March 14, 1950 C. M. PREAUS ET AL 2,500,864

AWNING OF METAL OR SIMILAR MATERIAL

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FIG. 1.

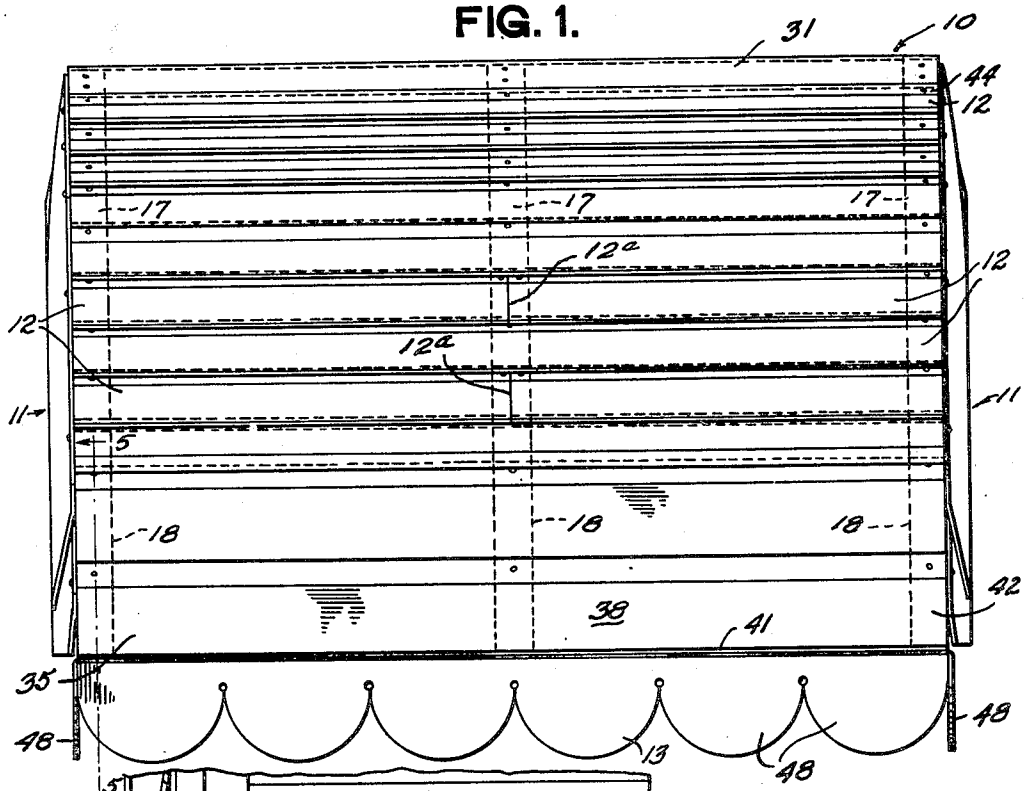
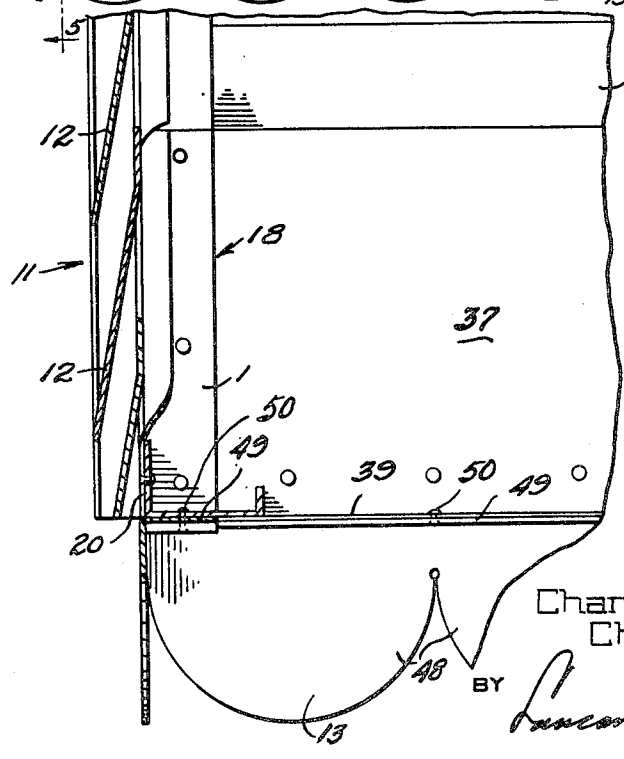


FIG. 4.



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AWNING OF METAL OR SIMILAR MATERIAL

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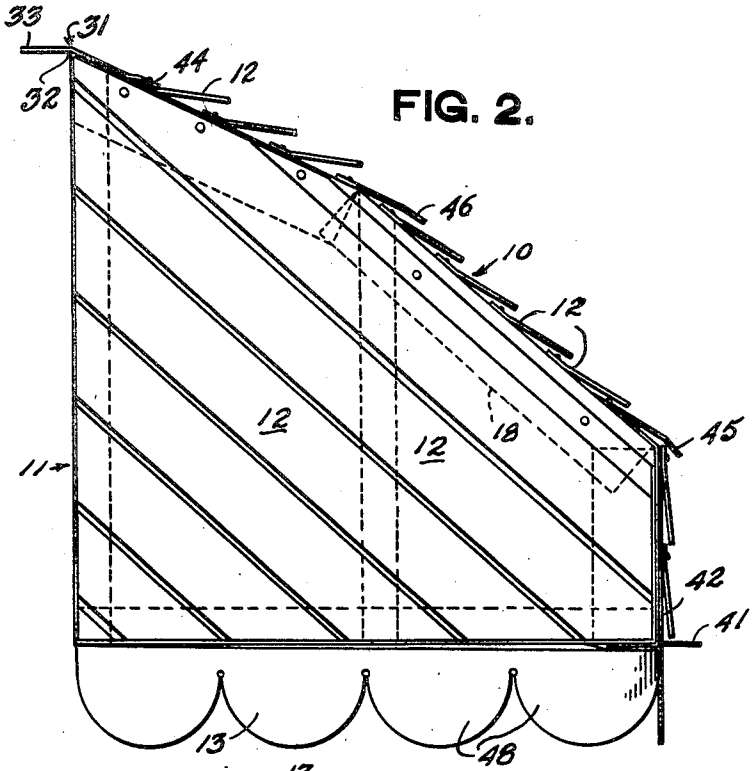


FIG. 2.

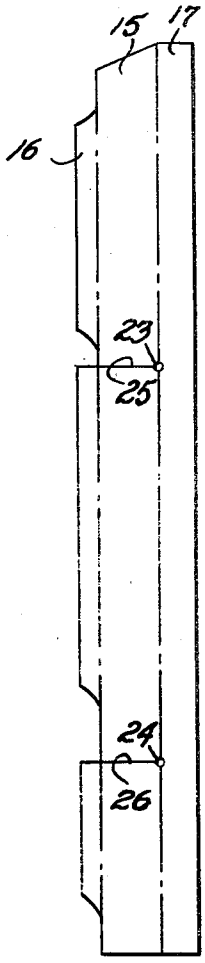


FIG. 6.

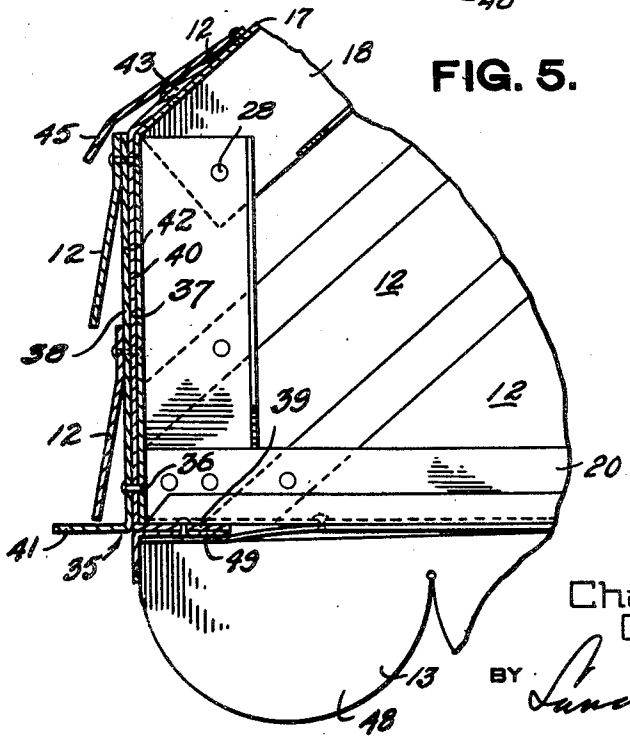


FIG. 5.

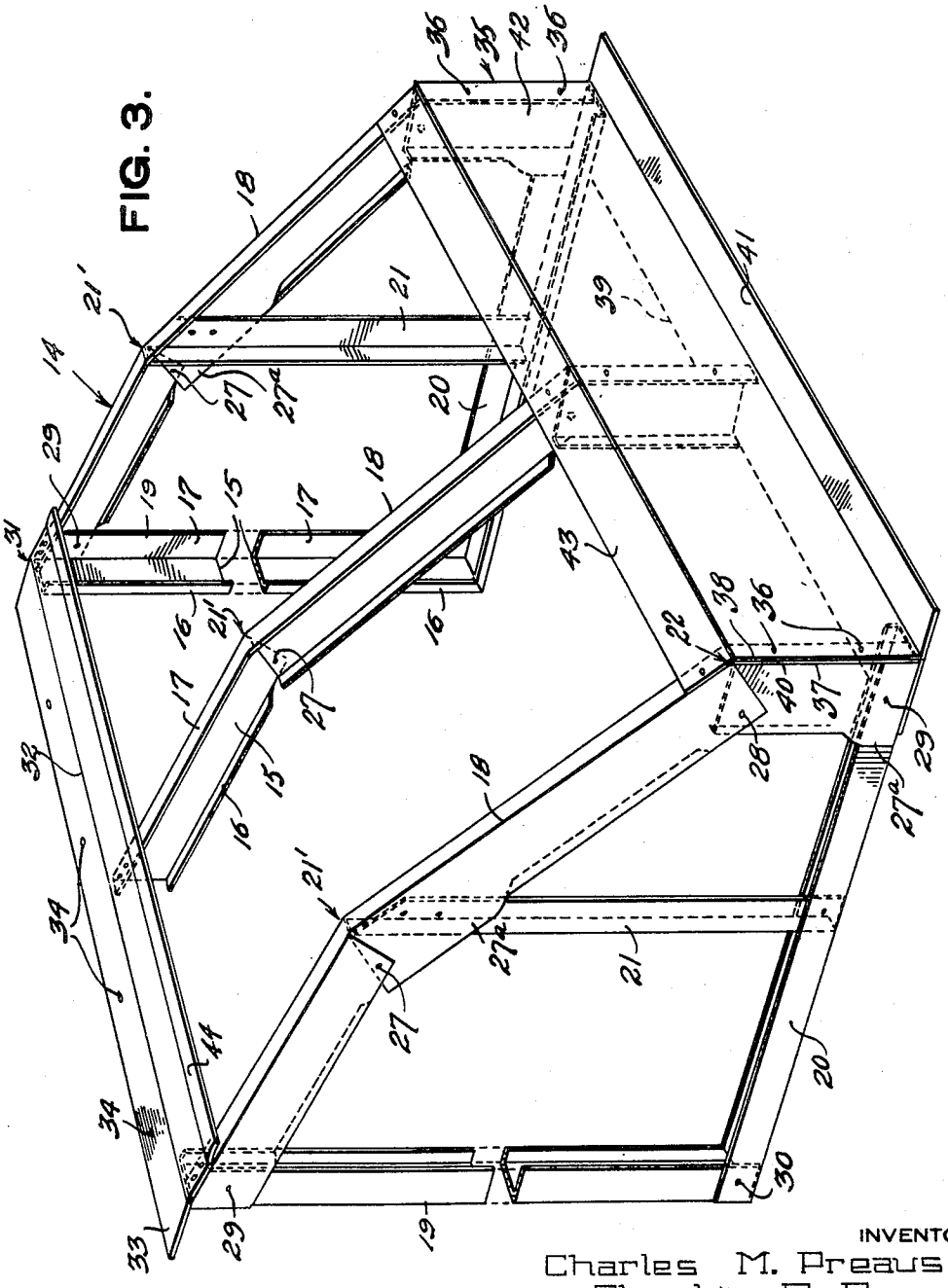
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AWNING OF METAL OR SIMILAR MATERIAL

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FIG. 3.



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UNITED STATES PATENT OFFICE

2,500,864

AWNING OF METAL OR SIMILAR MATERIAL

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Application October 22, 1946, Serial No. 704,902

5 Claims. (Cl. 20—57.5)

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This invention relates to improvements in awnings of metal or similar rigid material of the type disclosed in our application for U. S. patent on Awnings of metal or similar material, Serial No. 629,178, filed November 16, 1945.

The primary object of the present invention is to provide improvements in construction and form of such awnings in order to cut down the cost of construction with a saving of material which otherwise might be wasted, and yet provide a lighter awning having strength, better adapting it for attachment to buildings and also to improve the appearance.

More particularly one object of the invention is to provide an awning of this type which is adapted for attachment on slightly uneven surfaces, such as plaster and stucco walls, which have a tendency to buckle the slats directly below the pull plate for attaching the awning to the building. Employing relatively wide slats, each bent along a line paralleling the longitudinal edges thereof, provides for such slight flexibility as will enable installation on buildings having such uneven surfaces without buckling of the slats and also cuts down the shearing and riveting time.

Another object is to provide a horizontal pull plate for attachment to the under horizontal portion of a window casing, which is an advantage for installation on high buildings, enabling the installer to work from inside the room in safety and with a saving of time.

Another object of the invention is to provide a simplified and improved stringer which requires no additional reinforcing for supporting the slats, even in a long awning, and to which slats may be secured, end to end with butt joints. Also, the improved stringer is particularly adapted for a change of form of the awning so as to provide a humped formation of the awning for installation over swinging windows which open out.

Another object of the invention is to provide improved spar members which, in conjunction with the stringers and slats, providing an awning construction which has slight flexibility and yet a rigid construction without struts, braces, cable or posts even for relatively long awnings. This spar member also affords a base for a trim member or skirt which may be scalloped or otherwise shaped for ornamentation.

Further objects, advantages and details of our invention will appear in the following description of a preferred construction of awning taken in conjunction with the accompanying drawing forming a part of this specification.

In the drawings:

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Fig. 1 is a front elevation of the awning.

Fig. 2 is a side elevation thereof.

Fig. 3 is a perspective view of the awning frame, certain parts being broken away and shown in section to disclose preferred details.

Fig. 4 is an enlarged fragmentary elevation of the interior of the front of the awning, part of a side being shown in vertical section.

Fig. 5 is an enlarged fragmentary section on the line 5—5 of Fig. 1.

Fig. 6 is a plan view of a blank from which an awning stringer is fabricated.

Referring to the drawings the awning in accordance with our invention comprises a top or roof portion 10 which may be of humped formation, as best shown in Fig. 2, and side panels 11, consisting in general of frame members with parallel slats 12 and a decorative trim or skirt 13 preferably fabricated into a unitary awning construction, although the parts may be made separate and be assembled subsequently, if desired, as disclosed in our aforesaid application.

The frame members as fabricated into an awning frame 14 are illustrated in Fig. 3. The members consist of preferably metal strip material fabricated into channels 15, an inner side 16 which is narrow and an outer side 17 comparatively wide, of sufficient width for connecting the frame elements together and attaching the slats 12 thereto, preferably by rivets although other securing means may be employed. Such channel formation, employing a narrow side 16, has greater strength than angle bars and affords a saving in material as compared with channel members of usual construction, as well as providing a neater appearance in the finished article.

As shown, channels of such formation are employed as stringers 18 for the awning roof or top portion 10, three being shown, although two or more may be used depending on the length of the awning. The frame of each side panel 11 is also constructed from such channels including the upright piece 19 and horizontal piece 20. An intermediate upright 21 may be provided, formed of a plain angle strip.

Stringers 18 although bent at the hump 21' of the awning and at the front edge 22 of the top or roof are continuous members and in order to form them, they are fabricated from strip blanks such as illustrated in Fig. 6. These blanks include the channel parts 15, 16 and 17, but the channel side element or flange 16 has cut away portion at the ends and adjacent to the location of the bends, at 21' and 22, and at these points the central element or web 15 is apertured at 23

and 24 and slit at 25 and 26 so as to permit the formation of the bends. When bent to shape, as shown in Fig. 3, portions of the web 15 of the channel overlap and they are secured in place to hold the stringer in the required shape by rivets 27 and 28. The cut away portions provide for the bends, and for side stringers, some of the web portion 15 being flared outwardly, as shown at 27a (Fig. 3) for engagement with the companion side upright channel 19 and horizontal channel 20, and the upright angle member 21, if such is provided. The side portions or flanges 16 being narrow, are easily bent to provide these flaring portions 27a as at the bends 21'. Rivets 29 may be used to secure the web portion of the stringers to these frame members 19, 20 and 21.

Upright channel 19 and angle member 21 are similarly secured at their lower end to horizontal channel member 20 by rivets 30.

The upper ends of all stringers 18 are riveted to the underside of a pull plate strip 31 which extends beyond the ends of the stringers and is slightly bent at 32 along the line of the stringer ends so that the extending portion 33 is horizontal. Horizontal portion 33 of pull plate 31 is apertured at 34 for receiving fastening elements such as screws (not shown in the drawing) for securing the awning to the under surface of a top window casing frame element, which is accomplished from the inside of the awning if not from entirely within the building structure.

The awning frame structure also includes a spar structure 35 extending over the upright portions of the stringers 18 and is secured thereto by means of rivets 36, which construction gives the entire awning frame structure rigidity, particularly along the front where it is required, and permits the portion adjacent to the pull plate 31 to be sufficiently flexible for proper attachment to a window casing or the like.

Spar structure 35 preferably comprises a fabricated inner strip plate 37 and a fabricated outer strip plate 38. Inner plate 37 has an inwardly extending horizontal flange 39, the ends of which engage under the ends of horizontal side channels 20, a vertical web 40 which engages the flanges 17 of the upright portions of stringers 18, and an upper flange 43 which overlies and is secured to the lower ends of the diagonal portions of stringers 18 as shown in Figs. 3 and 5. Outer plate 38 has an outwardly extending horizontal reinforcing flange 41 and a vertical web 42 overlying the web 40 of inner plate 37. The horizontal flanges 39 and 41 render the spar structure 35 very resistant to tortional stresses, and sagging. In practice it has been found that awnings up to at least fifteen feet in length, embodying such a spar structure, when erected, remain sturdy against normal wind forces, etc., without requiring the use of supplemental struts, braces, cables or posts, commonly used in connection with show windows, office and apartment building entrances, etc. The flange 43, secured to the diagonal portions of stringers 18, strengthens the awning frame at the zones of the apertures 24 and slits or serrations 26, shown in Fig. 6, after the bending and riveting at 28 as shown in Fig. 5, and above described.

Upon completion of the frame structure the slats 12 are applied thereto. Referring to Figs. 2 and 3, it will be noted that the lower portion 44 of the pull plate is raised if not actually bent upwardly to provide space under which the upper edge of the uppermost slat 12 is inserted and riveted in place. The lower portions of slats 12 are

flared upwardly and away from the stringers 18 and overlap the upper portions of the next lower slat which has been secured in place on the stringers. The slats 12 are secured to the awning frame starting with one adjacent to the bottom of spar 35. Two such slats are secured to this spar and the first slat on the stringers 18 above the spar has its free lower edge 45 bent downwardly somewhat over the upper edge of upper slat on the spar. The slat just above the hump 21 also has its lower edge 46 similarly bent downwardly to conform with the slats on the incline below the hump.

As shown in Fig. 1 some of the slats 12 may be short lengths of strip material. The side strip or flange 17 of stringer channels 18 are of such a width that butt joints 12a may be formed with these short slats 12 over the channel strip 17. This provides for the use of short lengths which otherwise would have to be scrapped.

The side panels of the frame structure have slats 12 similarly applied thereto preferably diagonally parallel to the incline of the roof section of the awning as shown in Fig. 2.

As a lower extension below the frame structure and as decoration, a finishing strip 13, with scallops 48, may be applied to the under side of horizontal channels 20 and the horizontal strip 39 of the spar 35. This also is manufactured from stock which otherwise might not be used in the awning construction thereby holding the scrap to a minimum. Strip 47 comprises a vertical portion with the scallops 48 forming the lower edge thereof and an upper portion 49 bent horizontally inward and attached to the lower sides of the frame structure by means of rivets 50.

While the parts of the awning have been described as and preferably are connected by rivets, it is obvious that connections may be made by spot welding, nuts and bolts and the like, as in our application referred to herein. The side panels may be so connected by bolts, although as described they are integrally connected by rivets.

Having described a simple and highly practical form of metal awning in accordance with our invention, it is not desired to be limited to the details of construction herein specifically set forth.

We claim:

1. An awning composed of fabricated strip material, including inclined roof stringers of angular cross section, slats secured to and covering the upper surfaces of said stringers, the lower ends of said stringers extending downwardly at an angle with respect to the inclined portions thereof, a pull plate extending across the upper ends of said stringers, and a spar connected across said downwardly extending ends of the stringers, said spar comprising a pair of overlying plates, one of said plates having a flange extending inwardly under the lower ends of the stringers, the other of said plates having a reinforcing flange extending outwardly, and one of said plates having a flange extending angularly upwardly for a distance over the adjacent inclined portions of the roof stringers.

2. In an awning composed of fabricated strip material, including a pair of inclined roof stringers each of angular cross-section comprising an upper flange in the plane of the roof and a depending flange, said depending flanges defining the side edges of the awning roof, a plurality of slats, each comprising a longitudinally extending minor strip-like portion and a longitudinally extending major strip-like portion relatively

wider than said minor portion, and in angular relation thereto, said slats disposed in spaced apart overlapping relation transversally of said upper flanges of the stringers with the ends of their minor portions secured thereto and their major portions below their minor portions and angled away from the plane of the roof and entirely free thereof, a spar connected across the lower ends of said upper flanges of the stringers behind the lowermost slat on the stringers and the lower portion of the spar extending below said slat, and a pull plate comprising a portion secured over the upper flanges at the top of the stringers and an integral upper portion extending beyond the stringers to provide securing means for mounting the awning in position over a wall opening, said pull plate having its lower portion extending over the minor strip-like portion of the uppermost slat on the stringers.

3. In an awning of fabricated metallic strips, a roof frame including roof stringers having bends to form angularly related portions in inclined and vertical relationship, each stringer composed of angular material having integral upper and outer flanges defining the inclined and vertical portions thereof, said upper and outer flange portions having side flanges extending at right angles downwardly and inwardly from said portions, respectively, and separated from each other at the bend by a serration so that their adjacent ends overlap, a single securing means extending through said overlapping portions to hold the stringer in said angular relationship, slats secured to and spanning said inclined portions of the stringers, and a spar comprising an angular cross-sectional member secured to said outer flanges and extending inwardly under the lower ends of the vertical portions of the stringers and for a distance upwardly along the inclined portions of the stringers.

4. In an awning of fabricated metallic strips, a roof frame including roof stringers having bends to form angularly related portions in inclined and vertical relationship, each stringer composed of angular material having integral upper and outer flanges defining the inclined and vertical portions thereof, said upper and outer flange portions having side flanges extending at right angles downwardly and inwardly from said portions, respectively, and separated from each other at the bend by a serration so that their adjacent ends overlap, a single securing means

extending through said overlapping portions to hold the stringer in said angular relationship, slats secured to and spanning said inclined portions of the stringers, and a spar comprising an angular cross-sectional member secured to said outer flanges and extending for a distance upwardly along the inclined portions of the stringers.

5. An awning composed of fabricated strip material comprising a frame construction including roof stringers each of channel formation having relatively wide outer side surface providing a connecting area and a narrow inner side, a plate connecting the upper ends of said stringers secured to said connecting area thereof and extending therefrom to provide a pull plate attaching means for the awning, a spar plate connecting the lower ends of the stringers, side frame channels connected with the ends of the outer stringers and extending inwardly from the lower ends and vertically downward from the upper ends of the stringers and connected with each other at their point of intersection, slat strips secured to and covering the roof stringers in parallel relation from said spar plate to and under the outer edge of said pull plate, and slat strips secured to said side frame channel extending thereover in parallel relation diagonally downward and outward.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,285,613	Cabral	Nov. 26, 1918
1,387,698	Erickson	Aug. 16, 1921
1,596,950	Semonin	Aug. 24, 1926
1,956,850	Bishop et al.	May 1, 1934
2,013,693	McInerney	Sept. 10, 1935
2,068,148	Moir	Jan. 19, 1937
2,057,135	Reynolds et al.	Mar. 30, 1937
2,234,760	Guarcello	Mar. 11, 1941
2,296,467	Dugan	Sept. 22, 1942
2,399,785	Blickensderfer et al.	May 7, 1946

FOREIGN PATENTS

Number	Country	Date
643,523	Germany	1937