

April 9, 1963

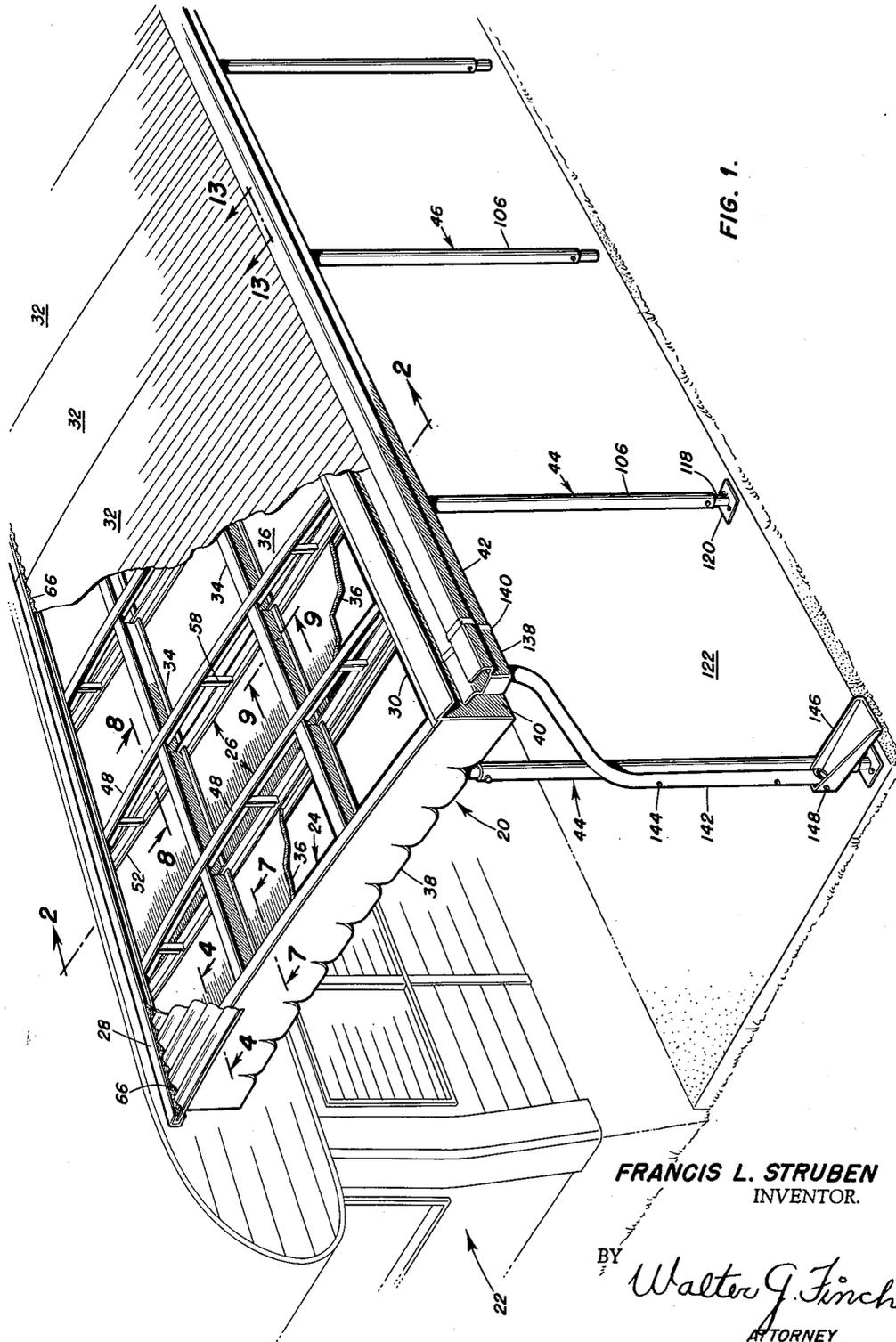
F. L. STRUBEN

3,084,479

TRAILER AWNING

Filed Aug. 27, 1959

3 Sheets-Sheet 1



FRANCIS L. STRUBEN
INVENTOR.

BY *Walter J. Finch*
ATTORNEY

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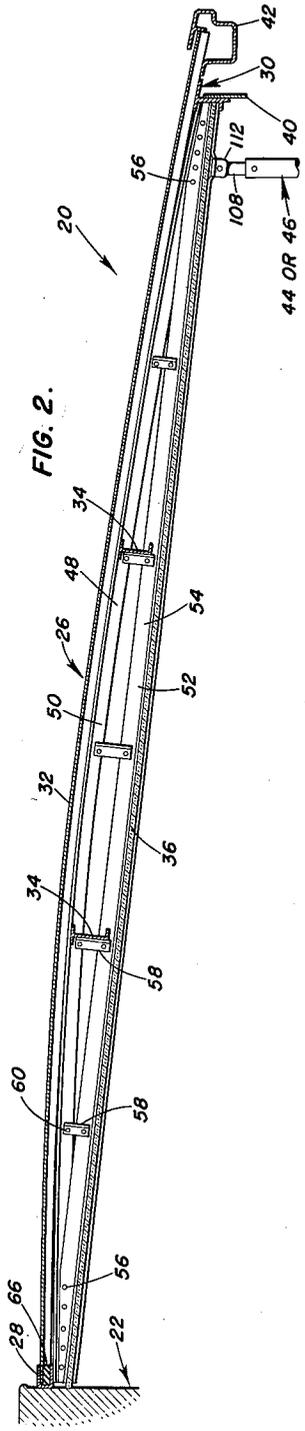


FIG. 2.

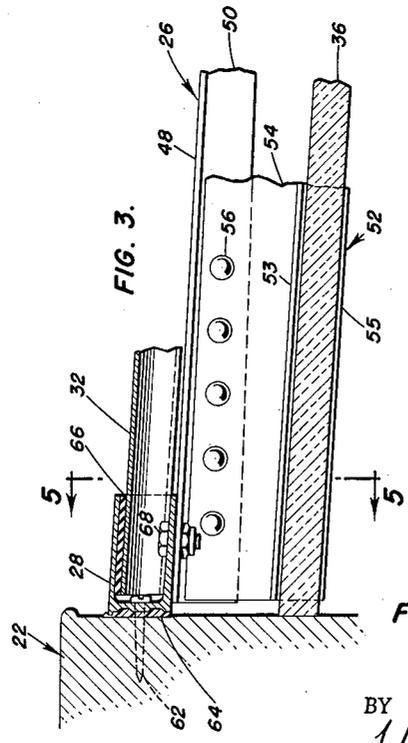


FIG. 3.

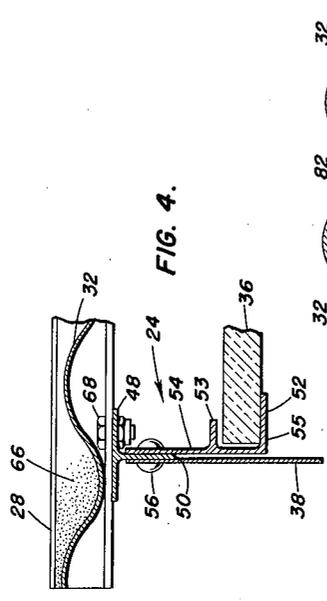


FIG. 4.

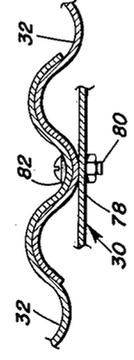


FIG. 13.

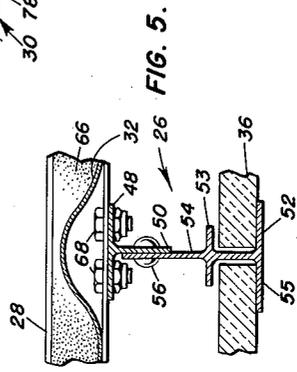


FIG. 5.

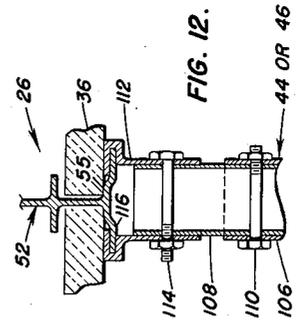


FIG. 12.

FRANCIS L. STRUBEN
INVENTOR.

BY
Walter G. Finch
ATTORNEY

April 9, 1963

F. L. STRUBEN

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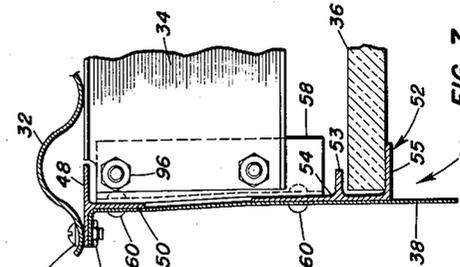
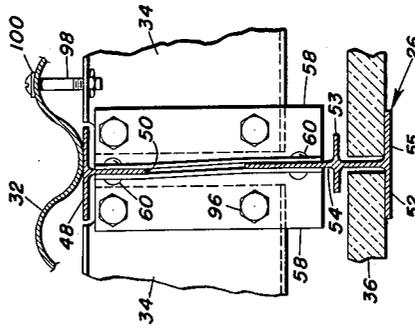
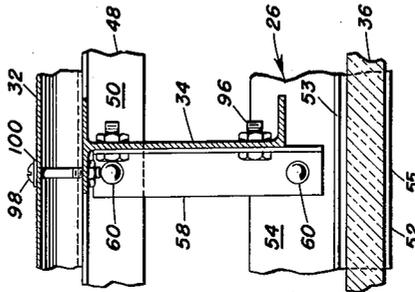
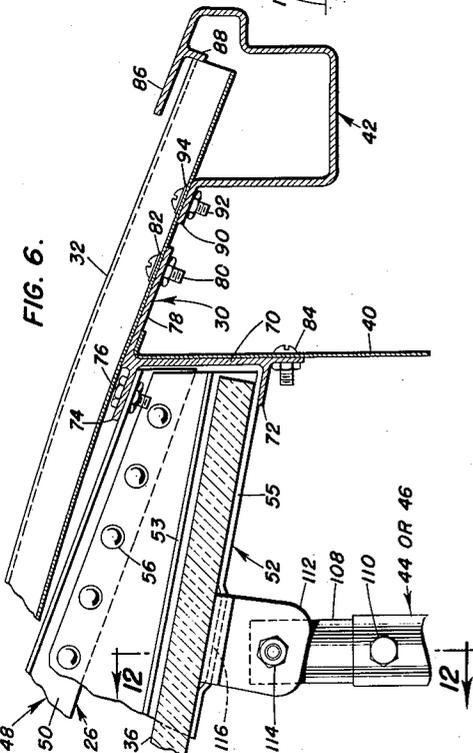
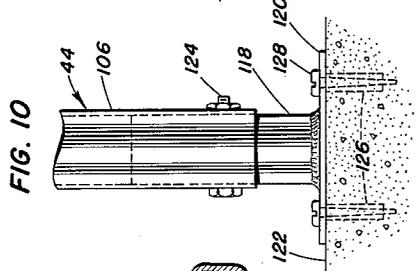
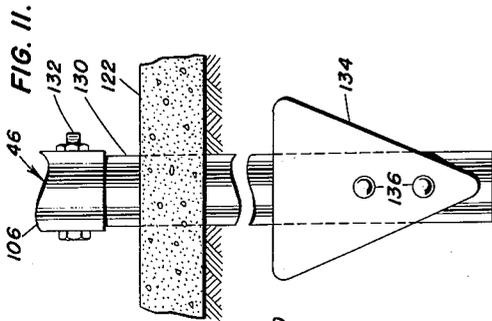


FIG. 9.

FIG. 8.

FIG. 7.

FRANCIS L. STRUBEN
INVENTOR.

BY

Walter G. Finch
ATTORNEY

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3,084,479

TRAILER AWNING

Francis L. Struben, Baltimore, Md., assignor of one-half to Jean C. Struben, Baltimore, Md.
Filed Aug. 27, 1959, Ser. No. 836,542
2 Claims. (Cl. 50-58)

This invention relates generally to awnings, and more particularly the invention pertains to lean-to types of awning roof structure especially adapted for factory pre-fabrication and customer erection.

In U.S. Patent Number 2,618,820, issued on November 25, 1952, to James W. Fyle, Jr., and Francis L. Struben, entitled "Trailer Awning," there is described an awning of the truss type having hanger provisions for attachment to mobile homes of the trailer type.

The awning of the present invention constitutes an improved awning over the disclosure of the patent in that it has greater strength, better weather proofing, improved post attachment and adjustment, concealed gutters, and provides chambered heat insulation. In addition, a great deal of effort has been given to prefabrication technique for the improved awning arrangement in order to provide a structure which can be bolted together and set up with a minimum of effort by inexperienced personnel.

It is, therefore, an object of the present invention to provide a new and improved awning which makes use of special structural shapes for economy in manufacture and ease of erection.

Another object of this invention is to provide a strong, well insulated, guttered, lean-to type of awning roof structure.

Still other objects of this invention are to provide a new type of awning arrangement which has great strength, good weather proofing, improved post attachment and adjustment, concealed gutters, and chambered heat insulation.

Even still another object of this invention is to provide an improved awning structure which can be bolted together and set up with a minimum of effort by inexperienced personnel.

These and other objects and advantages of this invention will become more readily apparent and understood from the accompanying specification and drawings in which:

FIG. 1 is a perspective drawing, partly broken away, of the improved awning incorporating features of this invention;

FIG. 2 is a cross section taken along line 2-2 of FIG. 1 illustrating the construction of roof trusses;

FIG. 3 is a fragmentary detailed enlargement of the left end of FIG. 2 showing an arrangement by which the roof is attached to a structure;

FIG. 4 is a fragmentary section taken through an end truss on line 4-4 of FIG. 1;

FIG. 5 is a fragmentary section similar to FIG. 4 but taken through an intermediate truss member;

FIG. 6 is a fragmentary detailed enlargement of the right hand end of FIG. 2;

FIG. 7 is a fragmentary section taken along line 7-7 of FIG. 1;

FIG. 8 is a fragmentary section taken along line 8-8 of FIG. 1;

FIG. 9 is a fragmentary section taken along line 9-9 of FIG. 1;

FIG. 10 is a fragmentary elevation illustrating an arrangement by which the roof supporting poles are secured to a concrete slab;

FIG. 11 is an elevation similar to FIG. 10 but illustrating the use of an alternate ground post;

FIG. 12 is a cross section taken along line 12-12 of FIG. 6; and

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FIG. 13 is an enlarged fragmentary section taken along line 13-13 of FIG. 1 and discloses the arrangement by which adjoining roof panels are joined.

Referring now to FIG. 1 of the drawings, there is illustrated generally therein an awning 20 attached to a trailer or other structure 22. The awning 20 is made up of a pair of spaced metal end trusses 24 (only one of which is illustrated) and a plurality of spaced metallic intermediate trusses 26. One end of each of the trusses 24 and 26 is bolted to a U-shaped metal awning rail 28, while the other ends thereof are bolted to a parallel spaced metallic eave rail 30.

As best shown in FIG. 9, the trusses 24 and 26 are braced and spaced apart by a plurality of metal stringers 34 which are of T-L cross section structural shape. The metal stringers 34 are bolted between the trusses 24 and 26. On top of trusses 24 and 26 and stringers 34, a plurality of corrugated metal roof panels 32 are secured.

As shown best in FIG. 13, the edges of the panels 32 overlap, and the panels 32 are secured to the eave rail 30 and a flange 78 thereof by bolts and nuts 80 and elastic washer 82.

Insulating and slidable ceiling panels 36 are provided beneath the stringers 34, and they are supported at the sides by the trusses 24 and 26. A decorative side valance 38 is bolted to the outside of each end truss 24, and a similar decorative front valance 40 is bolted to the eave rail 30.

A gutter 30 of extruded metal is secured to and covers the front ends of the roof panels 32. Several supports of either base type adjustable poles 44 or optionally of spade type adjustable poles 46 are secured to the trusses 24 and 26 as required. These poles 44 and 46 will be described more fully subsequently.

The trusses 24 and 26 are made up of an extruded metal T upper chord member 48 having a web 50, as shown in FIGS. 1, 2, 3, and 6. A lower chord member 52, also of extruded metal, has a cross section, best illustrated in FIGS. 5 and 8, with a flange 53, a web 54, and a base 55. The flange 53 of each lower chord member 52 captivates and the base 55 thereof supports the insulating ceiling panels 36.

By means of rivets 56, the web 50 at the ends of the arched upper chord members 48 are fastened in overlapping relationship to the web 54 of the lower chord members 52. A plurality of spaced truss verticals 58 of structural angle are fastened by rivets 60 to the upper and lower chord members 48 and 54.

As shown best in FIGS. 2 and 3, a screw 62 is used to support the U-shaped metal awning rail 28 to the trailer structure 22. An intermediate adhesive caulking tape 64 is provided at the seating face as part of the rail 28.

The upper ends of the corrugated roof panels 32 are nested within the rail 28, as shown in FIGS. 1, 2, 3, and 4, and the joint is sealed against the weather by means of a mating corrugated rubber seal 66. A bolt and nut 68 secures each truss 24 and 26 to the awning rail 28.

As best illustrated in FIGS. 2 and 6, the eave rail 30 is of metal extruded shape, and it has a web 70 and spaced lower and upper flanges 72 and 74, respectively. The lower flange 72 is provided for supporting the ends of trusses 24 and 26, but the securement therebetween is by means of the short upper flange 74 and bolts and nuts 76. A long upper flange 78 is also provided on the eave rail 30, and it extends oppositely to flange 74. This flange 74 supports the roof panels 32, which are bolted thereto by nuts and bolts 80 and water tight elastic washers 82. The front valance 40 is secured to eave rail 30 by means of bolts and nuts 84.

The gutter 42 is also of extruded cross section as best illustrated in FIG. 6. Gutter 42 is provided with a

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splash flange 86, which extends over and conceals the top ends of the roof panels 32, and it is arranged to cooperate with the corrugations in the roof panels 32 to effectively prevent ingress of leaves and debris thereto. A locating flange 88 is also provided on the gutter 42 to assure that an unobstructed water passageway down and over the ends of the panels 32 will be provided when they are fastened with bolts and nuts 92 and elastic washers 94 to a gutter mounting flange 90 of the gutter 42.

As shown in FIGS. 7, 8, and 9, elastic washers 100 and 104, also for waterproofing purposes, are provided under the heads of bolts and nuts 98 and 102, respectively, which secure the roof panels 32 to the stringers 34 and the edges of roof panels 32 to end trusses 24. The stringers 34, in turn, are bolted to the verticals 58 with bolts and nuts 96, as shown in FIGS. 8 and 9.

As best illustrated in FIGS. 6 and 12, the base 55 of the lower chord member 52 is provided with downwardly and outwardly extending flared portions 116 wherever a pole 44 or 46 is to be secured to the awning 20. These flared portions 116 receive a pair of clips 112 made from short-lengths of extruded metal. The clips 112 are drilled and mounted with a bolt and nut 114 onto opposite sides of an upper telescoping tube 108 of the pole 44 or 46. An angular freedom is thereby provided so that the poles 44 or 46 can stand vertically. Vertical length adjustment is provided for by nesting the upper telescoping tube 108 within an outer tube 106, and securing it there at the proper length by means of a bolt and nut 110 passed therethrough, as shown in FIGS. 6 and 12.

As shown in FIG. 10, the base type adjustable pole 44 is similarly provided at its lower end with a lower telescoping tube 118 which is welded to a flat base plate 120. This plate 120 is drilled for a plurality of mounting screws 128 which can be driven into fibre plugs 126 inserted into a flooring of concrete slab 122 or directly into a wooden flooring. A bolt and nut 124 secures the two tubings 106 and 118 together.

Where the flooring 122 is absent or where greater footing strength is desirable, the spade type pole 46, shown best in FIG. 11, is used. This pole 46 is identical to pole 44 except that the lower telescoping tube 118 is replaced with a ground pipe 130, as shown in FIG. 11, and is secured in position with a bolt and nut 132 to the pole 46. The lower end of pipe 130 is provided with a triangular spade 134 which is fastened thereon by means of rivets 136. Since the entire structure of awning 20 is metallic, a beneficial safety electrical grounding thereof is provided by the driving of at least one spade post 46.

To complete the arrangement of the awning 22, a downspout 142 is provided, and it is secured by screws 144 to the end post 44. Downspout 142 is arranged to connect with a drop outlet 138 of the gutter 42. Outlet 138 is secured with a metal clip type gutter connector 140 to the end of gutter 42. The lower end of downspout 142 is cut at a bevel and it is provided with a deflector 146 which is secured thereto by screws 148, as shown best in FIG. 1.

The awning 20 as described is not intended to be limited to mobile home or trailer use. The construction, while simple and easy to erect, has great strength and is a valuable and durable adjunct to any structure, such as structure 22. The chambered space between the roof and ceiling panels 36 provides good heat insulation so that with the provision of suitable sides a comfortable habitation is obtained.

Obviously, many modifications and variations of the present invention are possible in light of the above teachings. It is, therefore, to be understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described.

What is claimed is:

1. A supporting framework for use in supporting over-

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lapping corrugated roof panels of an awning arrangement, comprising, a pair of parallel spaced end trusses, a plurality of intermediate spaced trusses positioned in between said pair of parallel spaced end trusses and arranged parallel thereto, each said intermediate truss consisting of an arched upper chord member of substantially T-shaped cross-section having a downwardly extending vertical web; and a straight lower chord member having an upwardly extending vertical web and a pair of spaced coplanar flanges on opposite sides of said last mentioned web and extending transversely therefrom, one of said spaced flanges of each pair of spaced flanges being positioned intermediate the height of its respective web and the other being positioned at the lower edge of its respective web, with each said end truss consisting of a similar arched upper chord member of substantially T-shaped cross-section having a downwardly extending vertical web; and a lower chord member with an upwardly extending vertical web and a pair of spaced flanges on the side thereof adjacent said intermediate trusses and extending transversely therefrom, one of said pair of spaced flanges for the lower chord member of each end truss being positioned intermediate the height of the web thereof and the other positioned at the lower edge of its respective web, with said flanges of the lower chord members of said end trusses corresponding to and being coplanar with flanges of lower chords of intermediate trusses, with the webs of each corresponding upper and lower chords of each truss being spaced apart at the center of said chords and being overlapping and secured to each other at the ends thereof, slidable ceiling paneling positioned between corresponding flanges of said lower chords of each end and intermediate trusses to provide a paneling effect to the underside of said awning arrangement, a plurality of vertical support members spaced along each said end and intermediate trusses and secured to the corresponding upper and lower chords thereof, said vertical support members having height intermediate the depth of said trusses and terminating short of the spaced flanges of the lower chord of each said trusses, a plurality of spaced stringers arranged substantially transversely to and between each end truss and its adjacent intermediate truss and similarly between adjacent pairs of intermediate trusses and secured to said vertical support members to form a lattice network and for bracing said trusses, said end and intermediate trusses being of greater depth than said stringers, with said stringers being positioned intermediate the heights of said trusses and above the spaced flanges of the lower chord of each said trusses so that said ceiling paneling is slidable beneath said stringers, and further, said stringers being of sufficient depth to span the distance between the corresponding upper and lower chords of each said trusses, whereby when a plurality of overlapping corrugated roof panels are positioned on top of said trusses and overlap the ends of said end and intermediate trusses a strong and secure awning arrangement is obtained.

2. An improved awning arrangement for a trailer, comprising, a pair of parallel spaced end trusses, a plurality of intermediate spaced trusses positioned in between said pair of parallel spaced end trusses and arranged parallel thereto, each said intermediate truss consisting of an arched upper chord member of substantially T-shaped cross-section having a vertical downwardly extending web; and a straight lower chord member having a vertical upwardly extending web and a pair of spaced coplanar flanges on opposite sides of said last mentioned web and extending transversely therefrom, one of said spaced flanges of each pair of spaced flanges being positioned intermediate the height of its respective web and the other being positioned at the lower edge of its respective web, with each said end truss consisting of a similar arched upper chord member of substantially T-shaped cross-section having a downwardly extending vertical web; and a lower chord member with a web, an upwardly extend-

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ing vertical web and a pair of spaced flanges on the side thereof adjacent said intermediate trusses and extending transversely therefrom, one of said pair of spaced flanges for the lower chord member of each end truss being positioned intermediate the height of the web thereof and the other positioned at the lower edge of its respective web, with said flanges of the lower chord members of said end trusses corresponding to and being coplanar with flanges of lower chords of intermediate trusses, with the webs of each corresponding upper and lower chords of each truss being spaced apart at the center of said chords and being overlapping and secured to each other at the ends thereof, slidable ceiling paneling positioned between corresponding flanges of said lower chords of each end and intermediate trusses to provide a paneling effect to the underside of said awning arrangement, a plurality of vertical support members spaced along each said end and intermediate trusses and secured to the corresponding upper and lower chords thereof, said vertical support members having height intermediate the depth of said trusses and terminating short of the spaced flanges of the lower chord of each said trusses, a plurality of spaced stringers arranged substantially transversely to and between each end truss and its adjacent intermediate truss and similarly between adjacent pairs of intermediate trusses and secured to said vertical support members to form a lattice network and for bracing said trusses, said end and intermediate trusses being of greater depth than

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said stringers, with said stringers being positioned intermediate the heights of said trusses and above the spaced flanges of the lower chord of each said trusses so that said ceiling paneling is slidable beneath said stringers, and further, said stringers being of sufficient depth to span the distance between the corresponding upper and lower chords of each said trusses, a plurality of overlapping corrugated roof panels positioned on top of said trusses and overlapping the ends of said end and intermediate trusses, and a pair of parallel spaced members secured to the ends of said end and intermediate trusses to form an integral awning arrangement.

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