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C. G. HUNTER
VENTILATED AWNING

2,549,201

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Fig. 1.

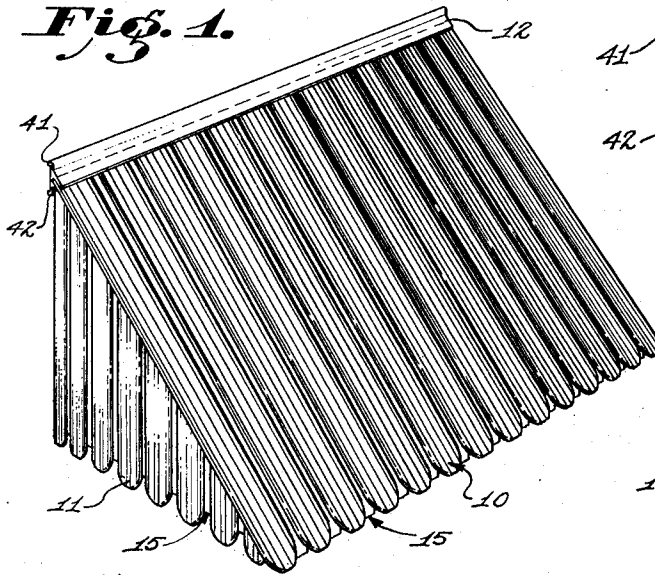


Fig. 2.

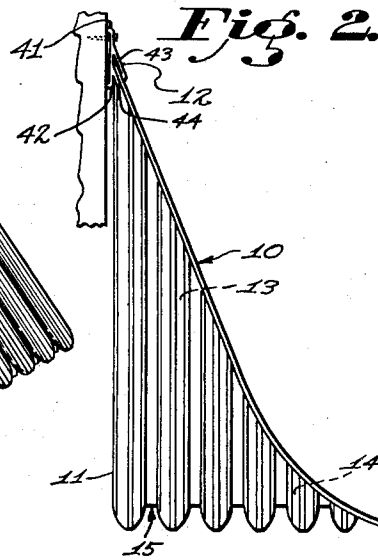


Fig. 4.

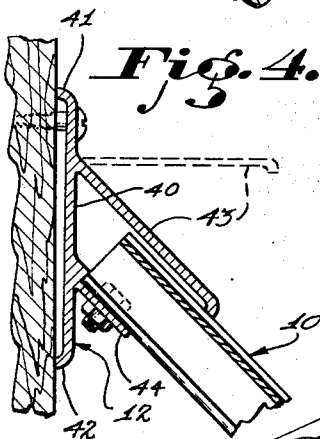
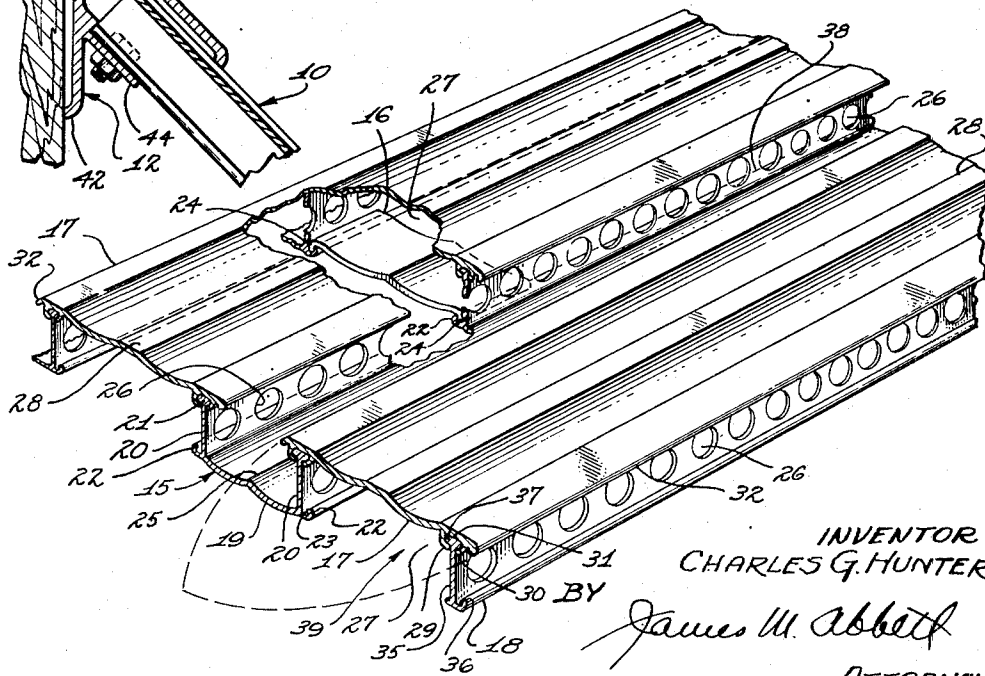


Fig. 3.



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VENTILATED AWNING

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3 Claims. (Cl. 20—57.5)

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This invention relates to a shelter structure, and particularly pertains to a ventilated awning.

At the present time various types of awnings and jalousies are made to be positioned outside of windows of buildings for the purpose of providing shelter from the sun and the rain. Often the construction of the awning is such as to retard ventilation through the window openings. It is desirable to provide a type of awning which is sturdy in construction and which will not only afford shelter from the elements but will at the same time permit a free circulation of air through the awning structure. Heretofore awnings of this type have been made which have included supporting means and a series of slats arranged in two spaced parallel planes, the slats being staggered with relation to each other in the two planes. This allows air to pass between the slats, and at the same time insures that the sun, wind and rain cannot pass directly through the awning. It is desirable to provide a structure having these general advantages which may be constructed of metal elements designed to interlock with each other and to provide a ventilated awning which is both slightly in construction and sturdy in design to that it will resist the elements and will be quite durable. It is the principal object of the present invention, therefore, to provide an awning structure made of a plurality of interlocking elements which may be easily assembled to provide an awning of any desired dimensions, and which will repel the sun, wind and rain while permitting air to pass through the awning.

The present invention contemplates the provision of a plurality of metal elements adapted to extend longitudinally and parallel with relation to each other, and which elements have interlocking members along their contiguous edges to permit any desired number of said elements to be assembled for the purpose of providing an awning of a particular dimension, the structure being self-sustaining when the parts are interlocked.

The invention is illustrated by way of example in the accompanying drawing in which:

Figure 1 is a view in perspective showing one form of the invention as mounted over a window opening.

Fig. 2 is a view in side elevation showing a form of the awning and indicating the manner in which the aprons are constructed.

Fig. 3 is a view in perspective showing a fragmentary portion of the awning with parts broken away to show the construction of the individual parts and the manner in which they interlock.

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Fig. 4 is a fragmentary view in vertical section showing the awning attachment.

Referring more particularly to the drawings, 10 indicates the roof portion of an awning, here shown as having opposite ends or aprons 11. In the form of the invention shown in Fig. 1 the roof portion of the awning is shown as being inclined outwardly and downwardly from a cross frame member 12. In this figure the roof is flat. In the form of the awning shown in Fig. 2 the roof structure is concaved. In both instances the roof is supported at points intermediate its length by frame members 13 and 14 which hold it in position. By reference to Fig. 3 it will be seen that the awning is constructed of channel members 15 which extend longitudinally of the awning, spacers 16, upper plates 17 and edge members 18. All of these elements are preferably made from light-weight metal such as aluminum. The channel members 15 are formed with a transverse web 19 which carries a pair of parallel legs 20 near its opposite marginal edges. These legs terminate in a T-shaped flange 21 for a purpose to be hereinafter described. At the juncture of the legs 20 and the transverse web 19 outwardly extending flanges 22 are formed. These flanges are hook-shaped in cross-section to provide a groove 23 within which a bead 24 of the opposite edges of spacers 16 extend. The webs 19 of the channel members 15 are preferably corrugated longitudinally. In the drawing they are shown as being formed with two corrugations. This will make an intermediate rib 25 for stiffening the channel structure. The legs 20 of the channel are formed throughout their length with a plurality of air circulating openings 26. These may be circular or elongated as may be desired.

The hook-shaped flanges 22 of the channel member 15 receive the beads 24 along the opposite marginal edges of the spacing plate 16. These plates do not extend the full length of the channels 15 but are spaced at intervals therealong as desired to maintain the contiguous legs 20 of channels 15 in spaced relation to each other and to assist in maintaining the entire structure rigid. It will be obvious that since the members 16 do not run the entire length of the space between channels 15 that air passageways 27 will occur between the legs 20 of contiguous channels to permit the circulation of air through the passageways 27 and the openings 26 in the channel legs.

In order to hold contiguous channels 15 together, and also to cover the openings 27, the upper plates 17 are provided. The upper plates 17 are of an overall width considerably greater

than the distance between the legs 20 of contiguous channels 15. These plates are made with longitudinal corrugations which form a central stiffening rib 28. Formed on the underside of these plates and adjacent to the edges thereof are sets of hook-shaped flanges 29 and 30 between which a channel 31 is formed. The flanges 29 and 30 and the channel 31 are made to receive the T-shaped bead formed on the upper marginal edges of the legs 20. Extending outwardly from the members 30 is an overhanging lip 32 which is sufficient in width to shield the ventilating openings 26 formed through the channel legs 20. It is to be understood that the grooves 23 formed along opposite edges of the channels 15 and the flanges 30 formed on the under faces of the upper plates 17 are so designed as to accommodate the complementary members 24 and 31, respectively, to allow the members to be assembled by sliding them lengthwise with relation to each other.

In actual practice, a convenient form of the present structure, when made of aluminum, provides that the legs 21 of a channel shall be spaced approximately $1\frac{1}{4}$ inches apart and the adjacent legs 20 of contiguous channels 15 are spaced apart approximately $1\frac{5}{8}$ inches. The height of the channels is approximately $\frac{3}{4}$ inch, and the metal is approximately $\frac{3}{8}$ inch thick. These dimensions are cited by way of example to indicate the light weight of the structure and the possibility of the parts of the assembled awning to be rigidly held together while allowing the awning sections to flex longitudinally as desired to provide an awning of the type shown in Fig. 2 of the drawing, as well as one in which the members are straight as shown in Fig. 1 of the drawing. In addition to the members 15, 16 and 17 previously described, it is necessary to provide members 18 which will complete the roof section of the awning at its opposite ends. The member 18 is a duplicate of one of the legs 20 of the channel 15 and comprises a leg portion 35 terminating in a hooked flange 36 to receive the bead 24 of one of the spacing members 16. The opposite edge of the member 35 is formed with a T-shaped bead 37 which extends into the outer channel 31 of an upper plate 17. It is a matter of choice as to whether or not the leg portion 35 of a member 18 shall be formed with perforations 26.

The member 12 by which the upper edge of the awning is connected to the wall of a building may be of the construction shown in Fig. 4 of the drawing. Here it will be seen that the attaching member 12 is formed with a metal base plate 40 which is disposed vertically and has an upper in-turned portion 41 and a lower in-turned portion 42 resting against the face of the building. Extending outwardly from the base portion 40 adjacent its upper edge is an overhanging flange member 43 beneath which the roof section 10 of the awning may be positioned. In view of the fact that the metal of the attachment is usually ductile in character it is possible to easily bend the portion 43 downwardly against the upper face of the roof portion 10. A downwardly and outwardly inclined flange 44 is formed on the base portion 40 of the attachment in appropriate spaced relation to the member 43 and therebeneath to provide a resting ledge for the lower face of the roof section and to which ledge the roof section may be attached by rivets or the like.

It will be understood that in the various joints

between the assembled parts the members interlock in a manner to prevent them from being directly separated but while allowing them to slide longitudinally relative to each other toward and away from an assembled position.

In operation of the present invention it is to be understood that the elements of the awning are formed as previously described and disclosed in the drawings, and that a desired number of these elements may be selected and assembled by placing their contiguous parts in interlocking relation to each other. It will be obvious that when the awning structure is assembled, as shown in Fig. 3 of the drawing, there will be longitudinally extending spaces 38 between contiguous edges of the upper plate 17 and in communication with the channels 15. It will also be obvious that a channel-shaped space 39 will occur between contiguous legs 20 of adjacent channels 15. The spaces 38 will be upwardly exposed and the spaces 39 will be downwardly exposed. The spaces may communicate with each other through the passageways 26 in the legs of the channels 15. Thus, due to this arrangement air may flow through the awning structure without obstruction even though it is not possible for sun or rain to pass directly through the awning. It is to be understood that the aprons 11 at the opposite sides of the awning may be formed of the same structural elements as used in making the roof or other appropriate closure members may be used.

In the foregoing description the parts have been described as being made of metal. This will provide an awning which is opaque. It may be desirable to form an awning of parts which are translucent, such for example as the upper plates 17. These plates may be made conveniently of plastic material and in fact the construction of the awning makes it possible for all of the parts to be made of this material if desired.

It will thus be seen that the awning structure here disclosed provides an all-metal awning which is made of few parts, easily fabricated and readily assembled to provide an awning of desired dimensions, the awning structure being light in weight, rigid in construction, and is designed so as to insure that sun and rain will not pass through it while allowing a free circulation of air through the awning.

While I have shown the preferred form of my invention as now known to me, it will be understood that various changes may be made in combination, construction and arrangement of parts by those skilled in the art, without departing from the spirit of the invention as claimed.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. An all-metal ventilated awning comprising a plurality of interlocking parts to produce an awning of desired dimensions, said parts including channel members extending longitudinally of the awning, the web of said channels being imperforate and being disposed lowermost and the legs of said channels extending parallel and vertically, T-shaped flanges formed on the upper free edges of the channel legs, hook-shaped flanges extending outwardly from the outer edges of the channel legs substantially in the plane of the web of the channel, tie plates disposed between the contiguous legs of adjacent channels, beads formed along the edges of the tie plates to engage the hook-shaped flanges of the channels and to interlock therewith, said tie plates being disposed at intervals throughout the length of the space between the channels and being spaced

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apart, top plates disposed across the free edges of contiguous legs of adjacent channels and overhanging said legs, and pairs of flanges formed along the under face of said top plate and forming channels into which the T-shaped flanges of the channel legs extend, said top plates being imperforate and of widths to permit a space between contiguous edges thereof, and air circulating openings through the legs of the channels whereby free circulation of air may occur through the assembled awning while preventing the passage of sun and rain therethrough.

2. The structure of claim 1 wherein the channel webs and upper plates are formed with longitudinal corrugations whereby water may drain down therealong.

3. An all-metal ventilated awning comprising a plurality of parallel channel sections, each of said channel sections being formed with opposite parallel perforate legs and an intermediate web, the web defining complementary arcuate portions in cross-section terminating in a center rib, the outer edges of said web terminating in a hook-shaped groove, and an enlarged head portion formed upon the upper edges of the legs of the channel, a plurality of upper plates joined to

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and bridging the distance between adjacent legs of adjacent channels, said upper plates having longitudinal grooves in their opposite edges slidably receiving the longitudinal head portions of the legs of the channel, and longitudinal ribs extending lengthwise of the plates between the edges thereof to stiffen the same, the edges of the plates overhanging the legs of the channel and shielding the perforations in the legs of the channel.

CHARLES G. HUNTER.

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