

March 27, 1956

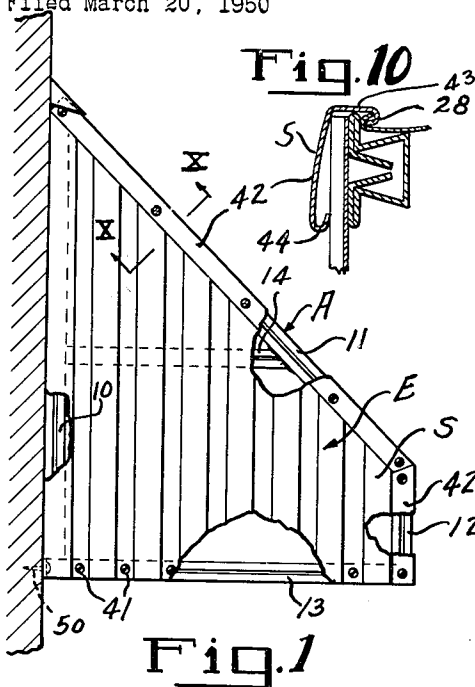
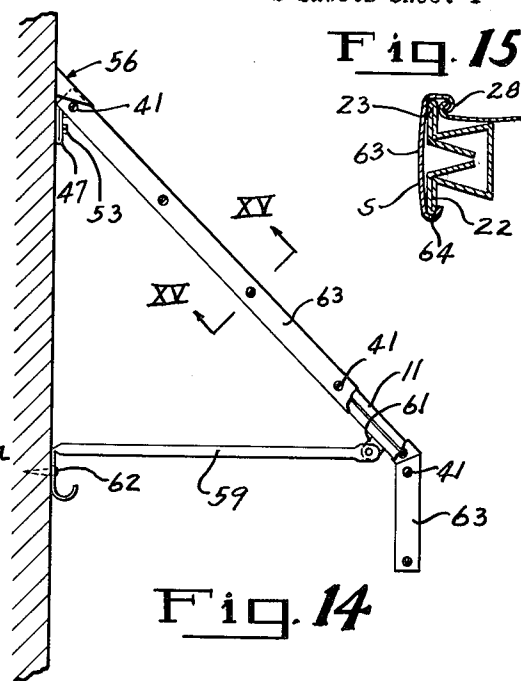
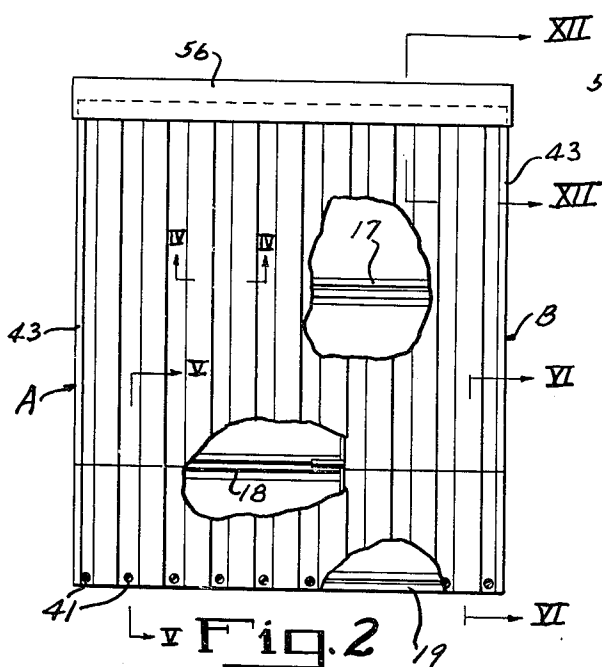
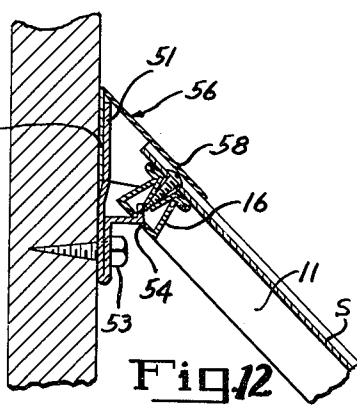
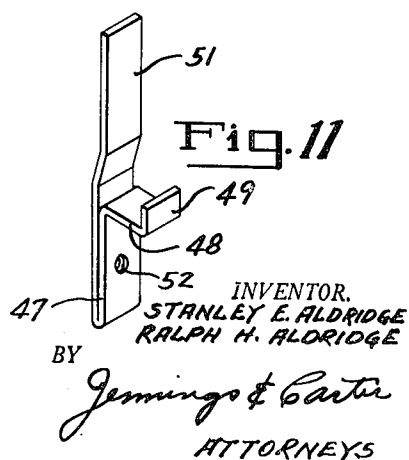
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2,739,356

METAL AWNING

Filed March 20, 1950

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

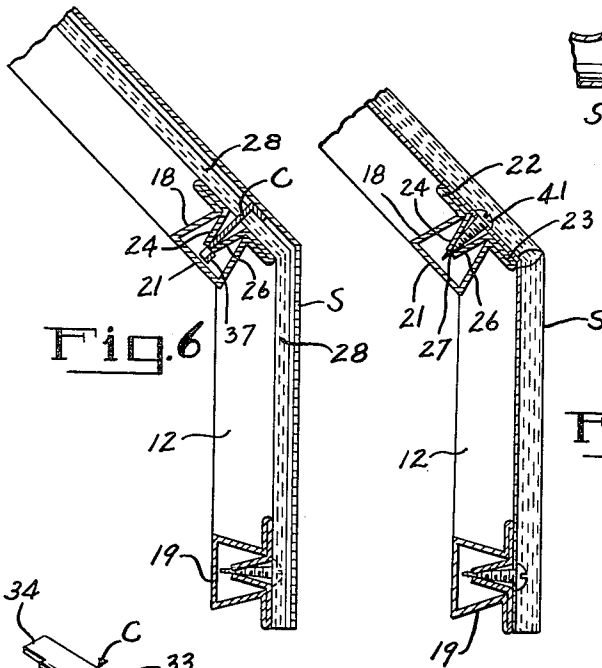


Fig. 6

Fig. 5

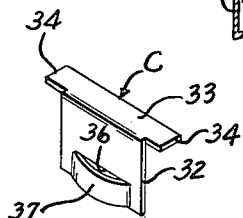


Fig. 8

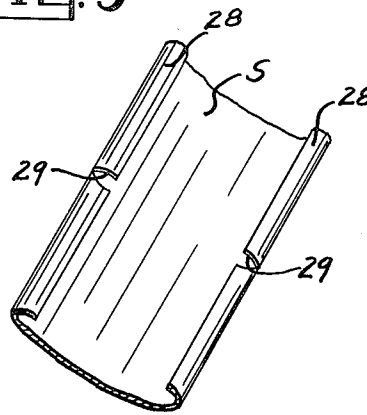


Fig. 7

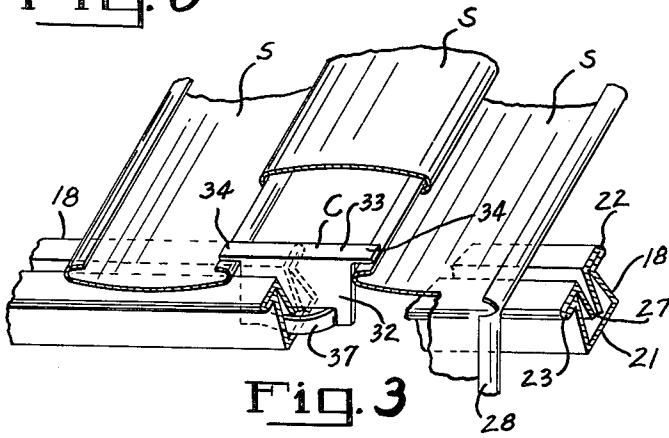


Fig. 3

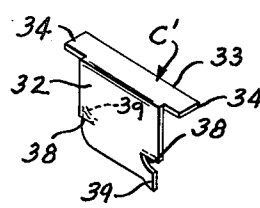


Fig. 13

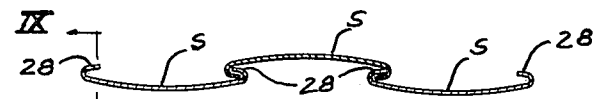


Fig. 4

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2,739,356

METAL AWNING

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3 Claims. (Cl. 20—57.5)

Our present invention relates to metal awnings and the like and has for an object the provision of a simple, sturdy awning formed of light weight materials, together with an improved frame and clips for attaching the members forming the roof, valance or ends of the awning to the frame.

Our invention contemplates an awning in which the panels forming the roof, ends and valance, either or all of the same, may be formed of thin, relatively narrow strips of metal or the like, each of the strips being bowed transversely and being assembled to form the panels with the concave sides of alternate ones of the strips oppositely disposed, said strips interlocking with adjacent strips along the edges, thereby to form panels which have by far greater strength against deformation than would be the case if the strips were flat.

More specifically, our invention contemplates an awning in which the surface of the roof, ends and valance, which are referred to hereinafter as "panels," may all be constructed of strips of very thin material bowed transversely of the width thereof and interlocked together along the adjacent edges, together with means to secure such assembled panels to a supporting framework.

Another object is to provide an awning formed of transversely bowed thin strips of metal interlocked with each other continuously along the edges thereof, and a supporting frame in the form of members having a converging opening therein facing the strips or panels of material, the interlocked strips forming the roof, ends or valance and being secured to the frame members by a fastener inserted into the converging opening.

Another object is to provide fastening means for the strip type roof, end and valance portions of an awning of the type above described in the form of metal clips having laterally directed portions or flanges on the upper end disposed to engage over the interlocking flanges of the strips, said clip having one or more portions offset out of the plane of the body portion thereof which engage and interlock with the frame member when the clip is inserted into the converging opening thereof, such a combination of parts making possible the rigid and secure assembly of the roof, ends and valance to each other and to the frame merely by laying on the strips and inserting the clips.

Further objects of our invention are to provide an awning of the character designated which shall require a minimum of tools both for its fabrication in the shop and for its erection on the job; to provide a combined awning support and flashing strip securing bracket by means of which the awning is supported from a wall which also holds the flashing strip in place by running in on bolts or the like passing through the bracket into the wall; and in general to provide a low cost, structurally sound and durable awning which is wholly effective for its intended purposes.

Awnings illustrating the features of our invention is shown in the accompanying drawings forming a part of this application in which:

Fig. 1 is an end elevational view of an awning em-

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bodimenting an end section and a valance section partly broken away and in section;

Fig. 2 is a front elevational view of the awning shown in Fig. 1 partly broken away and in section;

Fig. 3 is a fragmental sectional isometric view of a portion of the awning shown in Figs. 1 and 2 adjacent the point of connection of the valance with the roof portion thereof, some of the parts being broken away for the sake of clarity;

Fig. 4 is a detail sectional view taken generally along line IV—IV of Fig. 2 and drawn to an enlarged scale;

Fig. 5 is a detail sectional view taken generally along line V—V of Fig. 2 and drawn to an enlarged scale;

Fig. 6 is a detail sectional view taken generally along line VI—VI of Fig. 2 and also drawn to an enlarged scale;

Fig. 7 is a sectional isometric view of one of the strips of thin material used in the construction of our awning and illustrating the same notched for bending as to form the valance;

Fig. 8 is an isometric view of one form of clip which may be used to secure the strips to the frame of our awning;

Fig. 9 is a detail sectional view taken generally along line IX—IX of Fig. 4 and drawn to an enlarged scale thereby to illustrate the wavy or undulating edge of the strip members;

Fig. 10 is a detail sectional view taken generally along line X—X of Fig. 1 and drawn to an enlarged scale;

Fig. 11 is an isometric view of our improved awning supporting and flashing securing bracket;

Fig. 12 is a detail sectional view taken generally along line XII—XII of Fig. 2 and drawn to an enlarged scale;

Fig. 13 is a perspective view of a slightly modified form of securing clip;

Fig. 14 is an end elevational view of an awning made in accordance with our invention and in which the ends therefor are omitted, the drawing being partly broken away for the sake of clarity; and,

Fig. 15 is an enlarged detail sectional view taken generally along line XV—XV of Fig. 14.

Referring now to the drawings for a better understanding of our invention and more particularly to Figs. 1 to 6 inclusive, our improved awning comprises a frame embodying triangular end sections A and B. The triangular frame sections each comprise vertical rear members 10, a downwardly sloping front member 11, a vertically disposed valance frame member 12, a lower horizontally disposed member 13 connecting the lower ends of the members 10 and 12. If desired an intermediate horizontal member 14 may be provided to connect the members 10 and 11. The pairs of triangular end frames may be connected by a suitable number of cross members including an upper frame member 16, an intermediate member 17, a member 18 at the point of connection of the valance with the roof of the awning, and a cross member 19 connecting the lower ends of the valance members 12. The several frame members are secured together adjacent their ends in the manner shown as by welding or in any other suitable manner to form a rigid framework.

As best illustrated in Figs. 1, 5 and 6, all of the frame members may conveniently be formed of lengths of material which are identical in transverse configuration. Thus, and by way of illustration, the frame member 18 may be in the form of a continuous length of sheet metal bent to form a beam in the form of a trapezoidal shaped body 21 having parallel, laterally directed flanges 22 and 23 formed by bending the metal on itself. The terminal edges of the sheet are bent inwardly of the body portion 21 to provide legs 24 and 26 which converge toward each other inwardly of the body. The legs 24 and 26 terminate

short of the base of the body 21. This construction defines an upwardly opening, converging slot 27 extending the length of the piece of framing, and the ends of the legs 24 and 26 co-act to form a continuous locking means which is wholly effective in retaining either an ordinary metal screw or a clip of the character to be described herein. As illustrated in the drawings, the frame members are assembled to form the framework so that the flanges 22 and 23 lie parallel to the plane to be occupied by the panel portion to be secured thereto except as will be herein pointed out.

Our improved panel forming members are in the form of thin, relatively narrow strips of metal indicated generally throughout the drawings by the letter S. While the thickness as well as the width of such material may vary, we have found that material of a thickness and width generally used for making Venetian blinds and which is about .012 inch thick is entirely suitable for the purpose at hand.

In preparing the strips S for use in our awning, we first bow the same transversely throughout their entire length, much in the same manner that Venetian blind slats are presently bowed. Having done this we then roll or otherwise form along each edge of the strips S a continuously extending flange 28. The flanges 28 are rolled so that they lie on the concave side of the strips S. If the awning for which the strips being made is to have a valance, prior to rolling the flange 28 we place the number required for the awning roof flatwise in stacked relation and pass the same over a suitable cutting tool, such for instance as a grinding wheel, and notch the same as indicated at 29, along each edge. While the notches 29 may be cut after the flanges 28 are rolled, we find it more expedient to cut the same prior to rolling the flanges 28.

By reference to Fig. 9 it will be noted that the flanges 28 are indicated in edge view as being wavy or undulating as indicated at 31. We have found that when rolling the flanges 28 with ordinary round rolls this wavy pattern along the edges and extending somewhat back into the width of the flanges 28, but not to the edge thereof, is brought about due to crinkling of the sheet. We take advantage of this in a manner later to be explained in gaining a more effective and binding interlock between a pair of such flanges when put together in the manner illustrated in Fig. 4.

As shown in Figs. 8 and 13, we provide securing clips C or C' for holding the assembled strips S onto the framework of the awning. In Fig. 8, the form of clip C shown therein comprises a thin metal body member 32 having a right angle flange 33 at its upper or outer end. The flange 33 is provided with laterally directed and oppositely disposed flanges or ears 34. Adjacent its lower end the body 32 is slitted at 36 and a portion of the central part of the body below the slit is offset out of the plane of the body proper to provide an offset, outstanding locking portion 37. The clip C' is identical in all respects with the one just mentioned except that instead of the slit 36 and the portion 37 we slit the body 32 at each side as indicated by the numeral 38, and turn oppositely disposed ears 39.

Our improved awning may be assembled by first engaging the requisite number of the strips S, the flanges 28 of each interlocking with the corresponding flange of the adjacent strip. The strips are assembled so that the concave sides of each strip lie adjacent to the convex side of another strip. With the strips thus assembled the clips C or C' are inserted into the opening 27 of the frame, and the lateral ears or flanges 34 thereof are engaged over the flanges 28 as clearly illustrated in Fig. 3. The clips are now pushed inwardly by pressing on the surface of the outermost strip S immediately overlying the clip C, forcing the offset portion 37 thereof below the level of the ends of the legs 24 and 26. The offset portion 37 engages under the end of one of the legs 24 and 26, thus securely clamping the edges of three of the strips S to the framework at the point where the clip C is placed. It will be noted that no tools are required to insert the

clip, and in practice we have found that they are easily and readily inserted merely by putting them into position and pressing downwardly with the thumb or heel of the palm on the overlying surface of the thin, flexible strips S. It will also be noted that the body portion 32 is made of such width that it equals the distance between the rounded outer edges of a pair of assembled strips S. The clips when inserted thus hold the two lowermost strips with their flanges pressed into the flange of the uppermost strip, thus centering and locking the strips together.

If it is assumed that an awning to have a valance is under construction, the roof is first laid in place and secured, it being understood that strips notched as at 29 are employed. The valance portion is formed by bending the entire panel downwardly to come into contact with the lower frame member 19, the edge of the flange 23 of member 18 acting as a straight edge about which the bend takes place.

The ends of the awning are assembled in the same manner just stated for the roof. The vertical strip S adjacent the wall may have its flange 28 locked behind the rear-most flange 22 or 23 of the vertical frame member 10.

While the lower edges of the members forming the valance may be secured to the member 19 by means of the clips C or C' we preferably secure the same by means of metal screws 41 which pass through the "pans," namely the strips S having their concave sides upwardly, into the opening 27, into engagement with the ends of the legs 24 and 26 of the frame member. The screws have been found in practice to readily engage and to be retained by the legs 24 and 26 of the frame members, and further we have found that the legs are not spread apart sufficiently to disengage the screws even if they are placed on centers as close together as an inch or so.

The ends of the awning indicated generally by the letter E may be wholly secured to the frame members 14 by means of the clips. In practice however we preferably use the clips C or C' for securing the end panels to the intermediate members 14, and secure the upper and lower edges to the members 11 and 13 by means of the screws 41.

In order to fair or cover up the upturned flanges 28 or the flanges 22 or 23 of the frame members at the end of the awning, we may provide a special form of strip 42 shown more particularly in Fig. 10 of the drawing. As shown, the same is formed of a strip of material similar to the strips S and is provided with one of the flanges 28. The edge of the strip on which the flange 28 is formed is turned at right angles to provide a portion 43, and the associated flange 28 is interlocked with the flange 28 of the last of the strips S forming the roof. The opposite edge of the strip 42 may be flanged as indicated at 44, and the strip 42 together with the upper ends of the vertically disposed strips S forming the ends of the awning may be secured to the frame member 11 by means of screws 41 as stated. If required, only a relatively few screws 41 may be run completely through the fairing strip 42, and others thereof may be run only through the members S forming the "pans" and into the opening 27 of the frame member 11. A vertical section of the strip 42, indicated by the numeral 42a may have its flange 28 engaged with the flange 28 of the adjacent strip S of the end, and its flange 44 interlocking with flange 28 of the last vertical strip in the end.

As shown in Figs. 11 and 12 we have provided an improved form of bracket and sheathing strip securing member for supporting our awning from a wall. This bracket comprises a length of metal strap having a reversely bent lower portion 47. The outermost layer of the body from which the bracket is formed has an outstanding shelf portion 48 bent therefrom and a vertically disposed engaging lug portion 49 formed on the outer end of the shelf portion. The upper end 51 of the bracket is offset forwardly of the plane of the rear side of the lower portion 47. An opening 52 extends through the doubled lower section 47.

In placing our awning on a wall, the brackets are first located and secured loosely to the wall by means of a

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lag bolt 53 or the like which passes through the opening 52 into the wall. The screws 53 are run in substantially but not wholly their entire travel, leaving the brackets somewhat loose. The awning is now hung by engaging the portions 49 of the brackets into suitable openings 54 provided in the body portion 21 of the upper cross members 16. Our improved type of flashing plate 56 now has its rear vertical portion 57 engaged behind the portion 51 of the bracket whereby its forwardly sloping portion 58 lies against the roof of the awning. The lag bolts 53 are now run completely in, thus simultaneously securing the brackets firmly to the wall and also drawing the upper portion 51 thereof tightly against the wall, securing the flashing strip 56 thereto in correct position. The bottom end of the awning may be fastened to the wall by means of screws 50.

In Figs. 14 and 15 we show an awning embodying the features of our invention in which the awning is not provided with ends. The awning is identical with the one previously described except for the end frames which are replaced by horizontally disposed brace rods 59. The rods 59 may be secured to lugs 61 on the frame members 11, and to the wall by means of a screw or the like 62.

The only other material difference between the type of awning shown in Figs. 14 and 15 and that previously described is in the form of the fairing strips for the ends. These strips are indicated by the numeral 63. The strip 63 may likewise be made of one of the strips S and it is provided along its upper edge with one of the flanges 28. Along the lower edge there is an intumed and upwardly bent flange 64 disposed to engage under one of the flanges 22 or 23 of the frame member 11 at the end of the roof of the awning. Such strips 63 thus serve effectively to cover all raw edges of the construction. In like manner to the roof section of the awning, it will be understood that the strip 63 is employed for the end of the valance portion if the awning is provided with such a valance, and the same engages about the vertically disposed frame portion 12. The strips are secured in the manner previously described by means of the screws 41.

From the foregoing the manner of constructing our improved awning has been explained, and may be readily understood. It will be appreciated that the transversely bowed strips of material, when secured to the framework, provide extremely strong panels for the roof, valance and ends of the awning even though such material is very thin. The transversely bowed strips with the flanges 28 turned along the edges thereof provide an awning panel having ideal appearance and water shedding characteristics. In addition, the flanges 28 add strength to the panel. Further, with the pre-painted strips of material S which are presently available on the open market, we have found that we can roll the edges 28 after the strips are painted without in any way damaging such paint. A type of strip made for Venetian blind purposes and which is wholly suitable for making our awning is manufactured by the Hunter-Douglas Corporation, New York, New York, and can be bought pre-painted in any one of a number of colors, such as yellow, green, red, blue, white and so forth. We are thus enabled to readily construct awnings having any desired striped color pattern, and in fact an awning which when viewed from a very short distance away can hardly be distinguished from a canvas awning of similar color pattern. It will be noted that the shadow lines produced by the flanges along the adjacent edges of the strips S are very unpronounced due to the shallowness of the flanges. This prevents the general contour of the surface made with our improved strips from being broken by dark lines, adding to the illusion, from a short distance away, that our improved awning is made of canvas.

In actual practice we have found that an awning constructed in accordance with our invention of the strips of thin material and held to the frame work as shown by the clips C and screws 41 is extremely durable and strong. We have found that our awning is capable of withstanding

wind gusts to a degree wholly comparable with various other awnings. The fact that the strips can all be assembled on the awning frame either with no tools at all when using the clips C or C' or with merely a hand type drill for punching holes in the strips and a screwdriver for running in the screws 41 makes our improved awning entirely practical and economical from the production and assembly standpoints. With respect to the clips, we have found that when inserted in the openings 27 and engaged behind one of the legs 24—26 it is practically impossible to withdraw them without tearing the metal from which they are formed.

From the foregoing it will be apparent that we have devised an improved awning which is simple of manufacture and economical of production. In the manner understood, there is now available on the market material for making our improved awning in which the color of the strips S is guaranteed for substantially an unlimited time against discoloration due to sunlight, rain, heat and cold. Due to the water shedding characteristics of our construction we are enabled to use a galvanized steel sheet in making the framework, and if desired the same may be left unpainted, although in practice we prefer to paint it a neutral color, such for instance as white prior to assembling the roof, ends and valance. Our improved bracket supporting member and the flashing member held thereby greatly facilitate the hanging of our improved awning and forms ready means for flashing the same along the wall edge of the roof.

In practice we have found that the wavy contour 31 of the edges of the flanges 28 causes the flanges to interlock with considerable more friction than if they were left plain. While our improved strip ordinarily interlock sufficiently well without such an edge configuration, the same is an important detail of our invention.

While the strips S may be of varying widths, we prefer to make them of material about two inches wide. The width of the flanges preferably is about three-sixteenths of an inch each.

In the foregoing specification and in the appended claims the word "thin" and the expressions "thin material" and "thin sheet material" are all used to designate strips of sheet materials of a thickness-width ratio in which transverse bowing adds materially to the strength thereof. At all events, materials up to one-sixteenth of an inch are comprehended thereby.

While we have shown our invention in several forms, it will be obvious to those skilled in the art that it is not so limited but is susceptible of various other changes and modifications without departing from the spirit thereof, and we desire therefore, that only such limitations shall be placed thereupon as specifically set forth in the appended claims.

What we claim is:

1. In an awning, a frame comprising members having a continuously extending groove along the outer surface thereof constructed and arranged to receive and retain a fastener, a panel covering the frame comprising a plurality of thin strips of metal each of which is bowed transversely throughout the length thereof to provide strips having concave and convex sides, continuously extending flanges on the edges of said strips adjacent the other strips of the panel and disposed on the concave side of said strips, the flanges of the strips interlocking with the flanges of adjacent strips to provide a panel in which adjacent ones of the strips lie with the concave sides oppositely disposed, and a fastening means overlying at least some of the interlocking flanges and passing into the groove of the frame members.

2. An awning as defined in claim 1 in which said groove in the frame members is defined between two inwardly converging continuously extending portions of the frame members, and in which said fastening means is in the form of a metal clip having a body, a portion on the body offset out of the plane thereof and engaging

behind the inwardly converging continuously extending portions of the frame members, and laterally directed lugs engaging over the interlocked flanges of the strips.

3. An awning as defined in claim 2 in which said clips are placed beneath at least some of the strips having their concave sides disposed toward the frame.

2,083,681
2,305,122
2,412,404
2,542,919
2,568,679
2,588,011
2,611,935

References Cited in the file of this patent

UNITED STATES PATENTS

1,770,063 Bloss et al. ----- July 8, 1930

10

338,382
775,759

Baldwin ----- June 15, 1937
Wiley ----- Dec. 15, 1942
Jackson ----- Dec. 10, 1946
Freeman ----- Feb. 20, 1951
Freeth ----- Sept. 18, 1951
Kersey ----- Mar. 4, 1952
Kramer et al. ----- Sept. 30, 1952

FOREIGN PATENTS

Germany ----- June 18, 1921
France ----- Oct. 5, 1934