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INDIRECT LIGHTING SYSTEM

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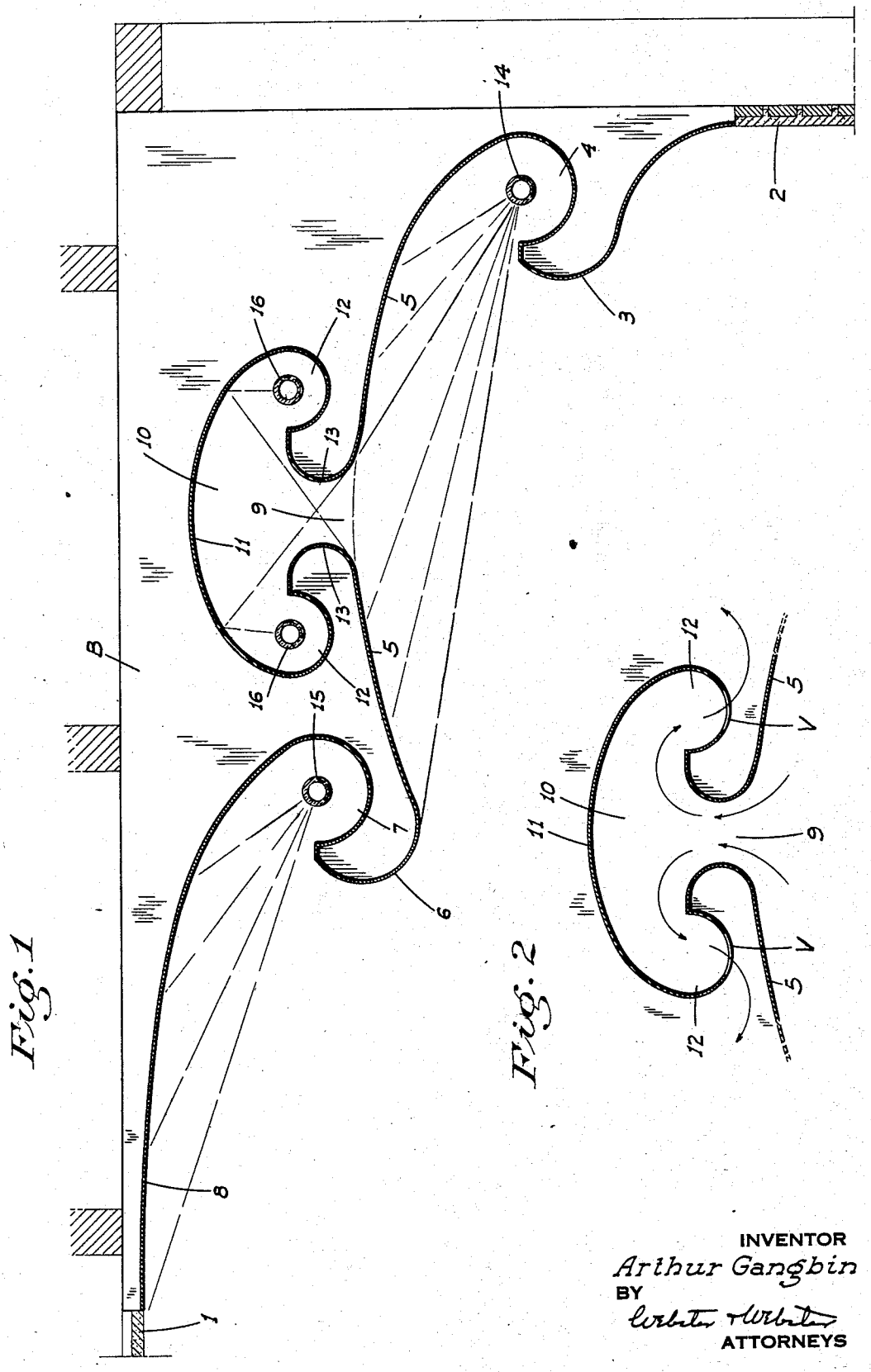


Fig. 1

Fig. 2

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INDIRECT LIGHTING SYSTEM

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4 Claims. (Cl. 240—9)

This invention relates in general to an improved indirect lighting system, and includes the subject matter divided out of my copending application on "Ceiling construction and method of laying out same," Ser. No. 273,917, filed May 16, 1939.

In particular the invention is directed to, and it is my principal object to provide, an improved indirect lighting system which includes a fanciful cove or molding having light sources arranged therewith to produce unique, modernistic and variable lighting effects.

Another object of the invention is to provide an indirect lighting system which, when in operation, causes no glare, but rather a soft, pleasing and diffused light, which does not cause any appreciable shadows in the area illuminated; and in which the light sources are entirely invisible.

An additional object of the invention is to provide a fanciful cove or molding having air flow parts or vents of an air conditioning system included therein and which vents cannot be seen from below.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawing similar characters of reference indicate corresponding parts in the several views:

Figure 1 is a sectional elevation of the fanciful cove or molding mounted in place and including the light sources.

Figure 2 is a fragmentary sectional elevation showing the cove portion which includes the air vents.

Referring now more particularly to the characters of reference on the drawing, and at present to Fig. 1, the fanciful cove which I embody in my improved indirect lighting system is mounted horizontally in the corner between a ceiling 1 and side wall 2, or in a similar position in other structures; the cove in the present instance being shown, for clarity, as preformed sheet metal but obviously may be of plaster and lath or other construction if desired.

This cove, on the under surface, presents mainly a plurality of curved surfaces which include a concave-convex portion 3 extending upwardly and laterally outwardly from the wall 2 some distance below the ceiling 1. A horizontal, upwardly opening trough 4 of substantially semi-circular configuration in cross-section is disposed inwardly of and flush with the upper end of portion 3.

A relatively wide, concave reflecting surface 5, mainly formed on the radius of a circle of relatively great diameter, extends from the inner edge of trough in a laterally outward direction and at a slight upward angle from said edge. From the outer end of surface 5, the cove extends convexly upwardly as at 6, and such curved sections shields another upwardly opening trough 7 disposed therebehind.

Another relatively wide, concave reflecting surface 8, formed and disposed in substantially the same relative position as surface 5, extends from the inner edge of trough 7, although of course in a vertically elevated plane relative to said surface 5; the outer edge of surface 8 terminating at the ceiling.

Substantially centrally of its inner and outer edges, the reflecting surface 5 is formed with a longitudinal slot 9 of substantial width, which opens into an inverted, enclosed and relatively deep channel 10; the cove being formed to provide a downwardly facing concave reflecting ceiling 11 in said channel. The ceiling 11 extends laterally some distance beyond the slot 9 and there merges into the opposed edges of a pair of upwardly facing troughs 12 which extend on opposite sides of and parallel to slot 9 but slightly above the plane thereof; exteriorly convex portions 13 extending between adjacent edges of troughs 12 and adjacent edges of the slot 9 whereby to shield said troughs from sight and to form said slot as what may be termed a throat.

The troughs 4, 7 and 12 are each fitted with a longitudinally extending "neon" tube or similar source of artificial light; sail light sources being identified as 14, 15 and 16 respectively. At spaced points in the length thereof, the cove is supported by brackets B which at one edge conform to said cove and at their other edges are connected with the ceiling and wall members. Such brackets may be formed by the method described in my copending application identified hereinbefore.

As installed for use, all of the reflecting surfaces are painted or otherwise finished white, and the neon tube 14 is of one color, preferably green, while the tubes 16 are of another color, preferably red. Tube 15 is of a color different from that of tube 14, and may be red, as are tubes 16. The tubes 14, 15 and 16 are wired so

that they may be illuminated independently of each other whereby varied lighting effects may be obtained, as will hereinafter appear.

When all of the tubes are illuminated, tube 14 casts its colored light rays directly onto reflecting surface 5 on both sides of slot or throat 9; the different color of the light rays form tubes 16 reflecting from ceiling 11 back into throat 9 causing the unique effect of a colored band of light emanating from throat 9 and extending the full length of reflecting surface 5. This surface, however, is reflecting a different color, which thus appears in the form of two separated bands as slot 9 is disposed centrally of the edges of said surface 5. The light rays from tube 15 reflect from surface 8 and also produce another colored band.

A considerably varied effect is had if tubes 16 are shut off, the effect to the eye then being that the colored bands reflecting from surface 5 are then separated by an unlighted strip, as no substantial amount of light from tube 14 can reflect from ceiling 11.

A still further effect can be obtained by shutting off tube 14 leaving only tubes 15 and 16 illuminated. In this instance a red band appears through throat 9 and surface 8 is illuminated with a like color, the portion of surface 5 between throat 9 and the convex portion 6 of the cove then standing out in dark bold relief and appearing to hang in space.

In any of the lighting effects which may be had as above, my improved indirect lighting system effects a sharp separation between the bands of vari-colored light which produces a quite unique and modernistic effect, and without shadows.

Referring particularly now to Fig. 2 of the drawing, the bottom of channels 12 may be formed with a series of air vents V whereby air may be drawn from the area beneath the cove through throat 9 into channels 10 and troughs 12 from whence the air then flows through vents V to the interior of the cove, and which may be connected with the suction side of an air conditioning system in any suitable manner. The advantage of such vent arrangement resides in the fact that the vents cannot be seen from below the cove, and do not detract from the indirect lighting effects; and the channels 12 are inherently located where the heated air in the room below will naturally tend to flow.

From the foregoing description it will be readily seen that I have produced such a system as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the system, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

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

1. In an indirect lighting system for building structures, an upwardly opening relatively long cove trough, a light source in and extending along said trough, means forming a longitudinal transversely concave reflecting surface in the building structure above said trough and mainly laterally offset relative to the latter, other means forming an inverted longitudinal channel opening from above through said surface intermediate the edges thereof laterally offset relative to the trough and extending substantially for the length of the trough, and a separate light source in and extending along said inverted channel.

2. In an indirect lighting system, an upwardly opening relatively long trough, a light source in the trough, means forming a longitudinal transversely concave reflecting surface above the trough and mainly laterally offset therefrom, other means forming an inverted longitudinal channel having an opening through said surface from above and intermediate the edges thereof and extending for the length of the trough, an upwardly opening trough in said channel, and another light source disposed in said channel trough, said inverted channel having a reflecting ceiling therein.

3. In an indirect lighting system, an upwardly opening relatively long trough, a light source in the trough, means forming a longitudinal transversely concave reflecting surface above the trough and mainly laterally offset therefrom, other means forming an inverted longitudinal channel having an opening through said surface from above and intermediate the edges thereof and extending for the length of the trough, the internal width of said channel above the channel opening being substantially greater than the width of said opening, an upwardly opening trough on said side of said opening, and a separate light source in said channel trough.

4. In an indirect lighting system, an upwardly opening relatively long trough, a light source in the trough, means forming a longitudinal transversely concave reflecting surface above the trough and mainly laterally offset therefrom, other means forming an inverted longitudinal channel having an opening through said surface from above and intermediate the edges thereof and extending for the length of the trough, the internal width of said channel above the channel opening being substantially greater than the width of said opening, an upwardly opening trough on each side of said opening, and a separate light source in said channel troughs, the channel having a transversely concave reflecting ceiling therein above and extending between said troughs.

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