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LIGHT-TRANSMITTING AWNING

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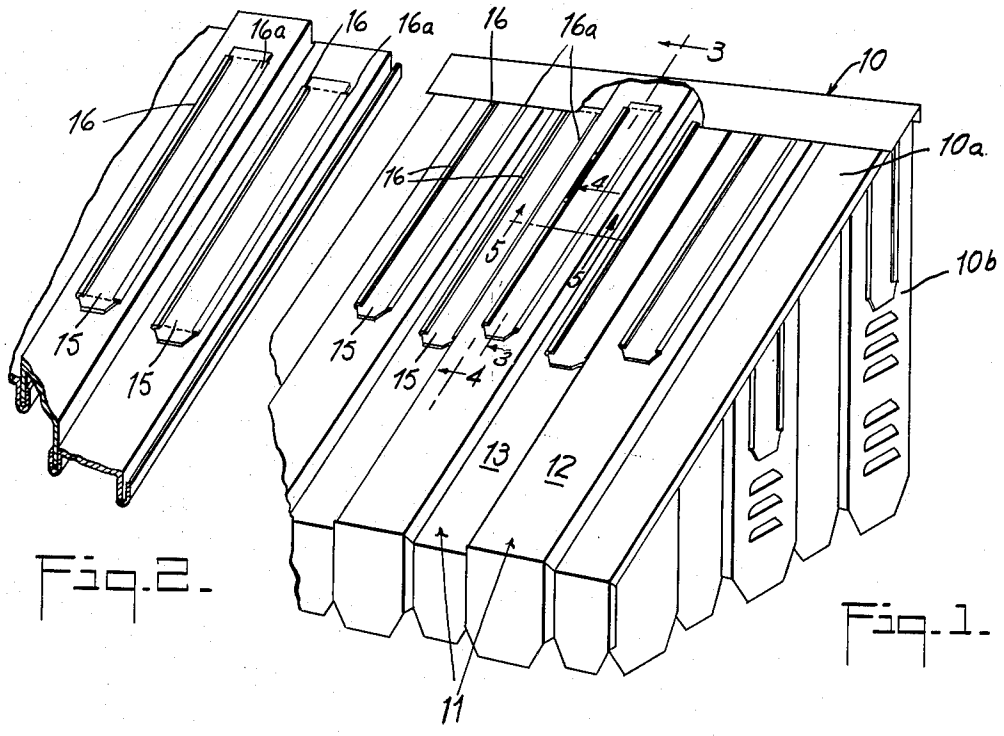


Fig. 2.

Fig. 1.

Fig. 3.

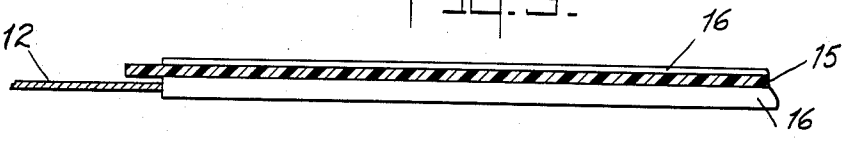


Fig. 4.

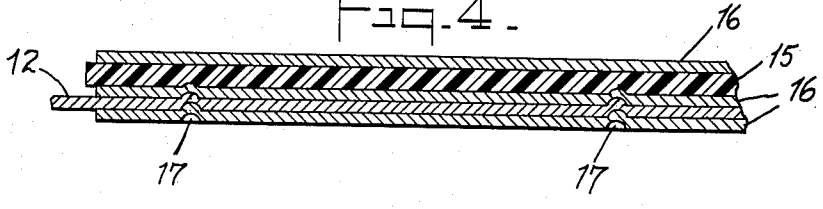
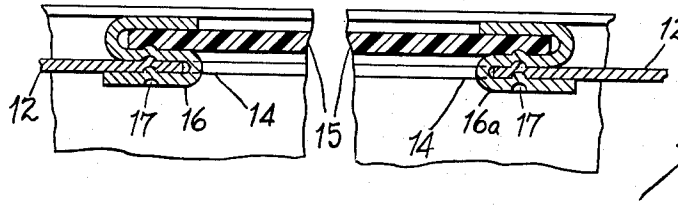


Fig. 5.



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LIGHT-TRANSMITTING AWNING

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3 Claims. (Cl. 20—57.5)

This invention relates to a light-transmitting awning and comprises an improvement on the awning shown and described in my former application Serial No. 271,956, filed February 16, 1952.

Prior art awnings heretofore made are objectionable to some householders because they are almost completely opaque and thus prevent or shield from passage or transmission into a room through a window over which such awning is hung all light from a source above the awning, thus resulting in a darkened room.

One of the objects of this invention is to produce at a low cost a sheet metal awning of the said rigid panelled and channelled type, which while effectively providing shade against excessive heat or cold, shedding water and affording protection against rain or snow, will at the same time permit the transmission therethrough of a given amount of light and sunshine, while at the same time avoiding all glare, and which will add to the ornamental quality of the awning without detracting from the rigidity thereof.

Another object is to produce a sheet metal awning comprising channelled elongated strips which are substantially flat and have shallow flanges at each edge and some of such channel members are provided preferably at a central portion of such members between said connection flanges with relatively narrow windows which are closed by inserts composed of relatively narrow transparent strips of a non-breakable fibre glass or other plastic material, which inserts are positioned and locked in place by ornamental frames at the sides of window-openings. These framed windows and inserts are fixedly-positioned in such panel or channel members of the roof section preferably adjacent to the upper end thereof and also preferably in upper portions of channelled side members for use in the sides of the awning.

Another object of this invention is to utilize in such panels or channel members framed inserts having a novel form of insert-interengaging means or frames, and preferably I provide frames or interengaging means for such inserts and fastening means therefor that will enable such inserts to be readily and quickly fitted and fixed into position in such panels or channel members at a very low cost during fabrication of the panels for the awning.

The invention comprises in one of its adaptations the species or preferred form illustrated in the accompanying drawings, in which:

Fig. 1 is a view in perspective of an awning embodying my invention and shown with three frames and transparent inserts at the inclined top and two transparent inserts at each side;

Fig. 2 is a view in perspective of a pair of panel units having shallow fastening flanges at the edges adapted for connection to each other and one of which is provided with light-transmitting openings, window frame members and inserts;

Fig. 3 is a fragmentary longitudinal section on the line 3— of Fig. 1, looking in the direction of the arrows and

showing an inside edge view of my preferred form of metal frame for mounting the transparent insert;

Fig. 4 is another longitudinal sectional view on the line 4— of Fig. 1 showing my novel connection between the panel, the window frame and the light-transmitting insert;

Fig. 5 is a fragmentary cross-sectional view of my light-transmitting insert, frame and a panel opening.

Referring now to these drawings which illustrate a preferred embodiment of my invention, a rigid metallic awning **10** is composed of roof and side sections **10ª**—**10ᵇ**, each of which, as shown, is fabricated from a series of opaque metal channel units **11**. These metal panel units may be manufactured as an independent product and sold for use in awnings or like structures, and, in the embodiment shown in these drawings, the awning **10** is built with its roof **10ª** and sides **10ᵇ** each composed of a series of such panel members **11**. There are two types of these panel members, one comprising the raised panel members **12** formed by providing straight flanges at opposite edges and the other comprising channel members **13** having double narrow channel-shaped edge flanges and adapted to be arranged in alternate relationship with the channel members **12** and when assembled and fastened together at their side edges to form alternately-disposed depressed and raised channels in the awning.

Each of these channel members when separated are composed of elongated strips having substantially flat body portions and shallow flanges at each edge adapted for connection to adjacent members to produce an awning. Both of these flat channel members with their shallow flanges will enable a workman to operate on the body portion of one of such channel members independently, and, in accordance with my present invention, I utilize a plurality of such channel members for providing the awning with light-transmitting elements. As shown, a series and preferably each of the raised panel members **12** is provided at a central body portion thereof between each connection of the flanges with a window **14** which is closed by an insert **15** composed of relatively narrow strips of a non-breakable fibre glass or other suitable plastic material.

In accordance with my present invention, such inserts are positioned and locked in place by ornamental frames comprising a pair of side members **16**—**16ª** fastened to the metallic edges of the opening in the channel members **12**. These framed windows and inserts are not only useful but ornamental and are thus fixedly placed in the body portion of such alternately-positioned raised panel or channel members **12** of the roof section **10ª** preferably within said body portion at a position adjacent to the upper end thereof, and such framed windows are also positioned in the upper portions of the channel side members or units that form the side sections **10ᵇ** of the awning when assembled with other roof units and connected to a suitable conventional frame not shown. I am therefore enabled to fabricate at a low cost light-transmitting panel members or units which, when assembled with other units, will produce a rigid awning embodying a series of window openings each having frames with light-transmitting, non-shatterable inserts securely mounted therein, which inserts will transmit or pass light or sunshine into a room without subjecting such room to glare and without detracting from the rigidity and strength of the metal awning.

In the preferred form of my invention shown, I utilize a pair of frame members **16** and **16ª**, each comprising strips of a length similar to that of the opening and which are reversely bent into a conformation substantially S-shaped in cross-section to produce on the lower portion of said S-shaped member lower channels or grooves

adapted to receive and closely fit opposite metallic edges of the opening in said panel, and the upper portions of such frames are provided with glazing channels which are bent in the opposite direction from the panel-engaging grooves or channels. These glazing channels are formed integrally in the frame member with the reversely-bent flanges which form a channel for engaging the metallic edge of the opening. Thus by a mere insertion of one frame member at one side and another frame member at the other side I am enabled to initially mount the pair of frame elements on the edges of the panel opening and thereafter to insert through the glazing channels in the frames a transparent insert composed, as aforesaid, of fibre glass or the like.

It is necessary that this fibre glass insert be held firmly and securely engaged by the frame elements in position and I accomplish this secure engagement and holding by the provision in the panel-engaging flanges of the frame elements and in the metal of the panels at the edges of the openings of integral indentations **17**. A plurality of these indentations **17** are arranged at each side of the opening and insert and extend upwardly through the channel flanges and through the metal at the edge of the opening at each side of the insert in the panel member **12**. Each indentation extends through the upper flanges of the frame channel which fits above said opening edge, but is limited so as not to pass the upper surface of said frame members, and for this purpose, such upper surfaces of the frame elements are protected by providing below and in contact therewith a suitable impenetrable and stiff protecting member. Thus, the upper exposed frame portion is in no way indented and the outer surface of the awning will be completely unaffected by any indentations that might permit the gathering of moisture or dirt, while on the other hand the joint between the outer portion of the frame members and the edge of the insert are sealed and liquid tight so as to prevent any possible moisture from passing between the edges of the insert and the frame members which hold the same. In other words, I provide a glazing joint that is strong, durable and absolutely liquid tight. This joint is obtained by first protecting, as aforesaid, the upper surface of the frame members by the use of a stiff, rigid and highly impenetrable material and then applying to the under and hidden surface beneath or inside the awning the indentations hereinabove referred to.

To produce a glazing structure of the type specified, it is necessary to provide the window openings and to frame the inserts prior to the connection of the channel members **12** to its companion channel members **13** for the purpose of producing an awning, and it will be understood that the edge flanges **12a** of these channel members are of relatively short depth so that a tool may be passed over the same and readily applied to the panel members

positioned along the middle surface of such panel members.

After the positioning of such indentations the panel members **12** and **13** are assembled for the purpose of building up the surfaces **10a** of the awning **10** and additional panel members of proper shape are used for the sides of the awning. In accordance with the preferred form of my invention, the edge flanges of the panels are similarly connected by a series of indentations which in this case may be and preferably are extended through the three plies of metal and thereafter limited to produce an ornamental frame.

Having described my invention, I claim:

1. A light-transmitting metal panel unit for transmitting light through awnings of the rigid metal type, comprising a metal panel having its side edges provided with fastening flanges for interengagement with flanges of adjacent panels and having an opening formed between its said edges, a light-transmitting glazing insert piece of plastic material fitting said panel opening, mounting means for said insert piece comprising a pair of metallic frame members having bottom channel flanges fitting over the opposite side edges of said openings and additional upper glazing-channel flanges between which the edges of said insert piece may be slidably inserted, and means for fastening said frame members to the edges of said opening and to said glazing insert comprising a series of indentations in the metal of the bottom flanges of the frame members extending from the lower surface upwardly into contact with the metal of intermediate members.

2. A light-transmitting metal panel unit for transmitting light through awnings of the rigid metal type as claimed in claim 1 in which the indentations extend from the outer surface of the lower flanges through the metal of the panel at the edge of the opening and into contact with the lower flange of the glazing channel.

3. A light-transmitting metal panel unit for transmitting light through awnings of the rigid metal type as claimed in claim 1 in which the indentations extend from the outer surface of the lower flanges through the metal of the panel at the edge of the opening and into contact with the lower flange of the glazing channel and the upper flange of said glazing channel is free from such indentations.

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