Nov. 9, 1954 G. STEINGRUBER 2,693,623

AWNING

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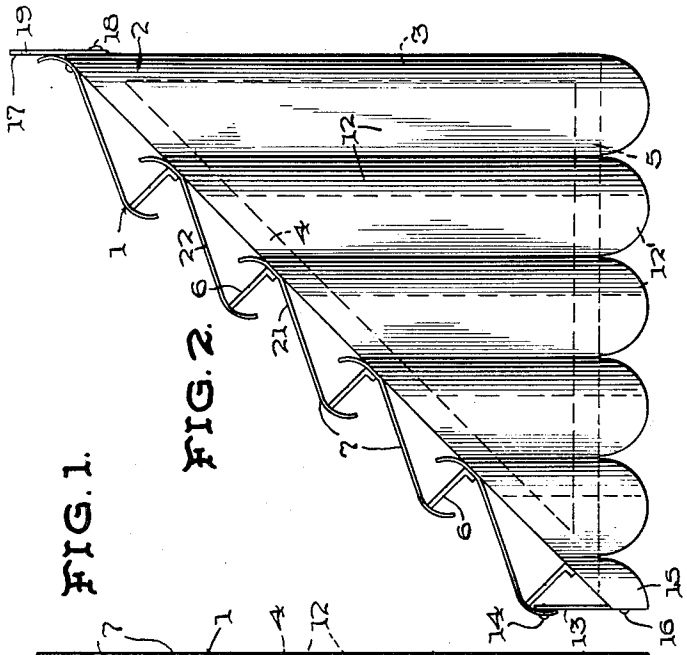


FIG. 2.

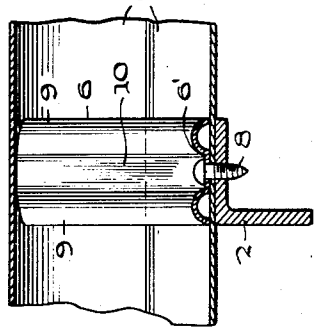


FIG. 6.

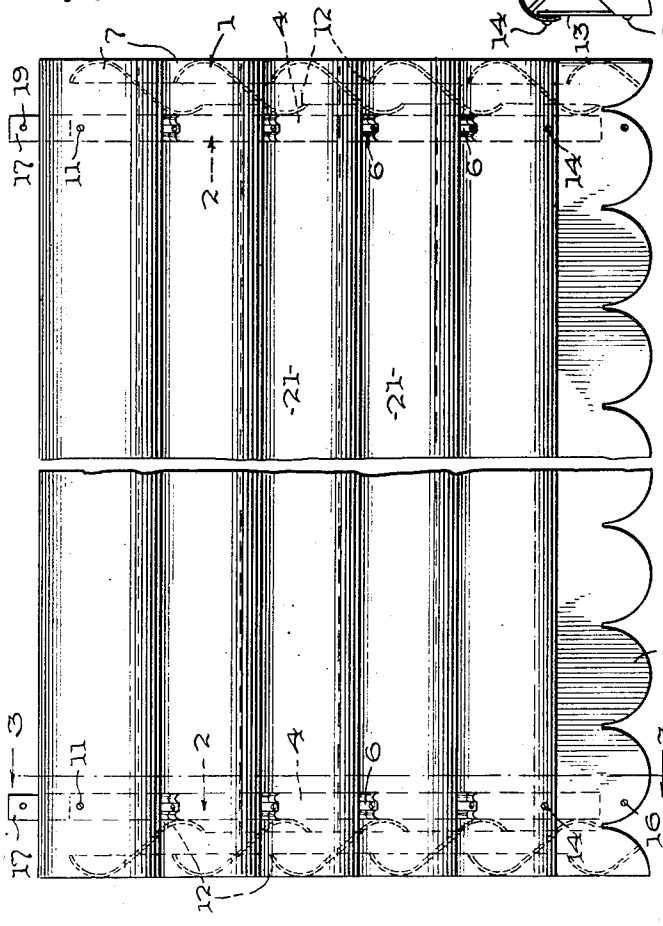


FIG. 1.

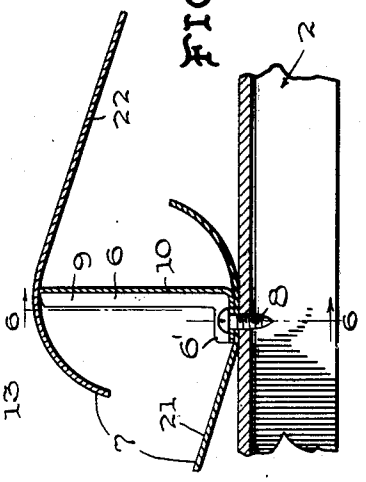


FIG. 5.

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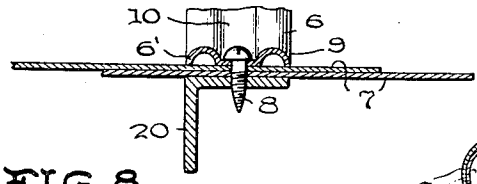


FIG. 8.

FIG. 7.

FIG. 3.

FIG. 4.

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AWNING

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2 Claims. (Cl. 20—57.5)

The present invention relates to awnings, and more particularly to an improved metal awning adapted to be utilized as a weather and sun shield over windows, doors and/or porches of private dwellings, apartments, hotels, or other buildings.

Heretofore, metal awnings of this general type have been expensive to manufacture and install, due to their substantial number of frame members and other parts, and due to their being bulky, heavy and relatively difficult to install. The nature of these prior metal awnings required skilled labor for purposes of assembly and installation, thus further increasing their over-all cost.

It is desirable to have a metal awning that is composed of a minimum number of parts, particularly frame parts, which may be shipped in a knocked-down condition, and which may be readily and simply assembled at the point of installation with a minimum of effort, preferably by unskilled labor.

Further, it is desirable to provide a metal awning that will neither substantially reduce the amount of light that is allowed to pass through the building opening, nor prevent free circulation of air beneath the awning with attendant elimination of hot, stale air pockets beneath the awning.

Accordingly, it is an object of the present invention to provide an improved metal awning which may be shipped in a knocked-down condition, and which may be assembled at the point of installation with the utmost ease and facility and without necessitating the employment of skilled labor for purposes of assembly and/or installation.

Another object is to provide an improved metal awning which comprises a minimum number of frame and other parts, but which, nevertheless, is extremely strong and durable.

A further object is to provide an improved metal awning which is so constructed as to reflect a maximum of light to the underside thereof, and which permits a free circulation of air therethrough.

A still further object is to provide an improved metal awning that has a minimum number of slat securing screws or other fastenings exposed on its outer surface, thereby enhancing the aesthetic qualities thereof.

Still another object is to provide an improved metal awning which is extremely simple and inexpensive to manufacture, assemble, and install.

Other objects and advantages of the invention will hereinafter become more apparent and the novel features thereof defined in the appended claims.

In the drawings:

Figure 1 is a view in front elevation of an improved metal awning made in accordance with the present invention;

Figure 2 is a view in end elevation thereof;

Figure 3 is an enlarged view in vertical section as taken on the plane of the line 3—3 of Figure 1;

Figure 4 is a view in horizontal section as taken on the line 4—4 of Figure 3;

Figure 5 is an enlarged fragmentary detail view, in section, showing the means for attaching slats to the end frame members, and also showing one of the spacers which are interposed between the overlapped longitudinal edges of the slats;

Figure 6 is a view in section as taken on the line 6—6 of Figure 5;

Figure 7 is a fragmentary view in vertical section of a modified form of awning construction which is preferably utilized for installations requiring relatively long awnings; and

Figure 8 is a view in section as taken on the line 8—8 of Figure 7.

Like reference characters designate corresponding parts in the several figures of the drawings, wherein 1 generally denotes an improved metal awning made in accordance with the present invention. This awning 1 comprises a pair of laterally spaced end frames 2 which are preferably composed of angle irons or the like, these end frames 2 preferably being triangular in form so as to provide a vertical, wall-engaging side 3, a forwardly and downwardly inclined side 4, and a horizontally disposed bottom side 5.

Attached to the inclined sides 4 of the end frames 2, as by means of spacer units 6, are a plurality of slats 7, these slats being substantially horizontally disposed and transversely spanning the end frames 2 with their longitudinal edges in overlapping spaced relation, these longitudinal edges being reversely curved or turned for a purpose to be hereinafter more fully described.

The spacer units 6 include a slat-clamping or securing foot portion 6' adapted to clamp one longitudinal edge of the slats 7 to the angle iron end frames 2, as is best seen in Figures 5 and 6, by means of screw fasteners 8 or the like, with the overlapping edge of the adjacent slat held in spaced relation by the upright arms of spacers 6. The lateral edges of the spacer units are preferably arched to provide reinforcing ribs 9 and an intermediate flat portion 10 which accommodates the head of the screw fastener 8. The spacer units 6 and fasteners 8 constitute the sole means for attaching the slats 7 to the end frames 2, except for the uppermost slat, which is secured directly to the end frames 2 by means of a screw fastener 11 or the like. The slats 7 preferably project laterally past the end frames 2 so as to overhang the vertical end slats 12 carried by the frames, as best seen in Figure 1.

The end slats 12 are secured to the inclined portion 4 and the horizontal portion 5 of the end frames 2 by means of spacer units 6 in the same manner as has been hereinbefore described in connection with the horizontally disposed slats 7, with the vertical edges of the slats 12 in overlapping spaced relation (see Figure 4 particularly). The lower or bottom ends 12' of the slats 12 are preferably rounded off, as is best seen in Figures 2 and 3, to give the lower portion of the ends of the awning 1 a scalloped effect.

In order to afford a scalloped effect on the forward portion of the awning to correspond with the scalloped ends, a scalloped trim plate or apron 13 is fastened to the foremost horizontal slat 7 by means of suitable fasteners 14, this apron 13 extending laterally to a position co-planar with the outer extremity of the end slats 12. At each end of this apron 13, an arcuate corner trim plate 15 is fastened thereto by means of a suitable fastener 16, this corner trim plate 15 being formed, as best seen in Figures 2 to 4, to resemble a small slat section so as to maintain continuity in the over-all design of the awning.

Each of the end frames 2 is provided with awning supporting means or hangers designated 17 of any desired type, the type shown consisting of a flat metal plate suitably secured at one end as at 18, to the rear faces of the wall-engaging portions 3 of the end frames 2, and having a bolt-receiving opening 19 through the free end thereof.

Due to the novel slat securing means hereinbefore described, the awning structure has only a few screw heads or the like exposed to view, thus rendering the finished awning more attractive and appealing to the eye than has been possible heretofore in metal awning constructions.

Now it will be seen that a metal awning made in accordance with the present invention has only the two triangular end frames 2 and no intermediate frame members interconnecting these end frames, but the construction is, nevertheless, extremely strong due to the reversely turned form of the slats 7 which prevents any bending

or sag of the awning when made in lengths up to about 10 or 12 feet.

However, in some installations where extremely long awnings are to be utilized, i. e. awnings of approximately 12 feet and over in length, it may be desirable to resort to the modified construction shown in Figures 7 and 8, wherein **20** designates a section of angle iron or other rigid bar at the center of the awning, the other reference characters in the figure designating parts corresponding to those hereinbefore described. In this modified form, the awning is made in two or more sections, and the adjacent sections of slats **7** are longitudinally overlapped a sufficient distance to afford a substantially transversely interlocked connection therebetween, the spacer units **6** being secured to the overlapped portions of the slats **7** and the screw fasteners **8** passing through both slats and into the reinforcing bar **20**. This joint construction, due to the interlocking relation of the slats, is extremely strong and rigid and obviates any sag or misalignment of the awning in the area of the connection.

The spacing and the angular relation between the slats **7** and **12** are such that light reflects off the flat outer faces **21** thereof and through the spaces therebetween and then off the inner faces **22**, thus assuring a maximum of light beneath the awning, but giving complete protection from the rays of the sun. By the same token, free circulation of air is permitted through the spaced slats, thus preventing hot, stale air from pocketing beneath the awning. The inner faces **22** of the slats **7** and **12** may be, if desired, painted or otherwise coated in a light color in order to more effectively reflect the light that is directed from the outer faces **21** thereof, while the outer faces **21** may be suitably colored in shades that harmonize with the exterior decoration or color scheme of the building on which the awnings are used.

While the specific details have been herein shown and described, the invention is not confined thereto as changes and alterations may be made without departing from the spirit thereof as defined in the appended claims.

I claim:

1. An awning of the class described, comprising a pair of spaced end frames, a plurality of parallel slats transversely spanning said end frames, said slats each having their longitudinal edges reversely curved in a transversely extended plane, combined clamping and spacer units for securing said slats to said end frames at the base of the curve at one edge of each slat, with the opposite edge of each slat overlapping the secured edge of the next adjacent slat and resting on said spacer units in spaced relation to said secured edge, said combined clamping and spacer units each comprising an L-shaped bracket having a slat-clamping foot and an upstanding slat-spacing arm, said slat-clamping foot being secured to an end frame with a slat clamped therebetween, and said brackets each consisting of a one-piece metal stamping having its marginal side edges arched to provide a reinforcing rib at each marginal edge thereof and extending along the edges of both the clamping foot and the spacing arm thereof.

2. An awning of the class described, comprising a pair of spaced end frames, a plurality of parallel slats transversely spanning said end frames with their longitudinal edges in overlapped spaced relation, spacer units disposed between the overlapped edges of the slats, said spacer units including a slat clamping portion seated upon the upper face of one longitudinal edge of each slat directly above each end frame, and anchor means extending through the clamping portion of each spacer unit and through the respective slats and end frames to clamp each slat to the end frames, said spacer units also including a portion upstanding from said clamping portion and projecting into engagement with the overlapping edge of the next adjacent slat, the just mentioned overlapping edge being arched towards said end frames into abutting contact with the upstanding portion of said spacer units, with the spacer units maintaining said overlapping edge in spaced relation to the upper face of the next adjacent slat, said slats each being composed of a plurality of aligned slat sections of a length less than the distance between the spaced end frames and having their adjacent ends disposed in overlapped jointed relation to form a composite slat, and a relatively rigid member extending transversely beneath the overlapped ends of all of the slat sections and connected therewith by clamping and spacer means corresponding to and in the manner of the connections of the slats with the end frames.

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