July 23, 1963 R. K. DEAN ETAL 3,098,267

VENTILATED METAL AWNING

Original Filed Oct. 3, 1955 2 Sheets-Sheet 1

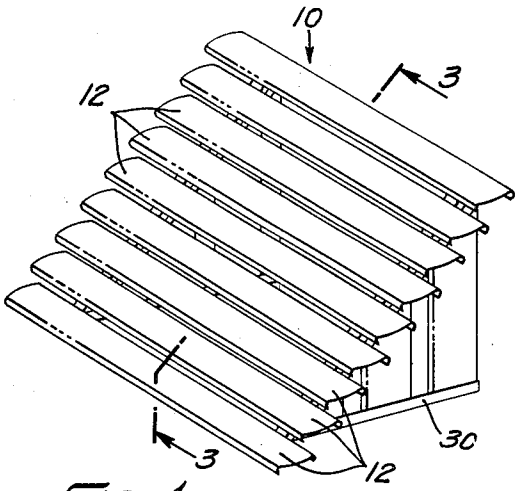


FIG. 1

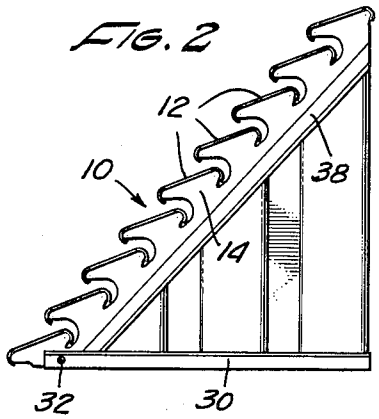


FIG. 2

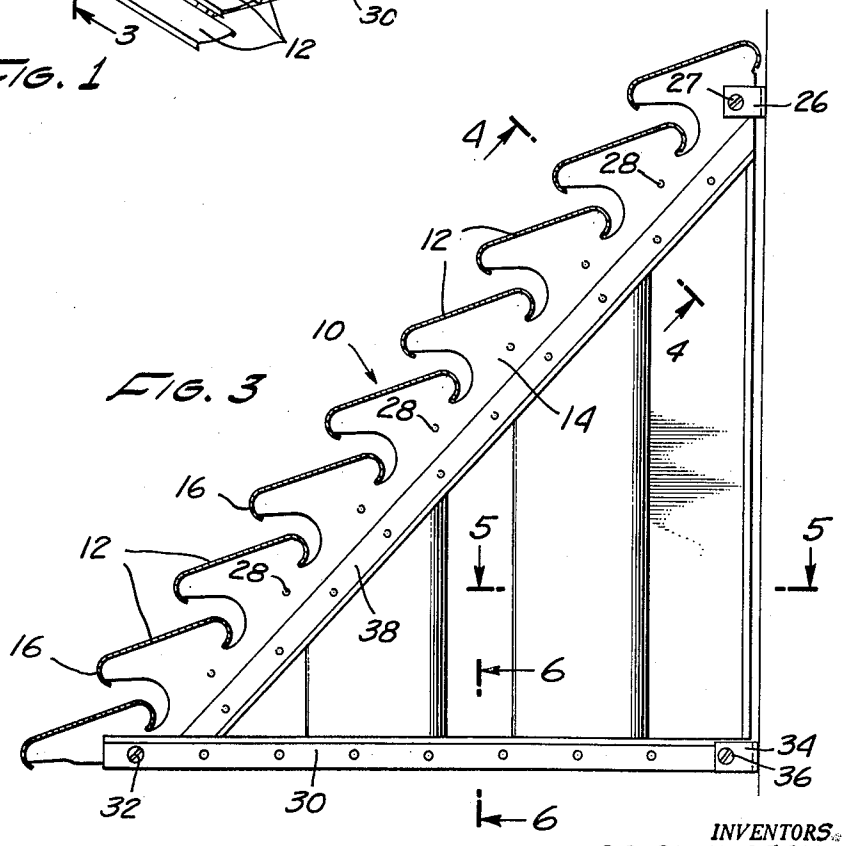


FIG. 3

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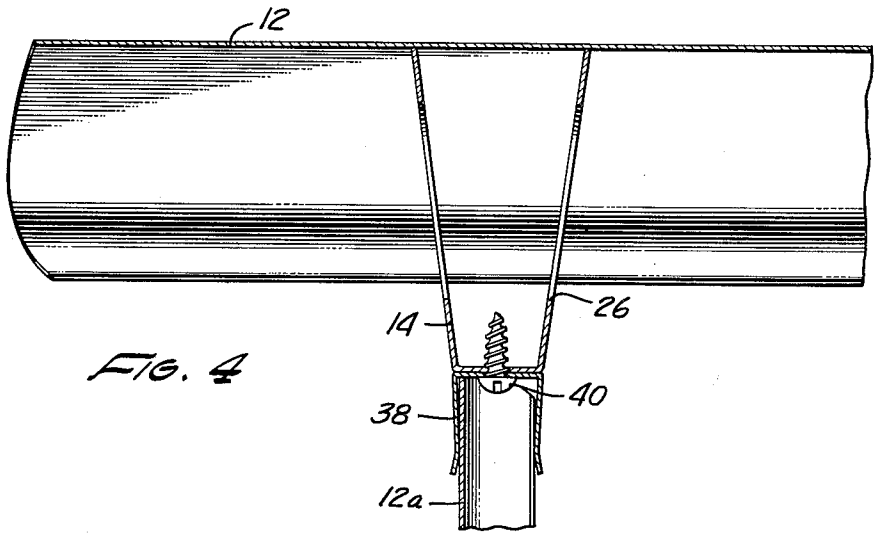


FIG. 4

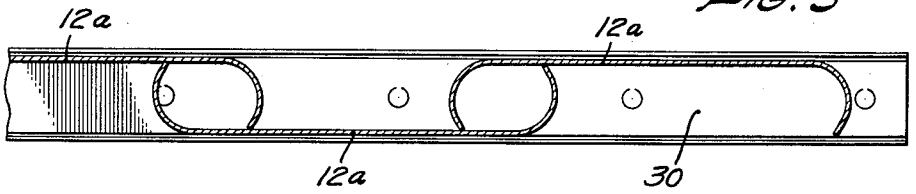


FIG. 5

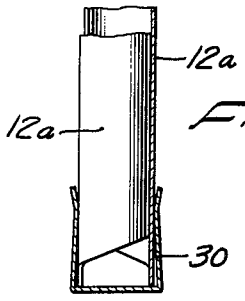
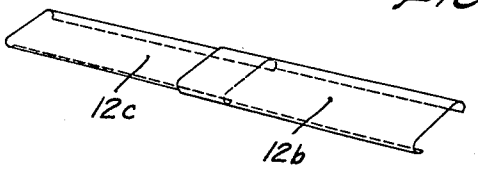


FIG. 6

FIG. 7

FIG. 8



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3,098,267

VENTILATED METAL AWNING

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Original application Oct. 3, 1955, Ser. No. 537,942, now Patent No. 3,015,135, dated Jan. 2, 1962. Divided and this application Jan. 25, 1960, Ser. No. 10,013
1 Claim. (Cl. 20—57.5)

This invention relates to metal awnings and similar overhead shelter structures, such as canopies, umbrellas, and the like, and is a division of our pending application, Serial No. 537,942, filed October 3, 1955, now Patent No. 3,015,135, issued January 2, 1962. The primary object of the invention is to provide a new and improved rigid, ventilated awning or the like embodying roll-formed sheet metal components which can be assembled quickly and easily, with a minimum of tools.

Another object is to provide an awning panel of simple cross sectional shape which can be roll formed from prepainted coiled strip in the awning manufacturer's plant, using relatively inexpensive machinery. This makes possible considerable savings in freight charges for shipping material from the strip factory to the awning manufacturer's plant, owing to the fact that coiled strip is a compact, high density commodity taking the lowest freight rate, whereas formed panels are a bulky, light weight commodity taking a much higher freight rate based more on volume than on weight.

A further object of the invention is to provide an awning of extremely simplified assembly, wherein most of the elements slide together or snap into place without requiring screws or other fasteners, yet which hold together with a positive grip that resists the racking and twisting forces exerted by winds of near-hurricane velocity. One important advantage of this feature is that most sizes of awnings can be put up by one man alone, which means lower labor cost for installation. The present invention minimizes the cost of assembly, which is normally the principal cost of an awning.

Still another object of the invention is to provide an awning that is particularly adapted to being shipped in knocked down condition and assembled on the job by unskilled labor.

A further object of the invention is to provide a new and improved method of mounting awnings on a wall or other supporting structure, which is simple, quick to install, and extremely strong.

The foregoing and other objects and advantages of the present invention will become apparent to those skilled in the art upon consideration of the following detailed description of the preferred embodiment thereof, reference being had to the accompanying drawings, wherein:

FIGURE 1 is a perspective view of a horizontal slat awning embodying the principles of the present invention;

FIGURE 2 is a side elevation of the same;

FIGURE 3 is an enlarged sectional view, taken at 3—3 in FIGURE 1;

FIGURE 4 is an enlarged fragmentary sectional view, taken at 4—4 in FIGURE 3;

FIGURE 5 is an enlarged fragmentary sectional view taken at 5—5 in FIGURE 3;

FIGURE 6 is an enlarged fragmentary sectional view, taken at 6—6 in FIGURE 3;

FIGURE 7 is an enlarged fragmentary sectional view, taken at the junction of the horizontal brace with the slat-supporting stringer; and

FIGURE 8 is a perspective view, showing how two lengths of panel or slat may be snapped together to form a continuous panel of any desired length.

In the drawings, the awning is designated in its entirety

by the reference numeral 10, and is seen to comprise a downwardly and outwardly inclined top made up of panels 12 mounted on two laterally spaced, inclined stringers 14. The stringers 14 are preferably made up of sheet metal, formed into deep U-shaped channels, the sides of which diverge slightly as shown in FIGURE 4.

Each of the panels 12 is formed from a flat sheet metal strip, with the longitudinal edges thereof curled roundly at 16 toward the same side of the panel through an angle of between 90° and 180°; the preferred angle being approximately 135°, as shown in the drawings. With the edges thus curled up from the midsection, the panel 12 has the cross section of a shallow, flat-bottomed channel. The preferred method of carrying out the invention calls for shipping the flat, prepainted strip in coils from the strip manufacturer to the awning manufacturer who, in turn, runs the strip through a roll-forming machine that curls the edges at 16 and cuts the panels to length. In this manner, considerable economy is effected in shipping the panel material to the awning manufacturer, since the coils of flat strip are extremely compact for the weight, and therefore enjoy a favorable freight rate as compared to formed panels, which are extremely bulky to ship. Also, the formed panels are more subject to damage in shipment, which is reflected in still higher freight rates.

The longitudinal edges of the stringers are cut out to form a plurality of equally spaced, parallel seats 18 for the downwardly opening panels. Each of the seats 18 is inclined to the longitudinal axis of the stringer at an angle such that the top surface of the panel 12 is inclined downwardly at approximately 20° from the horizontal, so as to shed rain and exclude the slanting rays of the sun when the latter is low in the sky. Also, the lower end of each seat overhangs the upper end of the seat below, so that there is a certain amount of overlap of the panels. Each seat has a straight edge portion 20 that lies flat against the bottom of the panel, and rounded end portions 22 and 24 that extend into and engage the curled edges 16 of the panel. The seat 18 is undercut deeply at its lower edge, as shown at 26, to permit the curled rear edge of the next lower panel to be inserted behind and hooked under the rear end 24 of its seat.

The two stringers 14 are attached at their upper ends to the wall or window frame, by means of U-shaped brackets 26, that are connected to the sides of the stringer by sheet metal screws 27, which are screwed into knockouts 28 provided in the stringer. The lower ends of the stringers are held out from the wall by means of horizontal braces 30. The braces 30 are U-shaped channels, which open inwardly, and the outer end of the channel receives the bottom end of the stringer 14 and is attached thereto by sheet metal screws 32 that are also screwed into the knockouts 28. A U-shaped bracket 34 is secured by sheet metal screws 36 to the other end of the brace, and this bracket is mounted on the wall or window frame to support the awning.

The horizontal panel awning 10 may be made up without side sections, in which case, the construction as described to this point is complete. If side sections, or returns, are desired, they may be added to the awning by attaching a downwardly opening, U-shaped channel member 38 to the underneath side of the stringer 14, using sheet metal screws 40. Vertical panels 12*a* are then inserted into the channels 30 and 38, said panels facing alternately inwardly and outwardly, as best seen in FIGURE 5. The bottom ends of the panels 12*a* are cut off square to fit within the horizontal brace channel 30, while the top ends thereof are cut to the same angle as the upper channel 38. The panels 12*a* overlap one another, and can be telescoped together or extended, as necessary, to fill the triangular area enclosed by the members 30, 38 and the vertical wall or window frame.

If it is desired to make an awning of such dimension that the individual panels would be too long for convenient handling, two or more panels of shorter length may be joined together, as shown in FIGURE 8, to make an extended panel of any length. In this case, one of the panels **12***b* is snapped over the end of another panel 12*c*. The curvature of the edge rolls **16** allows them to fit snugly over one another, to make a tight junction.

The many advantageous features of the present invention are believed to be clearly apparent from the foregoing description. While we have shown and described in considerable detail what we believe to be the preferred form of the invention, it will be understood that various changes in the shape and arrangement of the several parts may be made within the scope of the following claim.

We claim:

A horizontal panel awning comprising at least two laterally spaced, downwardly inclined stringers attached at their upper ends to a support, each of said stringers being in the form of a generally U-shaped channel of sheet metal having upwardly projecting side walls, the upper edges of said side walls being cut out to provide a plurality of uniformly spaced, parallel panel seats along the length thereof, each of said panel seats comprising a downwardly and outwardly inclined straight portion terminating at opposite ends in downwardly curved, arcuate

end portions, the outer end portion of one panel seat overhanging the next lower panel seat and being undercut with a hook-shaped cut-out extending from the bottom of the downwardly curved outer portion of the upper panel seat to the bottom of the downwardly curved inner end portion of the lower panel seat, a plurality of elongated horizontal panels of sheet metal mounted on said panel seats, each of said panels having a flat bottom portion which bears against said straight portion of said panel seat, and downwardly curled side edges which engage said arcuate end portions of said panel seats, said side edges of said panels being sprung over said arcuate end portions of said panel seats and gripping the same with spring tension, said hook-shaped cut-out providing clearance to permit the curled rear edge of the associated panel to be inserted behind and hooked down over the downwardly curved inner end portion of the panel seat, and bracing means holding the outer ends of said stringers.

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