

Sept. 23, 1941.

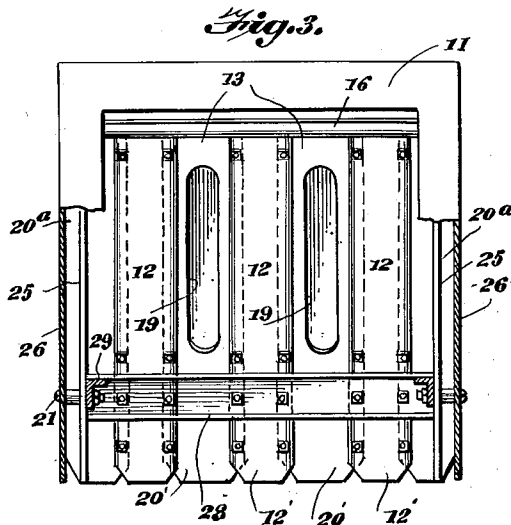
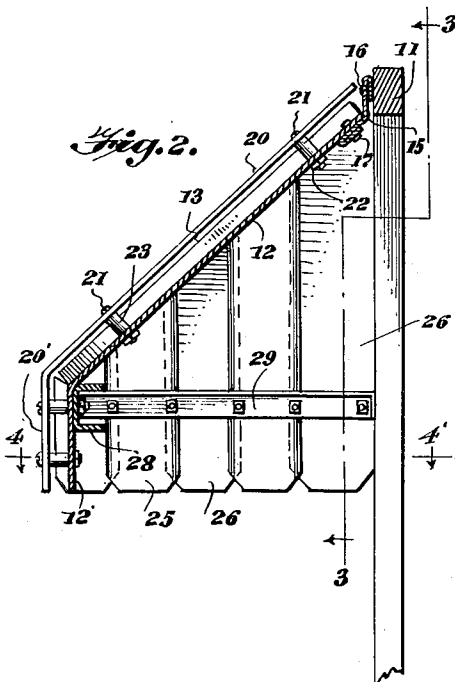
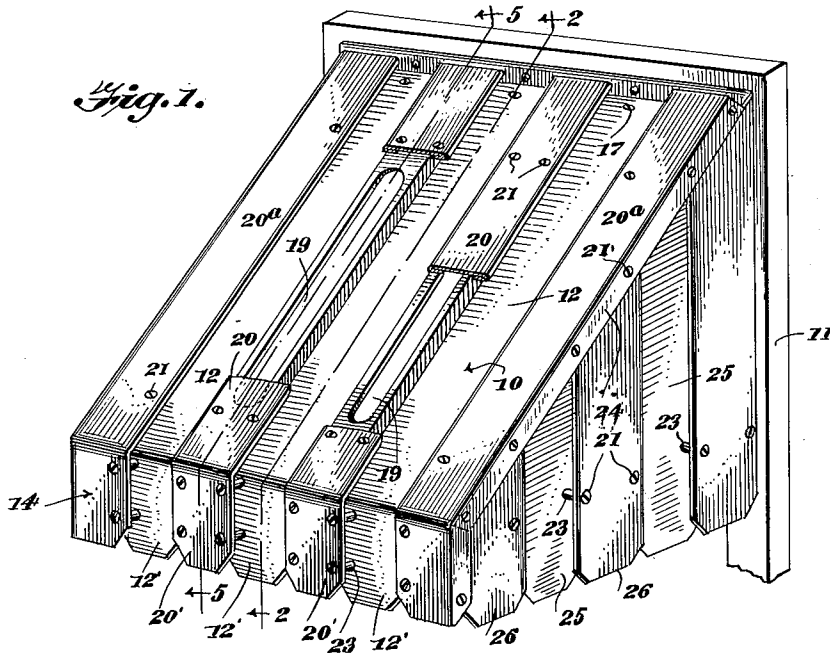
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2,256,941

VENTILATED AWNING

Filed Aug. 1, 1939

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 4.

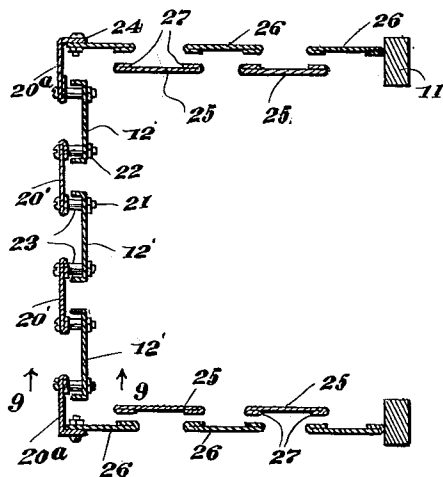


Fig. 6.

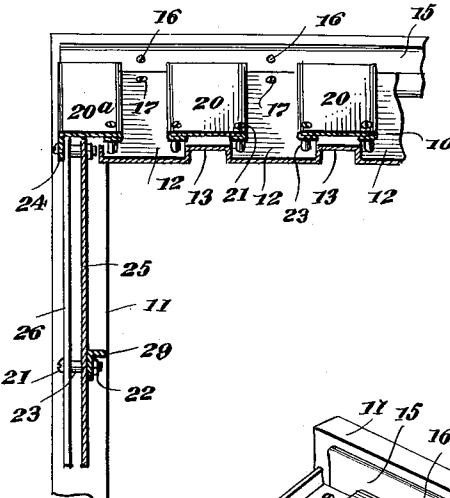


Fig. 5.

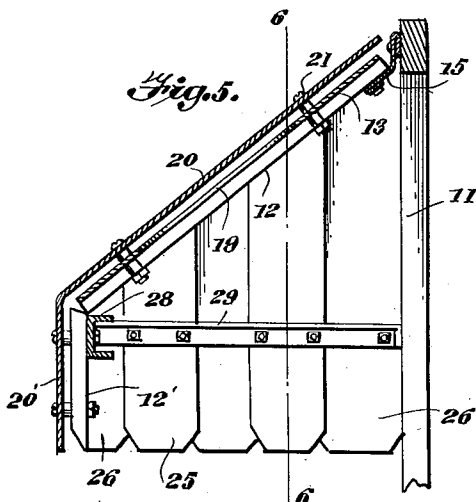


Fig. 7.

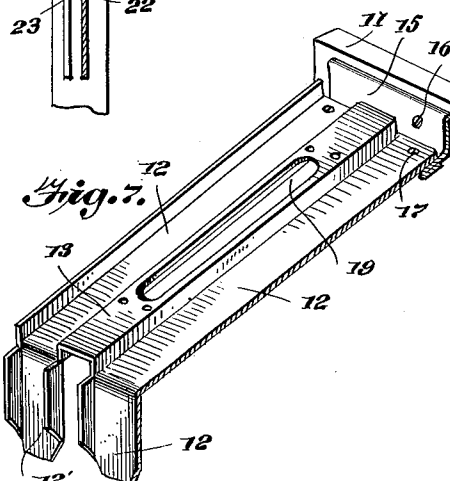


Fig. 8.

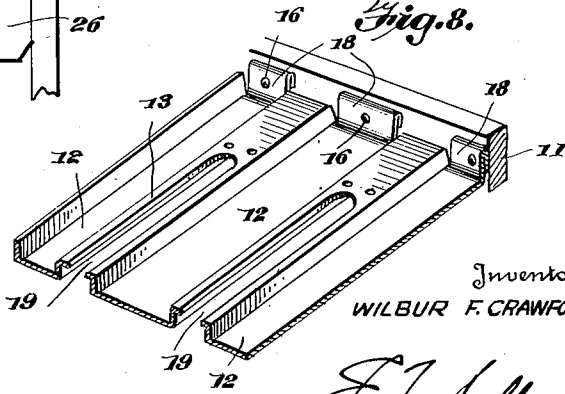
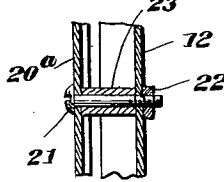


Fig. 9.



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VENTILATED AWNING

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Application August 1, 1939, Serial No. 287,821

16 Claims. (Cl. 156—15)

This invention relates to the art of awnings, particularly to those of the rigid type wherein the awning structure is not intended to be raised or lowered with respect to an associated window frame. A requirement of such devices is that they shall be ventilated for the escape of entrapped air, and to provide for free air circulation therethrough, and also that they shall be self-draining and so arranged that rain may not pass through their ventilating apertures.

An object of the present invention is to provide a rigid awning of simple, inexpensive, durable construction, in which means are provided for the free passage of air therethrough while at the same time the passage of rain is prevented.

Another object is to provide such an awning that is self-draining throughout its entire structure, so that an accumulation of water or deposited dust and dirt is rendered impossible.

A further object is to provide, in such an awning, means for establishing a positive updraft of air through the body of the awning, whereby a constant air flow is maintained through the sub-jacent area which is thus doubly cooled by shade and air circulation.

With these and such other objects in view as will be apparent from the description, the invention resides in the novel construction, combination, and arrangement of parts hereinafter described and claimed, and illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of the awning as mounted in service position, parts being broken away for illustration of details.

Figure 2 is a vertical section taken substantially on the line 2—2 of Figure 1.

Figure 3 is an inside elevation of the awning, sectioned on the line 3—3 of Figure 2.

Figure 4 is a horizontal section substantially on the line 4—4 of Figure 2.

Figure 5 is a vertical section taken on the line 5—5 of Figure 1.

Figure 6 is a vertical section taken on the line 6—6 of Figure 5.

Figure 7 is a fragmentary perspective of the awning face plate.

Figure 8 is a fragmentary perspective of an alternative embodiment of the face plate structure.

Figure 9 is a section taken on the line 9—9 of Figure 4.

Preferably, the awning is made of sheet metal, although it is not necessarily restricted thereto and any suitable material may be employed. Thin sheet metal, however, is economical, and

lends itself to easy fabrication. In the disclosed embodiment the structure comprises a front or face plate 10 of a width and length appropriate to the frame 11 of the window or door with which it is to be associated, and the plate is corrugated to provide a plurality of parallel longitudinal drainage channels 12 spaced apart across the width of the awning by intermediate elevated ridge portions 13 which in themselves form channels inverted with respect to the channels 12. It is preferred that the bottoms of the channels 12 be flat, as shown, and that the tops of the ridges 13 also be flat, with the ridge tops and channel bottoms occupying, respectively, common planes that are parallel and spaced apart the height of the channel side walls. Each channel 12 is substantially twice the width of a ridge and the end edges of the plate, which register laterally with the sides of the frame 11, are formed by the outer side walls of the adjacent drain channels. The invention contemplates, however, that the channels, ridges, and their connecting side walls may be shaped otherwise than as shown; the essential provision being that there shall be parallel drainage channels spaced apart by parallel intermediate ridges.

The plate 10 is bent at an obtuse angle to define the outer edge of the awning and to provide a relatively short depending fringe portion having the general designation 14 which is, in service, disposed throughout in the vertical. In this fringe portion 14 at the outer bottom edge of the awning the channels 12 and their side walls are continued as vertical channels 12', but the ridges 13 terminates at the end in the plate 10 and are not continued through the fringe, as they are unnecessary in this portion of the structure, and their elimination facilitates the operation of bending and effects a saving of stock.

The major part of the face plate 10 inclines upwardly and inwardly from the outer edge of the awning and at its upper edge is secured to the top of the frame 11 by means of an angle strap 15. The upper flange of the strap is rigidly attached to the frame by suitable fastening elements 16, and the upper edge of the plate 10 is rigidly connected to the lower flange of the strap by suitable means, here shown as bolts 17 in the channels 12.

An alternative manner of attaching the face plate to the top of the frame 11 is shown in Figure 8. In this embodiment the angle strap is dispensed with and a direct connection is made by passing the attaching elements 16 through

tongues 18 which comprise integral extensions of the channels 12.

As shown best in Figures 1, 7, and 8, the drainage channels 12 and their side walls are imperforate, but the flat tops of the ridges 13 are apertured for the passage of air therethrough. In the disclosed embodiment, each ridge top is formed with a long, oblong slot 19 which extends longitudinally over the medial portion of the ridge and for more than half its length. It is preferred that the parallel side edges of the slots 19 be disposed somewhat inwardly with respect to the side walls connecting the ridges and channels; although if desired the width of the slots may be coincident with the width of the ridges between the side walls.

Each ridge 13 is covered by an overlying watershed 20 which extends over the entire longitudinal extent of the ridge and overhangs its side walls sufficiently to prevent the entry of rain to the ridge slot. In the disclosed embodiment the watersheds comprise flat strips having inwardly doubled side edge flanges drilled to accommodate securing bolts 21 by which they are secured on the face plate. The width of the watersheds 20 is such that they extend appreciably beyond the side walls of the ridges, and sufficiently so to accommodate the bolts 21 laterally outwardly of the side walls. The bolts are passed through the bottoms of the channels 12 and secured by nuts 22 at the inner face of the plate 10. The shanks of the bolts carry spacer sleeves 23 between the bottoms of the channels 12 and the side edge portions of the watersheds 20, and these sleeves constitute means by which the watersheds are maintained in spaced relation above the ridge tops and parallel thereto. The watersheds are bent in conformity with the face plate so that their lower ends 20' complement the channel ends 12' to complete the awning fringe portion 14.

At each end of the awning a watershed 20a is provided. These end watersheds are identical with the intermediate ones except that their outer side edge flanges 24, instead of being doubled under, are directed perpendicularly. Others of the bolts 21 secure the end watersheds to the plate 10 so that they extend laterally over and beyond the outer side wall of the end channels 12, as best shown in Figure 6. The awning ends themselves comprise inner slats 25 and outer slats 26 arranged as staggered series in which the outer slats overlap the inner slats along their side edges. As best shown in Figure 4, the side edges of the inner slats 25 are doubled upon themselves with the folds disposed outwardly, and the side edges of the outer slats 26 are doubled in like manner with the folds disposed inwardly. This arrangement not only provides a generous thickness of metal for the reception of securing bolts, but also, in the case of the inner slats, provides a channeled outer face therefor in which the intumed edges 27 of the slats constitute side walls.

The upper ends of the slats are mitered to abut the under face of the end watersheds, and are attached to flanges 24 thereof by additional securing bolts 21. The outer slats are spaced laterally from the inner slats by the spacer sleeves 23 on the shanks of the bolts, so that the awning is ventilated at its ends as well as over the face plate 10.

While the assembly thus far described constitutes a unit in which all parts are rigidly connected and sufficiently so that the awning may

be placed in service, it is deemed advisable, but not essential, that the assembly be braced along its lower edge. In such case a horizontal brace bar 28 is attached to the inner face of the plate 10 along the upper ends of the channel portions 12', and in horizontal registry therewith similar braces 29 are attached over the inner faces of the inner end slats 25; the attachment being effected by the bolts 21 whose inner ends are passed through the brace bars with their nuts 22 bearing against the bars. If desired, the brace 28 may be dispensed with or may be otherwise disposed.

An important feature of the invention resides in the fact that, in addition to being freely ventilated, the awning is inherently draft producing. All that portion of the plate 10 which is shielded from direct rays of the sun by the watersheds 20 and 20a will be comparatively cooler than the unshaded portion. The shaded area comprises the ridges 13 and the outer edges of the end channels 12. As the watersheds are spaced above the area which they overlie, when they become heated by direct sun rays convection currents will be set up beneath them as the underlying air becomes heated, whereby the air will be positively discharged along their side edges and upper ends. This discharge will be constant and will constantly draw air upwardly from the space beneath the awning through the apertures 19, carrying off the heated air lying immediately beneath the unshaded portions of the channels 12, and creating a positive updraft which assures air movement in the space shaded by the awning itself. In like manner, air rising along the vertical end slats 25 and 26 as they become heated discharges along the side edges and upper ends of the end watersheds 20a, so that a constant upward air flow is maintained over the entire extent of the awning.

Due to the fact that the ventilating apertures 19 in the plate 10 are disposed in the relatively wide, flat tops of the ridges 13, which in themselves are completely covered by the watersheds, the awning will exclude direct rays from the sun irrespective of the angle from which they are projected, and the passage of rain will be likewise excluded. The channelling of the outer faces of the inner end slats 25, provided by the flange edges 27, is likewise effective in excluding rain and direct rays from the sun.

The ornamental effect of the awning is enhanced by the use of contrasting colors on the watersheds and channels, as well as on the end slats, and by diagonally trimming the corners of the lower ends of the same members.

I claim:

1. An awning comprising a rigid face plate, a plurality of elevated portions thereon spaced apart to provide drainage channels therebetween, said drainage channels being open from end to end thereof, said elevated portions of the plate comprising channels inverted relative to the drainage channels and being provided with ventilating apertures, and watersheds carried by said plate in spaced relation above said elevated portions only and covering their apertures.

2. An awning comprising a rigid face plate corrugated to form a plurality of drainage channels separated by intervening ridges, said ridges comprising channels inverted relative to the drainage channels and having ventilating apertures therethrough, a watershed secured on said plate in spaced relation above each ridge and covering its aperture, a similar watershed car-

ried by said plate in spaced relation above a part of each end channel and projecting laterally therebeyond, and an awning end assembly suspended from and secured to the lateral projections of said watersheds.

3. An awning comprising a rigid face plate provided with a transverse series of drain channels open from end to end and disposed in parallel spaced relation, said plate being imperforate except for ventilating apertures disposed between said channels, independent cover strips overlying the apertures in the plate and of a width greater than that of the apertures, and means rigidly supporting said cover strips spaced above said plate and the apertures therein.

4. An awning comprising a rigid face plate having thereon a transverse series of ridges spaced apart in parallel relation and defining drainage channels therebetween, the tops of said ridges being apertured inwardly of their side edges to provide air ports through said plate and the plate being otherwise imperforate, watershed members covering the tops of said ridges and extending over the sides thereof, and means supporting said watershed members rigidly on said plate in spaced relation above the ridge tops and parallel thereto.

5. An awning comprising a rigid face plate having a transverse series of spaced parallel ridges and drain channels therebetween, said ridges being apertured in their tops to provide air ports through the plate, a part of said plate being angled with respect to the remainder to provide a fringe portion, watershed members covering said ridges and spaced thereabove, means securing said watershed members rigidly to said plate, and said ridges terminating at the inner edge of said fringe portion of the plate.

6. An awning comprising a rigid face plate having alternate ridges and drain channels, separate cover strips overlying the ridges and each end of the plate, means connecting the strips to the plate above the tops of the ridges, the plate being apertured through the ridges beneath the strips, the plate and strips being bent to provide a fringe portion, said strips at the plate ends being flanged, and end sections secured to and supported by said flanges.

7. An awning comprising a rigid face plate having alternate ridges and drain channels, cover strips overlying the ridges and being wider than the ridges, a cover strip overlying and extending beyond each end of the plate, means securing said strips to the plate in spaced relation above the plane of the ridge tops and parallel thereto, said plate being apertured through the ridge tops longitudinally beneath the strips, the plate and strips being bent to provide a fringe portion, the channels only being continued through the fringe portion of the plate and the ridges terminating at the inner edge of the fringe portion, a transverse brace connecting the channels in the fringe portion, slats secured at their upper ends to said end cover strips and arranged in spaced, overlapping, staggered relation to provide ends for the awning, a brace disposed over the inner faces of the inner slats at each end of the awning, and securing elements connecting the lower end portions of all said slats with the adjacent braces.

8. An awning comprising a rigid face plate provided with spaced ventilating apertures, imperforate cover strips overlying the apertures in said plate and having side edge portions overhanging the aperture edges, a brace member

extending transversely of said plate, and combined securing and spacing elements connecting said plate, cover strips and brace member in assembled relation, spacing the cover strips from said plate, and engaging the overhanging edges of the cover strips.

9. An awning comprising a rigid face plate provided with spaced ventilating apertures, cover strips overlying the apertures in said plate and having side edges extending laterally beyond the aperture side edges, and securing elements connecting said cover strips through the side edges thereof rigidly to said plate and spacing the strips thereabove.

10. An awning comprising a rigid face plate having a plurality of elevated portions spaced apart to provide drainage channels therebetween, said elevated portions of the plate comprising channels inverted relative to said drainage channels and being provided with ventilating apertures, and imperforate cover strips disposed over said ventilating apertures and spaced above the elevated portions of said face plate.

11. An awning comprising a rigid face plate corrugated to provide alternate ridges and channels each extending to and open and unobstructed at the plate edges, said ridges being apertured to form air ports through the face plate, and cover strips disposed over said air ports and spaced above said ridges.

12. An awning comprising a rigid face plate having alternate ridges and drainage channels, said ridges being apertured in their tops to provide air ports through the plate, cover strips overlying the air ports and spaced above the ridge tops, the plate and strips being bent to provide a fringe portion, and securing elements connecting said plate and cover strips in the fringe portion.

13. An awning comprising a rigid face plate having alternate ridges and drainage channels, said ridges being apertured in their tops to provide air ports through the plate, cover strips overlying the air ports and spaced above the ridge tops, the plate and strips being bent to provide a fringe portion, a brace extending transversely of the fringe portion, and combined spacing and securing elements connecting said plate, cover strips and brace.

14. An awning comprising a rigid face plate provided with spaced ventilating apertures, cover strips overlying the apertures in said plate and having side edges extending laterally beyond the aperture side edges, securing elements connecting the strips through the side edges thereof rigidly to said plate, and means on said securing elements retaining said cover strips above said plate in spaced relation thereto.

15. An awning comprising a rigid face plate having alternate ridges and drainage channels, said ridges being apertured in their tops to provide air ports through the plate, a cover strip secured to the plate at each ridge and overlying the ridge aperture in spaced relation thereabove, each end of the awning being defined by an outer wall of the adjacent drainage channel, a cover strip secured to the plate at each end of the awning and extending laterally therefrom in spaced relation above the end-defining wall of the adjacent channel, and an awning end section secured to and depending from each end cover strip.

16. An awning comprising a rigid face plate formed in a series of ridges spaced apart by intervening drainage channels, said ridges com-

prising channels inverted relative to the drainage channels, all said channels being open and unobstructed at the top and bottom edges of the plate, said ridges having ventilating apertures extending longitudinally in their tops and terminating inwardly of the ridge ends, an imperforate cover strip overlying each ridge longitudi-

nally thereof and of a width greater than that of the ridge, each strip extending longitudinally somewhat beyond the top end of its underlying ridge, and means supporting said strips rigidly with respect to said plate and in spaced relation above the ridges.

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