Jan. 10, 1950 L. R. PAUL 2,493,829

ILLUMINATING DEVICE

Filed Feb. 12, 1946

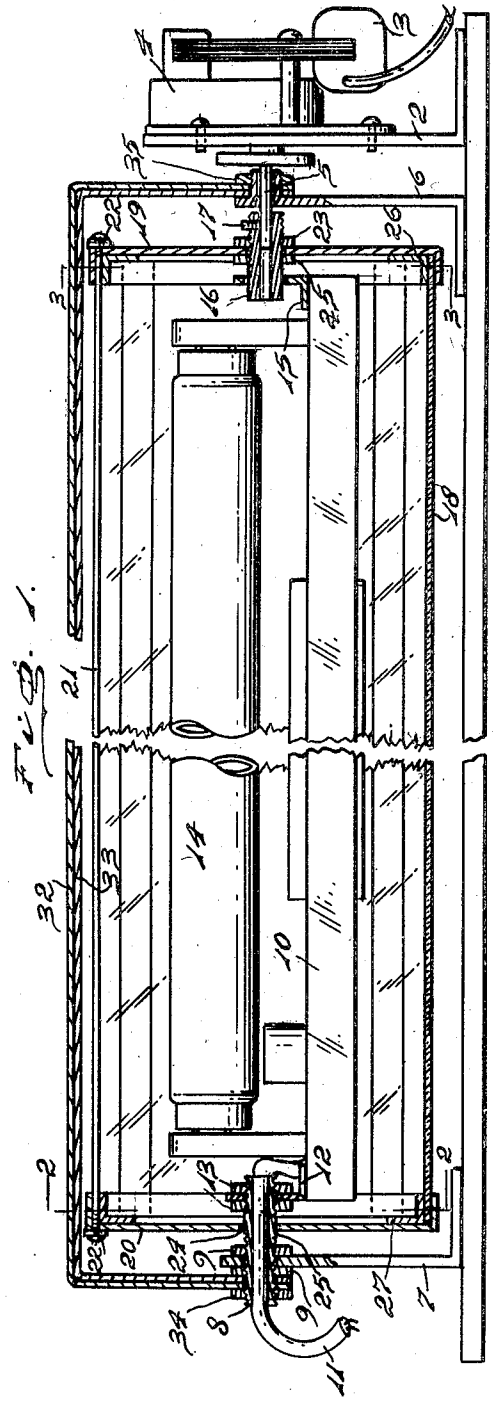


Fig. 1.

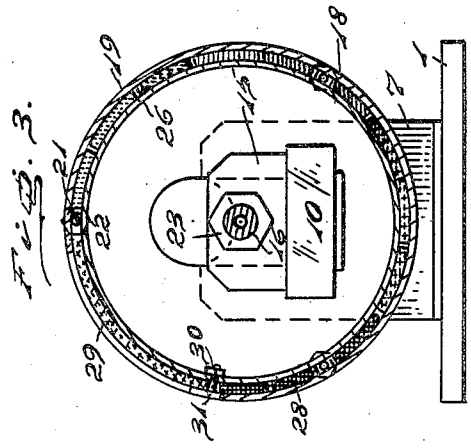


Fig. 3.

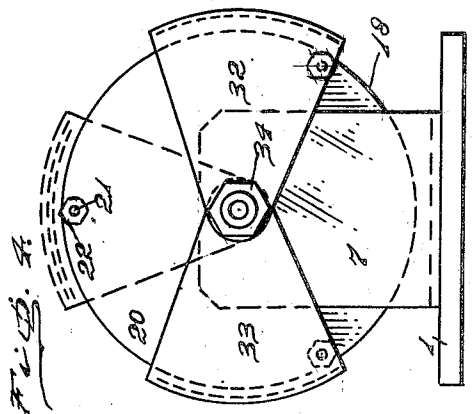


Fig. 4.

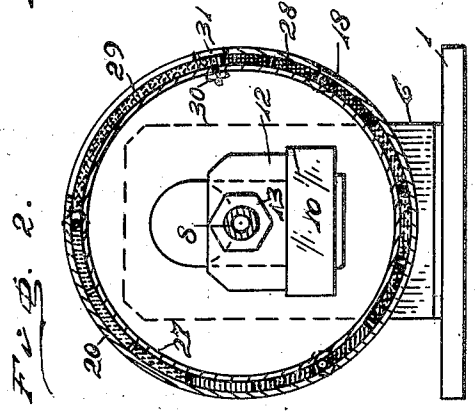


Fig. 2.

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ILLUMINATING DEVICE

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2 Claims. (Cl. 240—10.1)

1

In my prior Patent No. 2,374,640, April 24, 1945, I have described and broadly claimed a selective color control for color illumination, wherein a color cylinder is selectively positioned with respect to or revolved around a source of light.

In my research on devices of this character extending over a considerable period, I have found that the mounting and arrangement of the fluorescent fixture and the color cylinder are very important not only from the viewpoint of manufacture and assembly but also for the replacement of the source of light. Since the color cylinder may be revolved for long periods of time, the mountings must be of a durable nature, so that after installation they do not need to be disturbed in the replacement of the source of light or the changing of the color scheme of the color cylinder if such change is desired.

The object, therefore, of this invention is to devise a novel device for color illumination adapted for a large variety of uses.

A further object of the invention is to devise a novel mounting for the source of light and for the color cylinder.

A further object of the invention is to devise a novel illuminating device wherein the source of light, for example a fluorescent tube and its mounting, is contained within the color cylinder.

A further object of the invention is to devise a novel color cylinder.

With the foregoing and other objects in view as will hereinafter clearly appear, my invention comprehends a novel illuminating device.

It further comprehends novel means for mounting the source of light and the color cylinder.

Other novel features of construction and advantage will appear in the detailed description.

For the purpose of illustrating the invention, I have shown in the accompanying drawings a preferred embodiment thereof which I have found in practice to give satisfactory and reliable results. It is, however, to be understood that the various instrumentalities of which the invention consists can be variously arranged and organized and the invention is not limited to the exact arrangement and organization of these instrumentalities as herein set forth.

Figure 1 is a sectional elevation of an illuminating device, embodying my invention.

Figure 2 is a section on line 2—2 of Figure 1.

Figure 3 is a section on line 3—3 of Figure 1.

Figure 4 is an end elevation of Figure 1.

Similar numerals of reference indicate corresponding parts.

Referring to the drawings:

I designates the base of an illuminating device, embodying my invention. The contour and arrangement of the base may vary widely in

2

character in accordance with the place at which it is to be installed.

The base has a standard 2 to support a motor 3 and its reduction gearing 4 so that the motor shaft will slowly revolve, for example at a speed of one R. P. M. The motor shaft 5 passes through the upwardly extending flange of an angle 6, the bottom flange of which is fixed to the base in any desired manner.

An angle 7 fixed to the base serves as a mounting for a threaded sleeve 8 fixed to the upright flange of the angle 7 by nuts 9 in threaded engagement with the sleeve at opposite sides of the upright flange.

The source of light has been shown as a fluorescent fixture 10 having its conductor 11 passing through the sleeve 8. The fixture 10 has an angle plate 12 fixed to it and apertured to receive the sleeve 8 to which it is fixed by nuts 13. The fluorescent tube is shown at 14 and is mounted in the conventional manner for its easy replacement. The fixture 10 has an angle plate 15 which is apertured to receive a bearing 16 apertured to receive the motor shaft 5 which is fixed thereto by a set screw 17.

A color cylinder 18 has flanged end members 19 and 20 connected by rods 21, threaded at their ends to receive nuts 22. The end member 19 is fixed to the bearing 16 by nuts 23 in threaded engagement with the bearing, while the end member 20 is apertured at 24 to ride on a smooth bearing portion 25 of the sleeve 8.

The end member or cap 19 has a flanged ring 26 fixed to it and in a similar manner the end member or cap 20 has a flanged ring 27 fixed to it thereby forming spaces to receive the colored segments 28. One of the segments 29 is readily removable so that when removed the fluorescent tube 14 may be inserted or replaced, and is retained in position by a nut 30 and screw 31 at each end, the screws having heads to overlie the segment.

It will now be clear that the light source is stationary being fixed at one end to the angle standard 7 by the stationary bearing 8 and having its opposite end mounted on the revoluble bearing 16. The color cylinder is fixed at one end to the bearing 16 and is revolved by the motor and at its opposite end it revolves on the bearing 8. The fluorescent tube is preferably mounted within the color cylinder so that it is off center with respect to the longitudinal axis of the color cylinder.

By removing the color segment 29, sufficient space is provided for the replacement of the fluorescent tube.

For directional lighting, it is necessary to mask the light rays from the color segments which are not to be used.

The masking means is shown in Figures 1 and

4 but has been omitted from Figures 2 and 3. Masking plates **32** and **33** are shown in the form of segments having their end portions deflected at right angles and loosely mounted on the bearings **8** and **16** and fixed in their adjusted position by nuts **34** and **35**, respectively.

The illuminating device is portable and can be secured to a wall or ceiling or other support to produce the desired color effect. If supported in a horizonal position, the masking plates can be fixed as shown in dotted lines in Figure 4 to cause the light rays to be directed both upwardly and downwardly, and the masking plates can be adjusted so that the light rays are directed only upwardly or only downwardly. If the device is supported in a vertical position, the masking plates can be arranged as shown in full lines in Figure 4.

Any desired arrangement or combination of color panels can be employed, and the width of the masking plates would vary accordingly. As shown, the colors are shown as arranged in sets of three colors.

The motor shaft has a bearing on the angle **6**.

From a viewpoint of economy in manufacture and because a slow speed motor is employed, the bearing surfaces of the bearings **8** and **16** have been shown smooth, but it is apparent that any desired type of anti-friction bearings can be employed.

It is to be understood that a remote motor control similar to that disclosed in my prior patent is employed to selectively position the color cylinder for a desired color or colors, or to effect the

revolution of the motor when the color cylinder is to be continuously revolved.

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

1. In an illuminating device, a base, standards rising from said base, a threaded sleeve having an unthreaded bearing portion, nuts fixing said sleeve to one of said standards, a color cylinder having one end rotatable on said bearing portion, a light source fixture within the color cylinder, nuts fixing one end of said fixture on said sleeve, a second sleeve fixed to the opposite end of the color cylinder and on which the other end of said fixture is loosely mounted, and a motor on said base having its shaft mounted in said other standard and fixed to said second sleeve.

2. The construction defined in claim 1, wherein the standards are flexible to permit their outer springing when assembling or removing the color cylinder.

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