements.

These, together with various ancillary objects of the invention which will later become apparent as the following description proceeds, are realized by this invention, various embodiments of which have been illustrated, by way of example only in the accompanying drawings, wherein:

Figure 1 is a perspective view showing one form of construction for practicing the invention, parts being broken away to more clearly illustrate the construction of the same;

Figure 2 is a view similar to Figure 1 but showing a modified form or arrangement of the awning;

Figure 3 is a perspective view illustrating yet another form of construction of one of the elements of the awning;

Figure 4 is a view similar to Figure 3 illustrating a fourth form of awning roof;

Figure 5 is a fragmentary detailed view in section showing one manner of attaching the side plates of the awning assembly to a window frame;

Figure 6 is a view similar to Figure 5 but showing a modified form of attachment; and,

Figure 7 is a view similar to Figure 5 but showing a third alternative form of attaching the side plates to the supporting surface.

Referring now more specifically to the accompanying drawings, and reference being made first to Figure 1, it may be seen that the awning forming the subject matter of this invention is composed of a plurality of aluminum sheets or other thin sheet metal or similar material, which may be readily assembled to form the complete awning or may be removed as desired for compact storage and transportation. In accordance with the invention, a pair of complementary generally triangular end caps or plates 10 have their front and rear ends 12 and 14 respectively in-

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turned in parallel relation and perpendicular to the surface of the sides of the member 10, as shown clearly in Figure 1. By means of screws 18 or other suitable detachable connecting means, the end caps 10 are secured by the rear flanges 14 to any suitable supporting surface, such as for example, the facing plate 20 of a window. Detachably mounted in any suitable manner and supported upon the end caps 10, is the awning roof 22 which has its lateral end downwardly inclined along their marginal edges as at 24 in order to snugly embrace the inclined edges of the triangular end plates 10. As will readily be seen, the roof 22 is disposed in a downwardly inclined position relative to the supporting surface 20, in a manner conventional with awnings. The lower edge of the roof 22 is provided with a downwardly extending marginal flange portion 25 to which is secured in any suitable manner the aforementioned inturned edges 12 of the end plates 10, to detachably unite in a rigid manner these portions of the members.

At its upper edge, the roof 22 is provided with an upwardly and vertically extending wall or rim 26, this rim being spaced parallel to the supporting surface 20 to provide an air vent space therebetween.

The assembly is completed by means of a storm cap 28 which as shown, is adapted to slope downwardly from the supporting surface to which it is secured by an upwardly turned flange or rim 30 removably secured to the window frame 20 as by detachable fastening means 32. The storm cap 28 is adapted to overlie the above mentioned vent space and the upwardly extending rim portion 26 and at its outer edge is provided with a downwardly depending skirt or apron 34 whose lower extremity is inwardly turned as at 36 into close proximity to the vertically disposed rim 26, to provide air vent space therebetween, this flange 36 comprising a strengthening means.

It is contemplated that the upwardly extending flange 30 of the storm cap 28 will be attached in a water-tight manner to the window facing 20, to prevent the entrance of moisture therebetween, while the rear flanges 14 of the triangular end caps 10 are similarly secured in a water-tight manner to the window frame 20.

The operation of the device is as follows:

The rays of the sun strike the inclined roof 22 of the metallic awning, heat the same and the air thereunder, and by reason of the inclined surface cause an upward movement of the air which escapes through the vent space between the upwardly standing flange 26 and the side of

the supporting surface 20. This heated air rises into the space below the storm cap 28, and escapes between skirt 34 and rim 26 and also from the open ends thereof.

It will thus be seen that the assembly comprises but four members, the two end caps 10, the awning roof 22, and the storm cap 28, which are detachably connected to each other and may be readily mounted upon or removed from any suitable supporting structure. In contrast with conventional awnings, whether of rigid or pliable material, which trap and hold a body of heated air beneath the surface of the awning, this device provides a circulation of air from thereunder, which circulation is generally proportional to the intensity of the heat to which the awning is exposed.

Attention is next directed to the form of the invention illustrated in Figure 2, and which is composed of similar elements mounted in a similar manner upon the frame 38 in which is slidably mounted window sash as indicated at 40. End plates 42 similar to those indicated at 10 in Figure 1, are provided and have rearwardly extending supporting flanges 44 retained upon the frame 38 as by means of detachable fasteners 46, while the forward end of the triangular plate members 42 are inwardly flanged as at 48 and are detachably connected to embrace and engage by means of the bolts 50 or the like, the downwardly extending flange portion 52 of the awning roof member 54 which is downwardly inclined relative to the supporting surface. As so far described, this construction is substantially identical with that described in Figure 1, although as will be noted at 56 the lower edge of the end caps 42 and depending flange 52 of the roof 54 may be scalloped or notched.

As shown by the top portion 58 of the side caps 42, the upper edge of the roof 54 terminates in laterally spaced relation to the supporting surface 38, to provide an air vent as in the foregoing embodiment. Secured by means of detachable fasteners 60 by its vertically upwardly extending flange portion 62, is a downwardly inclined storm cap 64 which is adapted to overlie the air vent between the supporting surface and the upper edge of the roof 54, and which storm cap is provided with a downwardly and generally perpendicularly disposed flange member 66 which is provided with suitable openings or louvers 68 and whose lower edge is extended to constitute the roof 54 either by an angular or a rounded portion 66. As in the preceding embodiment, the storm cap 64 is spaced vertically above the air vent above mentioned, and is open at its ends to facilitate the flow of air outwardly therefrom.

The operation of this form of the invention is identical with that above set forth, but it will be noted that the storm cap 64 is provided with additional air circulating openings 68 which open downwardly upon the roof 54.

As shown in Figure 3, in some installations it may be preferred to support the downwardly inclined roof member 70 with its vertically disposed lower flange 72 and its vertically disposed upper flange 74, at its upper or rear end in order to take some of the weight off of the side caps particularly in the case of large awnings. For this purpose, the upper edge of the vertical flange 74 may be rolled forwardly to provide a bead as at 76 through which may extend a supporting rod indicated in phantom lines at 78, and mounted in any suitable manner upon the supporting surface, to thereby support and carry some of the load of the upper end of the roof 70.

Alternatively, as shown in the form of the roof 80 depicted in Figure 4, the rigidity of the roof may be enhanced or augmented by forming the forward end flange 82 in an angular manner as indicated at 84 upon the lower end of the roof. This arrangement results in a fluted or corrugated and angularly disposed end 82 which greatly increases the lateral rigidity of the roof. At its upper end, the roof 90 has its vertical flange 86 reinforced against bending in the middle by means of a transversely extending angularly disposed and inturned horizontal surface 88 whose forward edge is then turned downwardly in a vertical plane as at 90. As will be readily understood, either construction of Figures 3 or 4 may be interchangeably employed with the storm caps of Figure 1.

A variety of equivalent means may be employed for effecting a water-tight seal between the end caps shown in Figures 1 and 2, and the supporting surface which may conveniently be composed of the facing plate 38 of the window sash 4. For this purpose, as shown in Figure 5, an end cap 92 may be provided with a laterally extending flange portion 94 adapted to snugly abut against the forward surface of the supporting surface 38, and is provided with a rearwardly extending marginal flange 96 which embraces the inner edge of the frame 38 on the side adjacent the window 40, and is detachably secured thereto as by screws 98. In this embodiment, it will be seen that the end caps may be conveniently attached directly to the window facing in a water-tight manner upon two edge surfaces thereof.

As shown in Figure 6, the end cap 100 may be secured to the supporting surface of the window facing 38 by means of an inwardly inturned perpendicular flanged end portion 102 detachably engaging the supporting surface as by a fastening means 104. This form of attachment is substantially identical with that shown in Figures 1 and 2.

Alternatively, in lighter installations, the end caps 106, as shown in Figure 7, may be detachably secured upon the inner surface of the window facing 38 and adjacent the window sash 40 by means of appropriate detachable fastening means 108 which secure the straight rearward edges of the end caps 106 to the supporting surface 38.

It is to be clearly understood that various suitable modifications and equivalents may readily be employed within the broad principles of this invention, and that the invention is not limited to the particular structures and arrangements shown in the various figures of the drawings. It is not intended that this invention resides broadly in the provision of metallic window awnings; or even in the sectional construction which permits the ready attachment to or removal from window frames. However, the arrangement in a metallic awning, whereby an air vent and circulating space is provided at the top of the roof of the awning, together with the storm cap thereover which facilitates and enhances the circulating effect of the awning, form the fundamental concepts of this invention.

Accordingly, the foregoing illustrations and description are to be regarded as illustrative of the principles of the invention only, it being understood that all suitable modifications and equiva-

lents may be employed falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A rigid awning including end caps having inner edges and a roof, means for securing said caps at their inner edges to a supporting surface, means for securing and mounting said roof upon said end caps in inclined position, the upper edge of said roof being spaced laterally from said supporting surface and free of engagement or connection therewith throughout its entire length and forming an unobstructed air vent therebetween, a storm cap abutting and carried by said supporting surface and overhanging said air vent and the upper edge of said roof, said upper edge of said roof terminating in a vertical upwardly extending flange, said storm cap terminating in a downwardly extending flange outside and overlapping said vertical flange.

2. A rigid awning including end caps having inner edges and a roof, means for securing said caps at their inner edges to a supporting surface, means for securing and mounting said roof upon said end caps in inclined position, the upper edge of said roof being spaced laterally from said supporting surface and free of engagement or connection therewith throughout its entire length and forming an unobstructed air vent therebetween, a storm cap abutting and carried by said supporting surface and overhanging said air vent and the upper edge of said roof, said upper edge of said roof terminating in a vertical flange, said storm cap terminating in a downwardly extending flange outside said vertical flange, said downwardly extending flange being inturned at its lower end towards said vertical flange.

3. A rigid awning including end members having inner portions, a roof, means securing the end members at their inner portions to a supporting surface, means for securing and mounting said roof upon said end members in inclined position, the upper edge of said roof being spaced laterally from said supporting surface and free of engagement or connection therewith throughout its entire length and forming an unobstructed air vent therebetween, a storm cap abutting and carried by said supporting surface and overhanging said air vent and the upper edge of said roof, said upper edge of said roof terminating in a vertical upwardly extending flange, said storm cap terminating in a downwardly extending flange outside and overlapping said vertical flange.

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