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DECORATIVE LIGHT SOURCE

Original Filed June 13, 1966

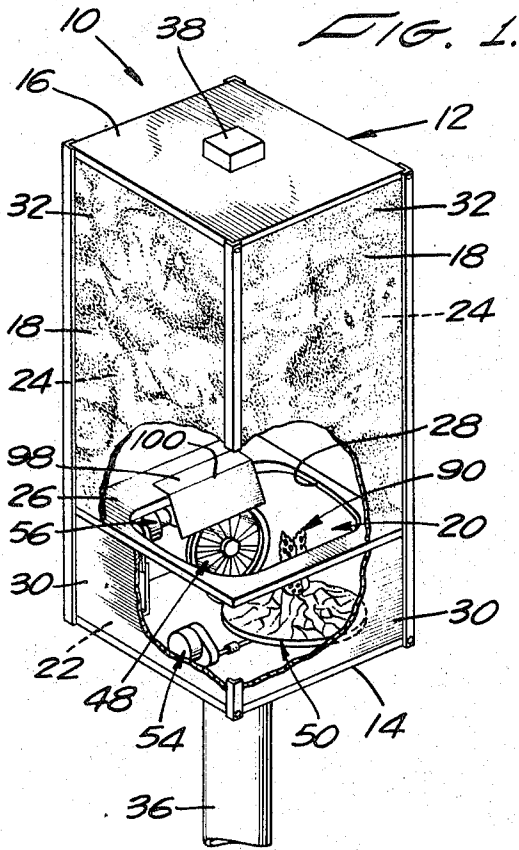


FIG. 1.

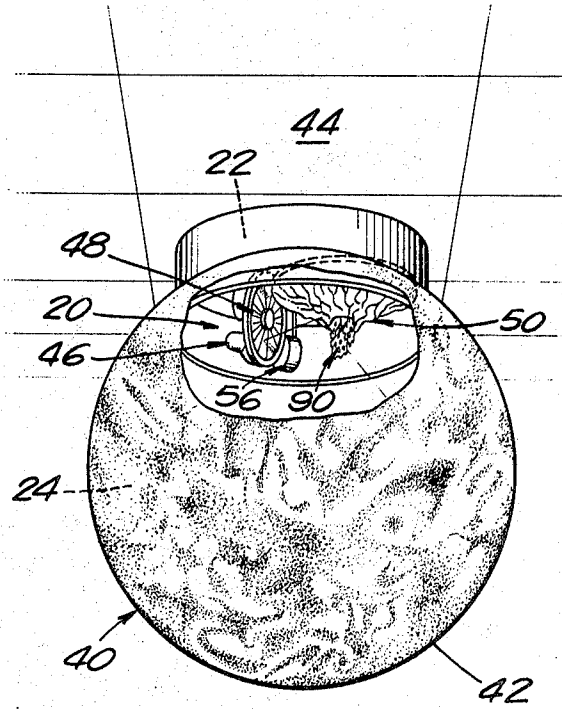


FIG. 3.

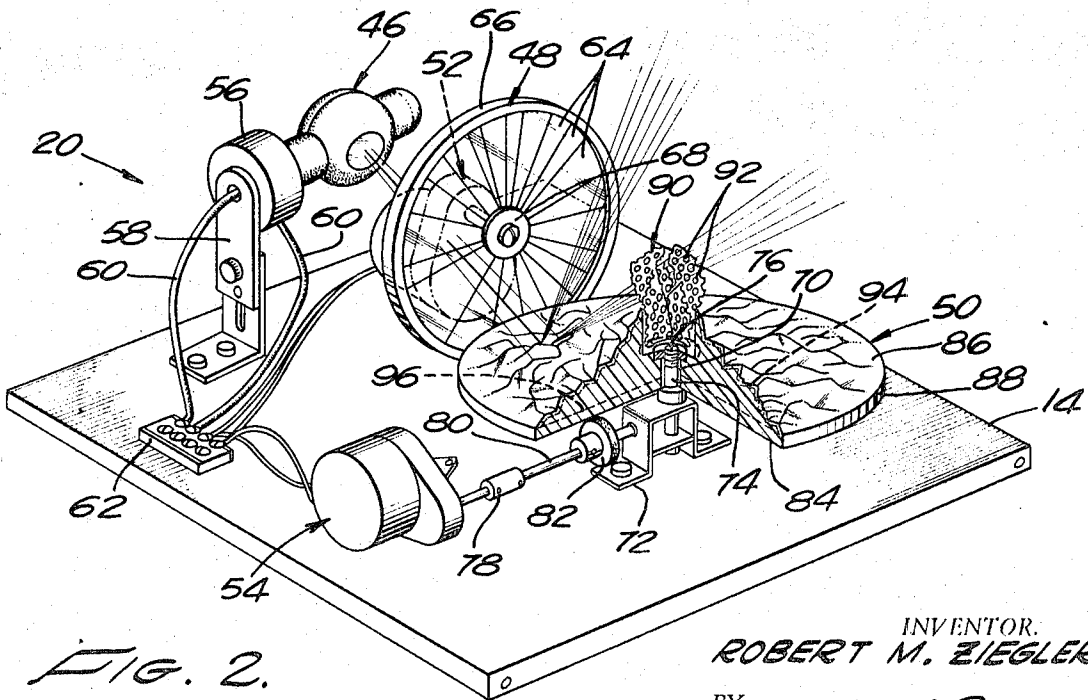


FIG. 2.

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DECORATIVE LIGHT SOURCE

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5 Claims

ABSTRACT OF THE DISCLOSURE

A lighting system operating to provide an ever-changing nonrepeating pattern of multicolored images on either flat, curved or surfaces of revolution formed of translucent material. The variegated colored lighting provided by the system is usable in innumerable ways to produce artistic, decorative and illuminating effects. A concentrated beam from a strong light source passes through ever-changing color filters onto an irregular reflecting surface moving differentially with respect to the changing filter and effective to disperse and scatter the colored rays onto a surface or surfaces intended to be decorated or illuminated.

This application is a continuation of application Ser. No. 557,033 filed June 13, 1966, now abandoned.

This invention relates generally to lighting fixtures and similar devices and more particularly to a decorative light source for providing a random continuously changing pattern of multi-colored images on a viewing surface.

In recent years, decorative lighting ceased to be the exception. Instead, homes, offices, stores, commercial and public buildings of all types, both inside and out, all instead are enhanced in appearance to an extent never before realized simply through the medium of decorative and modern lighting techniques. What in the past had either not been, or, if it had, had been poorly or improperly lighted is now amply and properly illuminated. However, proper illumination does not restrict or limit the user to white light as such.

A more desirable effect while at the same time achieving proper illumination levels can readily be obtained by using decorative lighting of the type to be described. Heretofore, such equipment was either not available or was too costly, especially so in the residential market. That which was available often times was necessarily restricted to commercial and industrial type buildings due to size or other reasons. With the present invention, decorative light in various forms be it light fixtures, wall or ceiling panels or floor or table lamps can now be provided at relatively low cost without sacrificing useful life.

Briefly, the invention utilizes a conventional projection lamp of the type producing a narrow beam which is passed through a rotating multi-color filter and subsequently reflected and dispersed and scattered and shadowed over the inner side of a translucent surface which is exposed for viewing the random, continuously changing pattern of multi-colored images thus produced.

According to the invention, there is provided a decorative light source comprising in combination housing means including a base and a surface of translucent material visible from one side thereof, lamp means disposed in the housing means and operatively supported on the base, a source of electrical power for energizing the lamp means, reflector means operatively mounted on the base near the lamp means and including an irregular reflective surface for receiving light rays emanating from the lamp means when energized and for projecting substantially all of the light rays received in dispersed relationship onto the other side of the translucent surface, filter means op-

eratively disposed on the base intermediate the lamp means and the reflector means and including a rotatable disc having a plurality of segments each with pre-selected light transmitting characteristics, and motor means including an output shaft operatively coupled to the reflector means and to the filter means for rotating respectively the irregular reflective surface and the segmented disc whereby the pattern of dispersed light made on the other side of the translucent surface is characterized substantially by non-repetitive high lights of all colors including white light which on viewing is noticeably susceptible of multiple interpretations.

It is therefore the primary and principle objective and purpose of the invention to provide a novel decorative light source.

It is another object of the invention to provide a decorative light source of the type described for producing on a translucent surface a random continuously changing pattern of multi-colored images for display purposes.

It is still another object of the invention to provide a decorative light source of the type described that is capable of producing a non-repetitive pattern of high lights of all colors including white light which on viewing is noticeably susceptible of multiple interpretations for therapeutic and other purposes.

It is yet another object of the invention to provide a decorative light source of the type described which can be suitably adjusted to provide a wide range of non-repetitive images of multi-color light for external viewing.

Still another object of the invention is to provide a decorative light source of the type described that can be employed for fixtures as well as wall and ceiling surfaces that is flexible in application, reliable in operation, inexpensive in manufacture and requiring minimum of maintenance and repair.

These and other objects, features and advantages of the invention will appear and be brought out more fully in the following specification reference being had to the accompanying drawing wherein:

FIG. 1 is a perspective view of a pole-mounted light fixture utilizing a decorative light source according to the invention, fragmentary portions of the fixture housing being removed for purposes of showing the decorative light fixture in operative arrangement;

FIG. 2 is an enlarged perspective view of the decorative light fixture shown in FIG. 1; and

FIG. 3 is a perspective view of a ceiling mounted light fixture utilizing the decorative light source as shown in FIGS. 1 and 2.

Referring now to the drawing, shown there in FIG. 1 is a perspective view of a light fixture 10 having a housing 12 comprising a base 14, a top 16 and interconnecting sides 18. A decorative light source 20, shown enlarged in FIG. 2, is provided mounted to the base 14.

It is preferred that the housing 12 includes a lower or first compartment 22 and an upper or second compartment 24. The compartments 22 and 24 are separated from each other by a wall 26 having an opening 28 of suitable size and shape for reasons to be described. The wall 26 may be attached to the sides 18 in a conventional manner or, if desired, the wall 26 may be appropriately mounted to the base 14 or supported from the top 16. Any suitable material such as metal, wood or plastics may be used to form the wall 26. The housing 12 may be likewise formed of the same or different materials.

The sides 18, as shown in FIG. 1, each includes a lower portion 30 and an upper portion 32, the former enclosing the lower compartment 22 and the latter the upper compartment 24. Any opaque material may be used for the lower portion 30 of the sides 18. For the upper portion 32, a material having a restrictive light transmission char-

acteristic, such as etched glass or sanded plexiglass or other suitable translucent material, is used. If desired, the sides 18 may be formed from a single piece of such translucent material with an opaque coating applied over one end representative of the lower portion 30. As shown in FIG. 1, the base 14 and the top 16 are attached together by means of four elongated L-shaped members with the wall 26 in turn held in place between the base 14 and the top 16 by conventional threaded fasteners, not shown, extending through the members 34 and into the wall 26 at the edge thereof. This permits the sides 18 to be formed of two pieces, one the opaque lower portion 30 and the other the translucent upper portion 32.

The light fixture 10 may be supportedly mounted to a post or pole 36 as shown in FIG. 1 by means of a bracket, not shown, attached to the base 14. In the alternative, the fixture 10 may be hung from a ceiling or some other part of a structure, not shown, by conventional means attached to the same fitting which secures a decorative cover 38.

In FIG. 3, another type of light fixture indicated by a reference numeral 40 and utilizing the decorative light source 20 is shown to include a short, cylindrical type portion comprising the first compartment 22 with the second compartment 24 in the form of a translucent ball 42. In this embodiment, the wall 26 (FIG. 1) may be disposed at the lower end of the cylindrical compartment 22 as seen in FIG. 3 with the central opening thereof appropriately positioned therein for reasons to be described. Conventional fasteners, not shown, are provided for attaching the fixture 40 to the ceiling as shown by a reference numeral 44. In this embodiment, the moving pattern of multi-colored light is projected on the inner surface of the translucent ball 42 in a continuous random display for external viewing.

As best seen in FIG. 2, the decorative light source 20 includes a lamp 46, a filter 48, a reflector 50, and motors 52 and 54. A conventional lamp socket 56 is operatively mounted to the base 14 on an adjustable bracket 58. The socket 56 in turn is electrically connected by wires 60 to a terminal board 62 to which a source of electrical power, not shown, is terminated to operate the lamp 46, which may be a conventional narrow beam projection lamp.

The filter 48 is provided with a plurality of segments 64, each of which may be of the same or different color of, for example, glass. The segments 64 may be held in place by a frame 66 having spoke like members, not shown, extending inwardly to a hub 68, or the segments 64 may be bonded to a transparent sheet in butt or overlapping fashion, as desired. The filter 48 is rotatably mounted by means of the hub 68 directly to the shaft of the motor 52 which, it is to be noted, is positioned such that the beam of light from the lamp 46 passes unobstructed through the filter 48 as is clearly shown in FIG. 2. Other operative arrangements may be used to rotate the filter 48 at the desired rate. Excellent results have been found by using a 5 r.p.m. clock motor directly coupled to the transparent color disc or filter 48.

The reflector 50 is rotatably mounted on the base 14 by means of a bearing 70 and bearing support assembly 72 which may include a fixed vertically disposed spindle 74 with a conventional fastener, not shown, provided at the outer end 76. Extending from the bearing assembly 72 to the motor 54 and fastened to the output shaft thereof by a coupler 78 is a drive shaft 80 having a drive wheel 82 disposed thereon. The drive wheel 82 has a diameter sufficient to engage the lower surface 84 of the reflector 50 which, by positioning the drive wheel 82 properly, can be made to rotate at a faster or slower rate relative to the angular speed of the drive shaft 80 and drive wheel 82. By driving the reflector 50 in this manner, the motor 54 can be the same as the motor 52 while still being able to provide different rotational rates for the filter 48 and the reflector 50 to produce time varying

images of color and light intensity which tend to suggest various moods from peace and serenity to conflict and confusion.

It should be pointed out that the drive shaft 80 could have been extended through the support assembly 72 and outwardly toward or to the periphery of the reflector 50 and the drive wheel 82 mounted on such an extended drive shaft to rotate the reflector 50 in an opposite direction, if such would be desired.

The reflective or upper surface 86 of the reflector 50 is highly irregular and may be shaped from tempered aluminum foil supported on a circular platform 88 to which the bearing 70 is mounted. In the center-most region of the reflective surface 86, there may be provided a second or partial reflector 90 having characteristic openings 92 of various shapes and sizes randomly disposed therein. The partial reflector 90 may also be formed from one or more relatively small pieces of aluminum sheeting or foil which first are wrinkled and then positioned to extend substantially upwardly from the reflective surface 86 and, as seen in FIGS. 1 and 3, into the upper or second compartment 24 of the fixtures 10 and 40.

The preferred embodiment of the reflector 50 calls for the platform 88 to be made of plastic materials of any suitable commercial type. Such a platform may be hollow as depicted by the dashed lines 94 and 96 in FIG. 2 or a solid type of platform as shown in cross-hatched delineation may be used.

In either event, the irregular upper surface 86 is suitably coated by any known process to produce a highly reflective surface. The lower surface 84, however, is relatively even yet rough enough to provide sufficient traction for the drive wheel 82.

Unwanted radiation from the lamp 46 or which might be reflected back from the filter 48 instead of passing through it can be effectively reduced to a nominal amount by means of a baffle-like shield 98 (FIG. 1) which may be attached to the wall 26 by suitable connectors and bent downwardly, for example, along a line 100 and into the lower compartment 22. If desired, a similar such shield 98 may be provided in the fixture 40 of FIG. 3.

It should be pointed out that, in the light fixture 10 of FIG. 1, two opposite sides 18 may be removed and the two opposite sides 18 remaining extended for a substantial amount, say the width of a room or the width of a hallway. At this point, the overall height of the fixture 10 may be increased until the height of the upper portion 32 equals the height of the room or of the length of the hallway, both as just mentioned. In the former case, you have a decorative wall partition, the visible surfaces of which are illuminated with exotic light patterns of multi-colored images some of which either appear suddenly or slowly and then at some time later disappear in the same or opposite manner. Such a decorative light wall may also be used for outside walls of a building as well as for ceilings, which above was the latter case.

In either case, the decorative light source 20 as shown in FIG. 2 may be arranged in groups or slightly modified to include a single motor with or without a cylindrical reflector or filter or both as may best serve the purpose.

Thus, a new and novel decorative light source has been shown and described which may take the form of a wall or ceiling hung fixture or the form of a decorative wall or ceiling panels not to exclude exterior lighting for decorative and special effect purposes and which is low in cost, easy to maintain and repair and effective on both a therapeutic as well as an aesthetic level.

While I have herein shown and described my invention in what I have conceived to be the most practical and preferred embodiments, it is recognized that departures may be made therefrom within the scope of my invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the

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claims so as to embrace any and all equivalent devices and methods.

I claim:

1. A non-repeating varicolored decorative light comprising an enclosure including a translucent screen means to be illuminated of homogenous non-coated material, projection lamp means for producing a concentrated light beam, varicolored filter means positioned crosswise of said light beam including a multiplicity of pieces of overlapping differently colored pieces of transparent material supported for movement crosswise of and relative to said light beam thereby to cast an everchanging non-repeating random pattern image of intermixing multicolored images on said translucent screen means, a rotary member supporting a highly irregular many-faceted reflecting surface positioned in the path of said concentrated varicolored light beam after passing through said filter means and effective to disperse substantially all of said varicolored light beam widely in everchanging directions over all adjacent interior areas of said translucent screen means to display thereon an ever-changing non-repeating random patter of intermixing overlapping multicolored images, means shielding said translucent screen means from substantially all rays of said projection lamp means except those rays passing through said varicolored filter means, and means for driving said rotary member and one of said lamp means and said filter means at different rates for continually varying the color and pattern of the light reflected from said rotary member onto said translucent screen means and in a manner preventing the repetition of like color patterns on said translucent screen means.

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2. The decorative light as defined in claim 1 characterized in that said enclosure includes a plurality of translucent sides, and said many-faceted reflecting surface being located axially of and closely adjacent said multisided translucent enclosure thereby to distribute the reflected light equitably over the interior surface of said translucent enclosure.

3. The decorative light as defined in claim 2 characterized in that said many-faceted reflecting surface comprises aluminum foil crumpled to provide irregular ridges and valleys arranged randomly over the surface of said rotary member.

4. The decorative light as defined in claim 1 characterized in that said translucent screen means comprises a shell of translucent material having its surface contoured as a surface of revolution and substantially all areas of which are positioned to be illuminated by said non-repeating ever changing random pattern of overlapping intermixing multicolored images.

5. The decorative light as defined in claim 1 characterized in the provision of means for mounting the same on a room ceiling.

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