June 3, 1952 W. H. WYNNE, JR 2,599,083

PROTECTIVE COVERING

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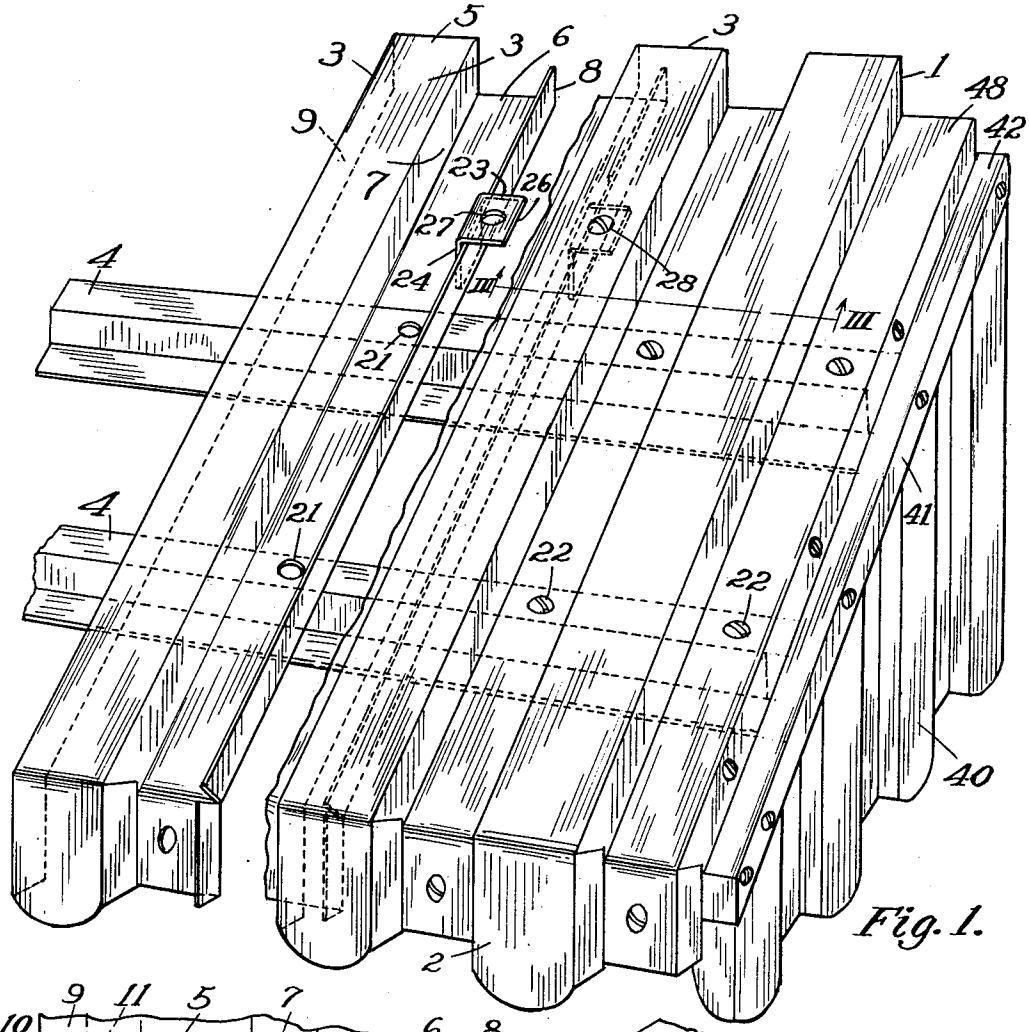


Fig. 1.

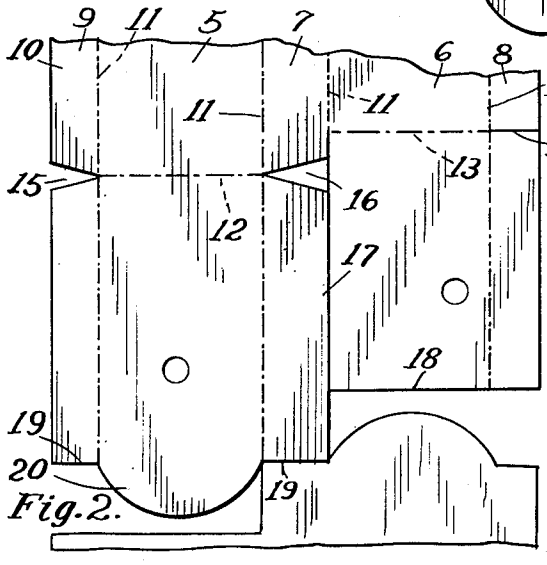


Fig. 2.

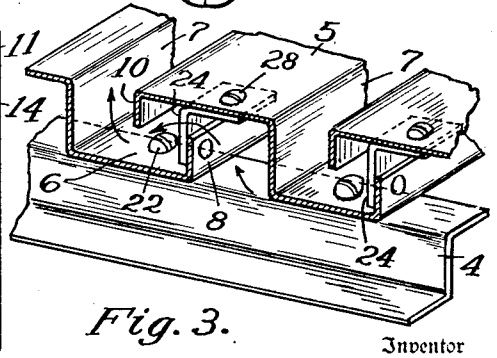


Fig. 3.

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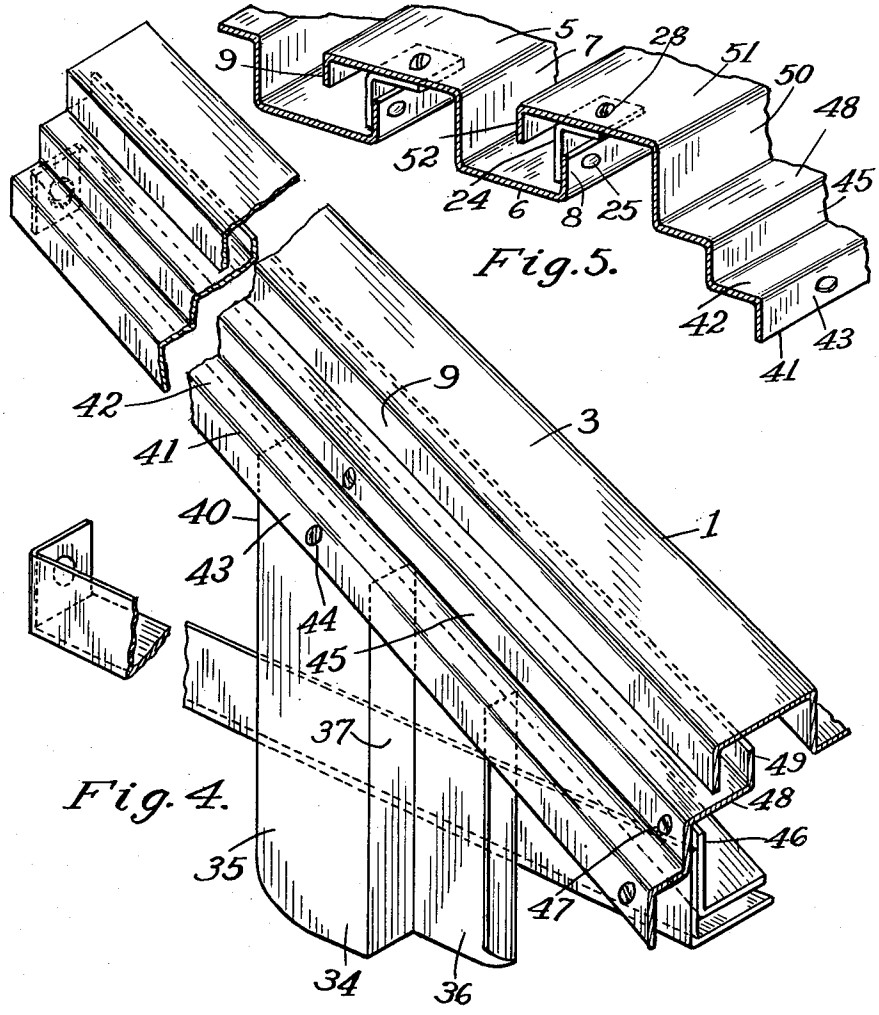


Fig. 5.

Fig. 4.

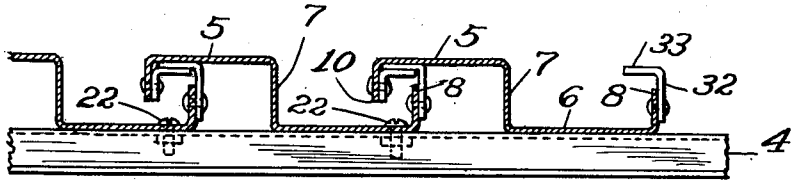


Fig. 6.

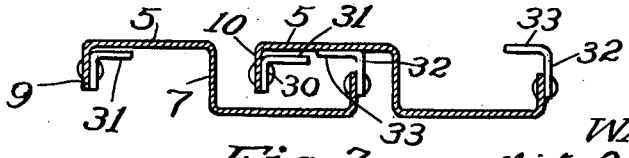


Fig. 7

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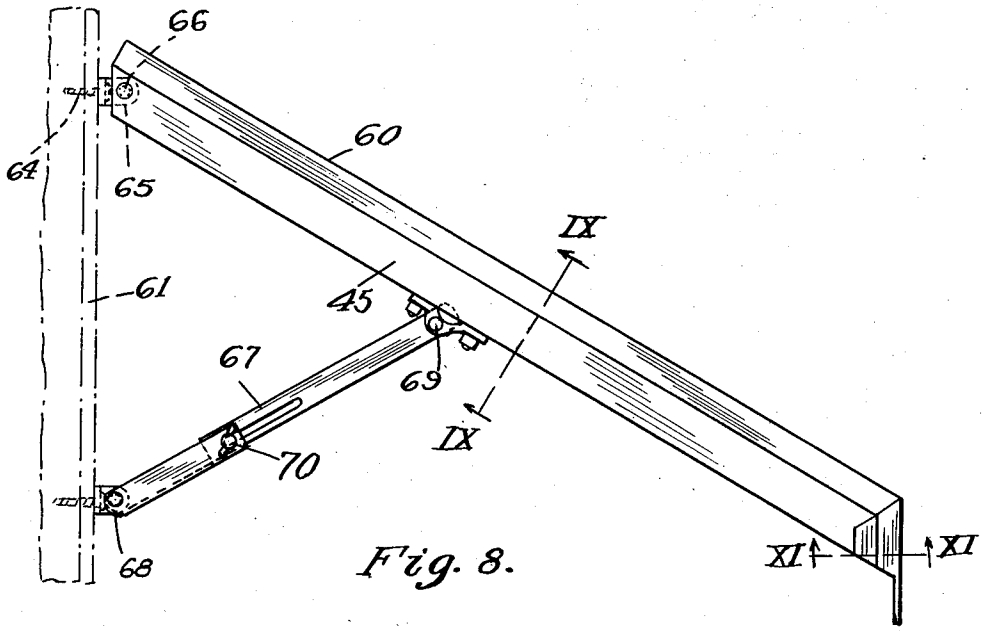


Fig. 8.

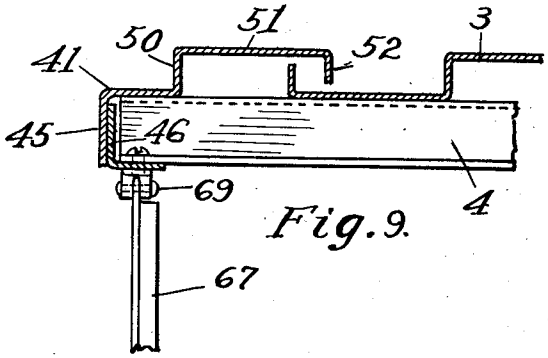


Fig. 9.

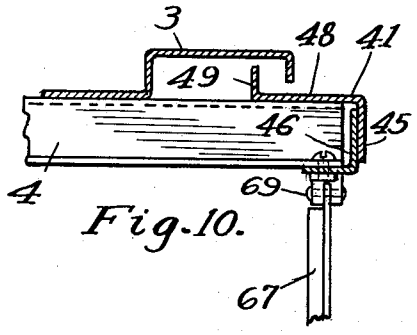


Fig. 10.

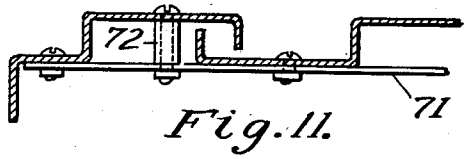


Fig. 11.

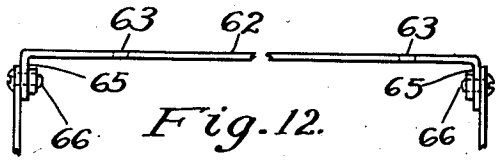


Fig. 12.

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UNITED STATES PATENT OFFICE

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PROTECTIVE COVERING

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Application June 3, 1948, Serial No. 30,832

8 Claims. (Cl. 20—57.5)

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This invention relates to a protective covering, and more particularly, to an improved permanent awning of the ventilated type.

Permanent awnings constructed of metal and provided with ventilating openings so that heated air will not be entrapped underneath are well known in the art. Such awnings commonly comprise a plurality of overlapping upper and lower slats or metal strips which are spaced from each other to provide for ventilation. When the slats or strips are provided with flanges, the upper and lower members are commonly referred to, respectively, as covers and pans. Conventional types of such awnings have presented considerable difficulties from the standpoint of producing an awning having a pleasing appearance, particularly, with respect to symmetry of design, and which will adapt itself readily to formation in different sizes. Additional difficulty is encountered from the standpoint of assembly in that complicated fastening devices are necessary to mount the slats in superimposed relation, and considerable time is taken for installation. Such structures consequently are expensive to fabricate and expensive to install.

One of the principal objects of this invention is to provide an improved covering which may be fabricated at a minimum of cost and installed in a minimum of time, which is rugged in construction, and which has a more finished and pleasing overall appearance. To this end, there is provided an awning in which the component parts are rigidly secured together on a support in such manner that the fastening parts are concealed from view. The awning is constructed of channel sections, designated herein as S-sections, which are so formed that provision is made for circulation of air from the under side of the awning to the upper side thereof. The channel sections are mounted in overlapping relation by securing a first channel section to the awning support and then connecting a second section to the first which is thereafter secured to the awning support. In the preferred embodiment of the invention, there is provided an interlock for securing the sections to each other which is arranged in such manner that all the fastening devices are substantially concealed from view to improve the appearance. Special end sections are provided so that the awning will have an identical appearance at its opposite edges, such special end sections further operating to enable the use of a novel arrangement of side covers. In addition, the ends of the S-sections forming the roof of the awning are fabricated in a special

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manner to provide a valance for the awning having a pleasing appearance.

Other objects and advantages of the invention will become apparent from the following descriptions.

In the drawings there is shown a preferred embodiment of the invention. In this showing:

Fig. 1 is a partial perspective view of an awning taken from one corner thereof, parts thereof being shown broken away and a part being shown unassembled;

Fig. 2 is a view illustrating schematically the manner in which flat sheet metal stock is cut and folded to form the valance of the awning;

Fig. 3 is a sectional view taken substantially on the line III—III of Fig. 1;

Fig. 4 is a partial perspective view, parts thereof being broken away and shown in section, of an end of the awning opposite to that shown in Fig. 1;

Fig. 5 is a broken away perspective view illustrating in section the end strip at an opposite edge of the awning of that shown in Fig. 4;

Fig. 6 is a sectional view illustrating the preferred embodiment of the invention for securing the sections against movement relative to each other and for securing such sections to a support;

Fig. 7 is a sectional view similar to Fig. 6 showing the interlocking fastening devices prior to movement into interlocking engagement;

Fig. 8 is a side elevational view of a modified form of awning which has no side covers and which is pivoted to a support;

Fig. 9 is a partial sectional view taken substantially on the line IX—IX of Fig. 8;

Fig. 10 is a partial sectional view similar to Fig. 9 showing the end strip of the awning at a side of the awning opposite that shown in Fig. 9.

Fig. 11 is a partial sectional view taken substantially on the line XI—XI of Fig. 8; and

Fig. 12 is a fragmentary detail view of a mounting bracket employed in connection with the awning shown in Fig. 8.

In Fig. 1 of the drawings, there is shown an awning comprising a roof cover 1 having a valance 2 and a side cover 40. The roof cover 1 comprises a plurality of elongated channel sections 3 which are mounted on supporting angles 4 extending transversely of the channel sections 3 in a manner to be described. The sections 3 have an S-shape in which the strips 5 and 6 form the sides of the S. The strips 5 and 6 are located in parallel planes and are connected by a strip 7 integral with and extending perpendicularly to the strips 5 and 6. The strip 6 is provided with

a flange 8 projecting upwardly therefrom and forming an end of the S-section, and the strip 5 is provided with a flange 9 projecting downwardly therefrom and forming the other end of the S-section.

The manner in which each of the S-sections 3 is formed will be best understood by referring to Fig. 2. The sections are constructed from a flat strip 10 of sheet metal which is shaped by folding along the dotted vertical lines 11 to provide the parallel strips 5 and 6, the integral connecting strip 7 and the flanges 8 and 9. The valance 2 is formed by bending the strips 5 and 6 about the broken lines 12 and 13 respectively. In order to bend the strips 5 and 6 about the lines 12 and 13, the flange 8 is separated by cutting along the solid line 14, notches 15 and 16 are cut out of the flange 10 and strip 7 respectively, such notches having their apex terminating in the line 12 and constituting a separated extension of such line, and the strip 7 is separated from the strip 6 by cutting along the solid line 17. The line 13 about which the strip 6 is bent is positioned inwardly of the line 12 about which the strip 5 is bent, and the end 18 of the section 6 and the flange 8 is positioned inwardly of the end 19 of the section 5, strip 7 and flange 9. By positioning the lines 13 and 12 and the ends 18 and 19 as disclosed above, the end 19 of the strip 7 appears as a continuation of the end 18 of the strip 6 when the strips 5 and 6 are bent about the lines 12 and 13 to form the valance 2. The end of the strip 5 is further provided with a rounded portion 20 to give the valance 2 a somewhat scalloped appearance when the sections are assembled in position. As shown in Fig. 1, the structure at the end of the sections 3 provides a valance 2 imparting a pleasing appearance to the awning.

As best shown in Figs. 3, 6 and 7, the sections 3 are assembled on the support 4 with a portion of each upper strip 5 overlapping a portion of each lower strip 6. In this manner each flange 10 will be positioned between a flange 8 and a connecting strip 7. Attention is particularly invited to the fact that the depth of each of the flanges 8 and 10, respectively, is less than the depth of the connecting strip 7. In this manner space is provided for air to circulate, as indicated by the arrows in Fig. 3, from the area underneath the strips 5 to the area overlying the lower strips 6. By this arrangement, warm air underneath the awning may escape through the openings provided by the flanges 8 and 10 and will not be entrapped underneath the awning. In addition to the circulation provided by the spaced arrangement of the flanges 8 and 10, such flanges function as baffles preventing snow or rain from passing through the awning. In addition, the baffling arrangement provided by the flanges 8 and 10 is effective to prevent direct rays of the sun from passing through the awning.

Openings 21 are provided in the lower strip 6 through which threaded fasteners 22 may be passed for securing the sections 3 to the supports 4. The cover 1 of the awning is assembled by securing the sections 3 progressively from left to right of the awning. In Figs. 1, 3 and 5, the strips are shown provided with L-shaped connecting brackets 23. The brackets 23 have a vertical arm 24 which is secured to an inner surface of the flange 8 as by rivets 25 and a horizontal arm 26 projecting outwardly therefrom and provided with an opening 27. The horizontal arm 26 is so arranged that its upper surface will

engage with the under surface of the upper strip 5 on the next section to be mounted in position. A threaded fastener 28 is passed through an opening formed in the strip 5 and the opening 27 in the bracket arm 26. In this manner, the brackets 24 and threaded fasteners 28 provide a releasable connection for connecting the sections to each other. The bracket 23 in addition functions to maintain the flanges 8 and 10 in spaced relation to each other. Since each of the sections 3 is provided with a connection to the support 4 by the fasteners 22, it will be seen that the connection of the sections 3 with each other through the bracket 23 constitutes part of the mounting of the sections 3 on the support 4.

The preferred embodiment of the invention for securing the sections to each other is illustrated in Figs. 6 and 7. The connection there shown is an interlocking connection which is made and released by moving the sections 3 toward and away from each other. The connection comprises an angle bracket 30 secured to each flange 10 in such manner that there is provided a clip 31 parallel to and spaced from the under surface of the upper strip 5. The other part of the connection is provided by an angle bracket 32 secured to a flange 8 in such manner that there is provided a horizontal portion 33 which engages with the under surface of a strip 5. The horizontal portion 33 provides a tongue which interlocks and wedges itself in the space between the clip 31 and the under surface of the strip 5 upon movement of the sections 3 away from each other to move the flanges 8 and 10 of adjacent sections 3 toward each other. This arrangement operates to secure the sections 3 to each other and to maintain the flanges 8 and 10 in spaced relation in the manner as described in connection with the angle 23 shown in Figs. 1, 3 and 5. As best shown in Fig. 6, the fasteners 22 for securing the sections 3 to the supporting angle 4 are located in the space directly underneath the portion of the upper strip 5 overlying a lower strip 6. The location of the fasteners 22 between the flanges 8 and 10 is preferred in the practice of the invention since such location conceals them from view and improves the appearance of the awning. It will be apparent that the interlocking connection provided by the angle brackets 30 and 32 will speed and facilitate the assembly of the sections 1. With this connection it is merely necessary to secure one section to the angle support 4, and the next section may then be quickly put in place by a hooking action, so to speak, and the insertion of the threaded fastening elements 22.

The sides 40 are formed by a plurality of channel sections 34 similar to the channel sections 3. The channel sections 34 are constructed to provide an upper protective strip 35 and a lower protective strip 36 located in substantially parallel planes, and a connecting strip 37 integral with and extending substantially perpendicular to the strips 35 and 36. The sections 34 may be mounted on a side structure in the same manner as described in connection with the sections 3 forming the roof 1. The side covers 40 extend vertically downward from the roof 1 and the channel sections 34 forming such side covers have their upper ends cut on a bias to conform with the slope of the roof 1. Special mounting sections 41 as best shown in Fig. 4 are provided for connecting the side sections 40 with the roof 1. Each of the mounting strips comprises a Z-section having a strip

42 covering the ends of sections 34. A flange 43 extends downwardly from the outer edge of the strip 42 and has its inner surface in flat engagement with the outer surface of the protective strips 35 to which it is secured by threaded fasteners 44. A flange 45 projects upwardly from the inner edge of the strip 43 and is connected to an angle support 46 by threaded fasteners 47. A protective covering strip 48 is integral with and extends inwardly from the upper edge of the flange 45. The protective covering strips 48 form part of the roof 1 and are located in the same plane as the lower protective strips 6 of the sections 3 and may thus be secured to the angle supports 4 by threaded fasteners. As shown in Fig. 4, the strip 48 at the left of the awning is provided with an upturned flange 49 spaced inwardly from the depending flange 9 on the first section 3 of the roof 1. The flange 49 corresponds in function and structure to the flanges 8. As best shown in Fig. 5, the end connecting section 41 at the right of the awning has the same construction generally as the section 41 shown in Fig. 4. However, since the section 3 of the roof 1 at the right of the awning will terminate in a lower protective strip 6, the protective strip 48 is provided with an upwardly projecting flange 50, similar to one of the connecting strips 7. Projecting inwardly from the upper edge of the strip 50 is a protective covering strip 51 located in a plane common to that in which the upper protective covering strips 5 are located. The covering strip 51 is provided with fastening elements identical to those provided on the upper protective strips 5 for securing it in position with respect to the flange 8 on the lower protective strip 6 of the end section 3 at the right of the roof 1. The flange 51 at its inner edge is provided with a depending flange 52 having the same structure as the flanges 9 on the upper protective strips 5. By employing end connecting sections 41 as described above, the appearance of the roof at opposite edges thereof will be identical.

From the foregoing, it will be apparent that the S-shaped sections 3 together with the similar sections 34 and connecting sections 41 provide an awning which is pleasingly symmetrical in appearance and which may be fabricated and installed with a minimum of expense. Attention is particularly invited to the fact that the connection for securing the sections 3 to each other and the flanges 8 and 10 in spaced relation, particularly the preferred embodiment thereof shown in Figs. 6 and 7, facilitates the assembly of the awning and constitutes part of the mounting means therefor on a support such as the angle supports 4. It will also be apparent that such connection is effective to positively secure the edges of the channel sections 3 to each other and imparts a rugged characteristic to the awning.

In Fig. 8, there is shown a modified awning 60 which is pivotally mounted with respect to a supporting structure as indicated diagrammatically by the dotted lines 61.

As shown in Figs. 9 and 10, the awning 60 is comprised of channel sections 3 which are secured to the cross-channel 4 in the same manner as described in connection with the structure shown in Fig. 1, the fastening elements being omitted from the showings of Figs. 9 and 10. Since the awning 60 is not provided with side portions 40, a simplified form of end section 41 is permitted in which the end sections 41 terminate in the depending flange 45 thereby eliminating the channel strips 42 and 43 employed as a cover for the channel section 34 of Fig. 4. In the showing of Fig. 9 the vertically depending flanges 45 are extended downwardly a sufficient amount to conceal the channel supports 46 to which they are secured and the cross channels 4. Except for the omission of the channel strips 42 and 43, the end sections 41 shown in Figs. 9 and 10 are the same as those shown in Figs. 4 and 5. It will be noted that the end section 41 in Fig. 9 is provided with channel strips 50, 51, and 52 as described in connection with Fig. 5, and that the section 41 in Fig. 10 is provided with channel strips 48 and 49 as described in connection with Fig. 4.

To mount the awning 60 on a support 61, there is provided a bracket 62 as shown in Fig. 12 having openings 63 therein for the reception of fasteners 64 by which it may be secured in position on the support 61. The bracket 62 is provided with lugs or ears 65 at its end providing supports for pivots 66 about which the awning 60 may pivot. To adjust the pivotal position of the awning, there is provided an adjustable supporting bracket 67 having a pivot connection 68 to the support 61 and a pivot connection 69 to the awning 60. The bracket 67 is provided with an extensible connection 70 by which its length may be adjusted, the connection 70 being of any suitable type preferably allowing the bracket 67 to be collapsed on itself. By adjusting the supporting bracket 67, the angular position of the awning 60 may be readily adjusted relative to the support 61.

In order to keep the upper and lower strip portions of the valance 2 in alignment with each other, a supporting strip 71 may be secured to the lower strips as shown in Fig. 11. Spacers 72 are secured in position between the supporting strip 71 and the upper strips of the valance. This provides a rigid connection by which the upper and lower protective strips of the valance 2 are kept permanently aligned with respect to each other.

While I have illustrated and described one specific embodiment of my invention, it will be understood that this is merely by way of illustration, and that various changes and modifications may be made within the contemplation of my invention and under the scope of the following claims.

I claim:

1. A protective covering comprising a plurality of channel sections each having an S section in which the sides of the S form upper and lower protective strips in substantially parallel planes connected by a center strip integral with and substantially perpendicular to said protective strips, and the ends of the S form flanges depending in opposite directions from said protective strips, a support on which said channel sections are mounted in overlapping relation with the flange on an upper strip of one of said channel sections positioned between the flange on a lower strip and the center strip of another channel section, and an L-shaped connecting bracket having one arm connected to the flange extending upwardly from the lower strip and its other arm extending up into contact with the upper strip and fixed in position under the upper strip to support it, the flange connected with the L-shaped bracket having a shorter depth than the depth of said center strip to provide a space

through which air may circulate from the area under one of said upper strips to the area over one of said lower strips.

2. A protective covering comprising a plurality of channel sections each having an S section in which the sides of the S form upper and lower protective strips of substantially equal width in substantially parallel planes connected by a center strip integral with and substantially perpendicular to said protective strips, and the ends of the S form flanges depending in opposite directions from said protective strips, a support on which said channel sections are mounted in overlapping relation with the flange on an upper strip of one of said channel sections positioned between the flange on a lower strip and the center strip of another channel section, and an L-shaped connecting bracket constituting part of the mount of said sections on said support, said bracket having one arm connected with the flange on a lower strip and its other arm extending up into contact with the upper strip and fixed in position under the upper strip to support it, said bracket being operable to secure said last-named flanges in spaced relation and against movement relative to each other, said flanges on the lower strips having a shorter depth than the depth of said center strip to provide a space through which air may circulate from the area under one of said upper strips to the area over one of said lower strips.

3. A protective covering comprising a plurality of channel sections respectively having an S section in which the sides of the S form upper and lower protective strips in substantially parallel planes connected by a center strip integral with and substantially perpendicular to said protective strips, and the ends of the S form flanges depending in opposite directions from said protective strips, a support on which said channel sections are mounted in overlapping relation with the flange on an upper strip of one of said channel sections positioned between the flange on a lower strip and the center strips of another channel section, and an L-shaped connecting bracket constituting part of the mount of said sections on said support, said bracket having one arm connected with the flange on a lower strip, and a clip secured to the upper strip overlying said last-named lower strip, said bracket having its other arm arranged for interlocking engagement with said clip upon movement of said upper and lower strips to a predetermined position relative to each other, said interlocking engagement being effective to hold the flanges carried by said upper and lower strips in spaced relation and against movement relative to each other, said last-named flanges having a shorter depth than the depth of said center strip to provide a space through which air may circulate from the area under one of said upper strips to the area over one of said lower strips.

4. A protective covering comprising a plurality of channel sections each having an S section in which the sides of the S form upper and lower protective strips in substantially parallel planes connected by a center strip integral with and substantially perpendicular to said protective strips, and the ends of the S form flanges depending in opposite directions from said protective strips, a support on which said channel sections are mounted in overlapping relation with the flange on an upper strip of one of said channel sections positioned between the flange on a lower strip and the center strip of another channel section, and an interlocking connection for securing said last named flanges in spaced relation and against movement relative to each other, said connection comprising a clip secured to one flange and arranged parallel to the protective strip carrying one of said last named flanges, and an L-shaped tongue having one arm secured to the other flange of the protective strip carrying the other of said last-named flanges with the other arm of said tongue being shaped and positioned to be wedged between said clip and the protective strip on which said clip is mounted upon movement of said last-named flanges toward each other.

5. A protective covering comprising a roof cover and a side cover, said side cover depending substantially vertically from said roof cover, said covers each comprising a plurality of channel sections respectively having upper and lower protective strips in substantially parallel planes and connected by a center strip integral with and substantially perpendicular to said upper and lower strips, said upper and lower strips overlapping to provide a ventilated cover by which air may circulate from the area under said upper strip to the area over said lower strip, and a connecting section at the junction of said roof and side covers, said section having a web covering the ends of said side channel sections, a flange extending downwardly from said web and overlying the upper strips of said side channel sections, a flange extending upwardly from said web, and a strip extending inwardly from said upwardly projecting flange, said inwardly extending strip being in overlapping parallel relation with the upper protective strip of the end channel section of said roof cover, said inwardly extending strip being in the plane of the lower strips and functioning as a continuation of said roof cover.

6. A protective covering comprising a roof cover and a side cover depending substantially vertically from each of opposite edges of said roof cover, said covers each comprising a plurality of channel sections respectively having upper and lower protective strips in substantially parallel planes and connected by a center strip integral with and substantially perpendicular to said upper and lower strips, said upper and lower strips overlapping to provide a ventilated cover by which air may circulate from the area under said upper strip to the area over said lower strip, said sections forming said roof cover extending transversely relative to the sections forming said side cover, and a pair of roof end sections respectively joining opposite edges of said roof cover with said side sections, each of said end sections having a strip forming a cover for the ends of said side sections and a strip extending inwardly into overlapping relation with the protective strip of a channel section defining one edge of said roof cover, said inwardly extending strips being in the plane of the lower roof strips on one side and in the plane of the upper roof strips on the other side and imparting a symmetrical appearance to the opposite edges of the said roof cover.

7. The protective covering defined in claim 5 in which the flanges have a shorter depth than the depth of the center strip and the overlying protective strip is supported in spaced relation by the clip and tongue to permit free air circulation between the channels around the flanges.

8. The protective covering defined in claim 4 in which a bracket for attachment to a building

is pivotally connected to the upper ends of the covering supports, end arms are pivotally connected at one end to the lower portion of the supports and have a hinge at the other end for attachment to a building to position the covering at an angle to the vertical wall of a building.

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