April 3, 1962 H. S. DUNN 3,028,277

LIGHT TRANSMITTING ROOF FORMING PANEL

Filed June 10, 1959

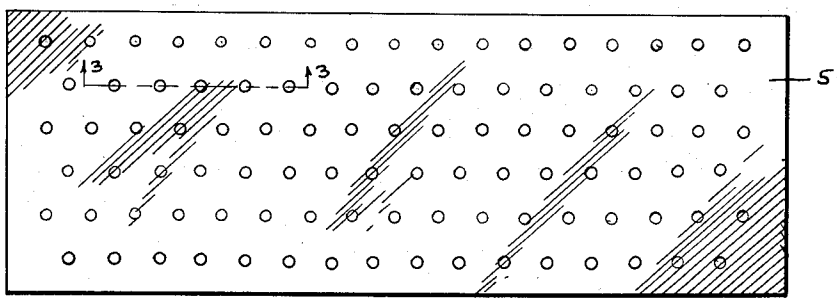


Fig. 1.

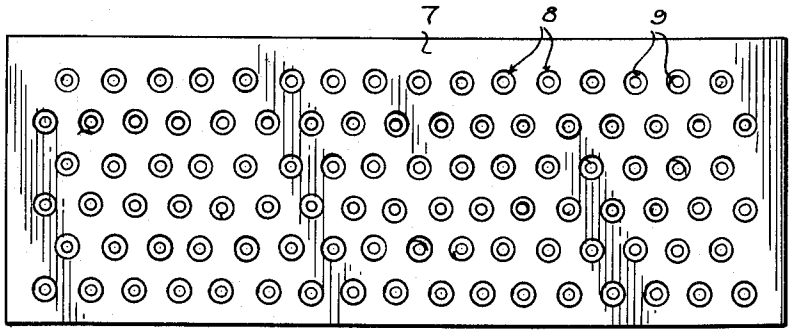


Fig. 2.

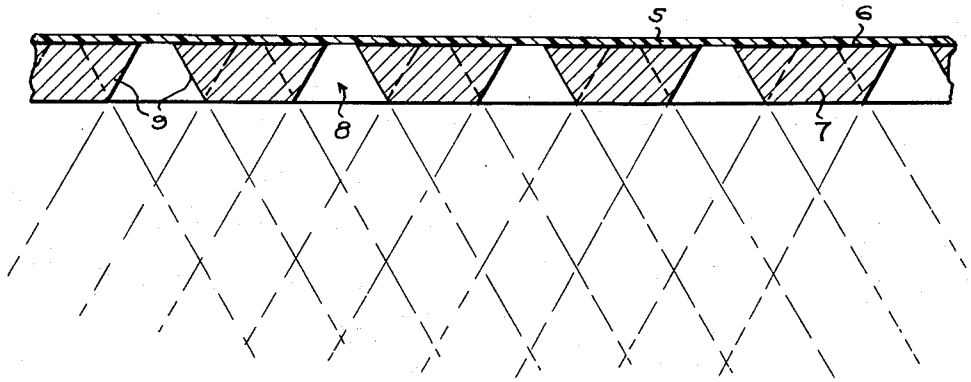


Fig. 3.

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LIGHT TRANSMITTING ROOF FORMING PANEL

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1 Claim. (Cl. 154—43)

This invention relates to a building structure and has particular reference to a laminated light transmitting panel.

The invention contemplates a panel that is formed of a pair of laminations and with the upper panel being formed of a translucent polyester resin fiberglass plastic and with the lower lamination being formed of any desirable opaque material such for instance, a plywood or Masonite.

The invention further contemplates in bonding together a translucent fiberglass sheet sheet and an opaque sheet and whereby the translucent sheet constitutes a weathering surface for the opaque sheet.

A further object of the invention resides in perforating the opaque sheet over its entire area and with the perforations being of truncated cone shape, with the small diameter of the cone terminating at the translucent sheet in a manner to provide a multiplicity of relatively small light transmitting openings and whereby the light passing through the openings will be divergent so that all of the light rays may be diffused together at a point relatively close to the underside of the panel to form a substantial even glow to the interior of a building.

Novel features of construction and operation of the device will be more clearly apparent during the course of the following description, reference being had to the accompanying drawings wherein has been illustrated a preferred form of the device and wherein like characters of reference are employed to denote like parts throughout the several figures.

In the drawings:

FIGURE 1 is a top plan view of a panel constructed in accordance with the invention,

FIGURE 2 is a bottom plan view of the panel and,

FIGURE 3 is an enlarged fragmentary section taken substantially on line 3—3 of FIGURE 1.

Referring specifically to the drawings, the numeral 5 designates a reenforced translucent sheet of fiberglass polyester resin. The sheet 5 is coextensive with the panel to be formed. The sheet 5 is cemented or otherwise bonded at 6 to a relatively thick opaque sheet 7, such as plywood, Masonite or the like. The sheet 6 may also be formed of an expanded polystyrene material and when formed of polystyrene, the sheet will be of sufficient thickness to prevent any undue flexing.

The sheet 7 is provided with a multiplicity of staggered rows of apertures 8, of truncated cone shape, having downwardly divergent walls 9 and with the small diameter of the cone terminating in a sharp knife edge at the point of engagement with the sheet 5, forming a multiplicity of spot light openings. The panel is primarily designed to function as a roof panel for enclosed areas that are normally screened and whereby to form a protective covering and light transmitting insulating panel over selected areas of the enclosure. By reference to FIGURE 3, it will be seen that there has been diagrammatically illustrated the several light rays passing through the spot light openings of the truncated cones in a manner

whereby they merge together at a point a few feet below the surface of the roof to present a diffused glow of light to the lower area of the enclosure, with out any sharp concentrated spots of illumination at any point. The panel from the underside presents an extremely ornamental spot light effect to persons within the enclosure.

It will be apparent from the foregoing that a very novel form of roof forming panel has been provided. The panel is both weather-proof and has a high degree of insulation that substantially retards the transmission of heat from the sun to the enclosed area. The panel 7, prior to the bonding of the translucent sheet 5, may be spray painted to coat the divergent walls 9 of the apertures 8. The panel is then assembled in any conventional manner with respect to the roof closure and subsequently may be decorated by roll-on painting upon the under surface of the sheet 7. The panel gives an extremely pleasing effect, providing as before stated, a high degree of insulation yet providing the transmission and projection of a very considerable amount of light rays from the sun. The device is cheap to manufacture, is strong, durable and most effective as a closure forming panel for roofs or the like. It will be apparent of course that the use of the panel is not restricted to a roof covering and may also be used to form wall panels or the like for other enclosures.

It is to be understood that the invention is not limited to the precise construction shown, but that changes are contemplated as readily fall within the spirit of the invention as shall be determined by the scope of the subjoined claim.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

A laminated structural roof panel for providing lighting and insulation being composed of a continuous, moisture resistant sheet of translucent material through which light rays will readily pass, an opaque sheet of material masking the passage of light rays and coextensive with said translucent sheet, and means bonding said sheets together, said opaque sheet being relatively thick as compared with said translucent sheet to provide therewith structural strength to said sheets, said opaque sheet including a plurality of spaced, transverse apertures communicating with one side of said translucent sheet for receiving light rays therethrough, said apertures having a truncated cone shape and diverging from said translucent sheet, a projection of the sides of said truncated cone shaped apertures merging at a common plane parallel to said opaque sheet for concentrating the light rays passing therethrough at said common plane and presenting at said common plane a substantially uniform concentration of the light rays.

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