

United States Patent

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[54] **ILLUMINATED CLOCK**
1 Claim, 3 Drawing Figs.

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 F21v 9/00

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 2.1, 6.43, 11.2, 20, 41.3, 41.15, 41.4, 41.55,
 46.45, 46.59; 58/19, 50

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ABSTRACT: An illuminated clock specifically for use in a photographic darkroom or similar confines, where protection against certain light rays is of necessity, composed of a housing including an illuminated time dial provided with means to interchangeably mount light ray absorbing filters within the housing in front of the illuminated dial to screen out and dampen the radiation of optical wavelengths emanating from the illuminated dial.

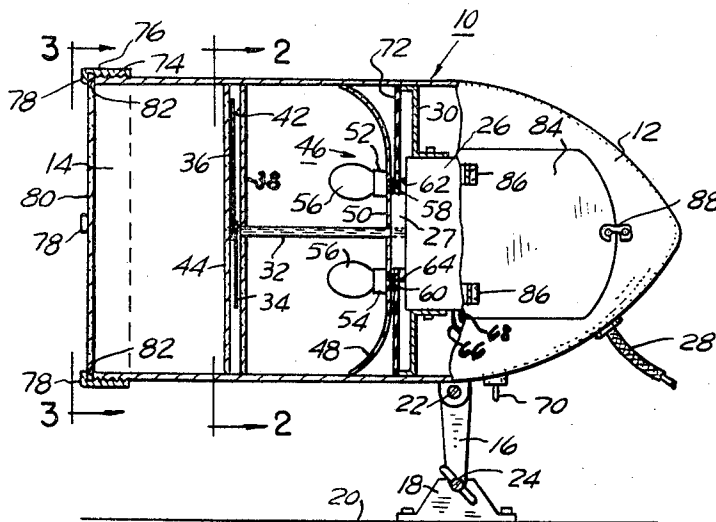


FIG. 1

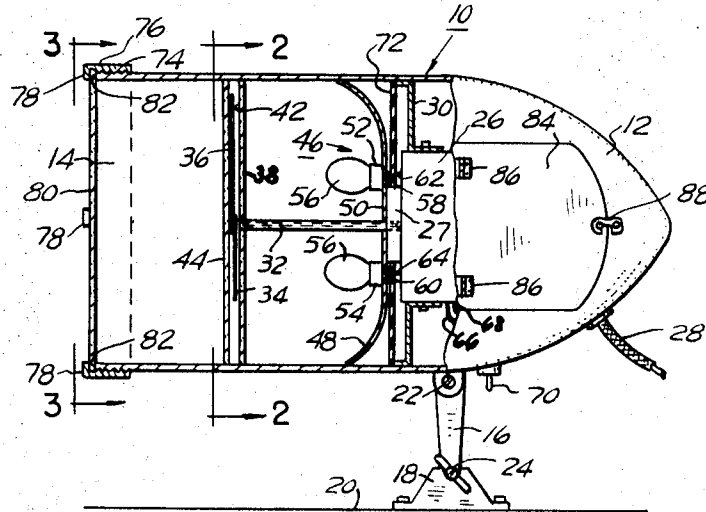
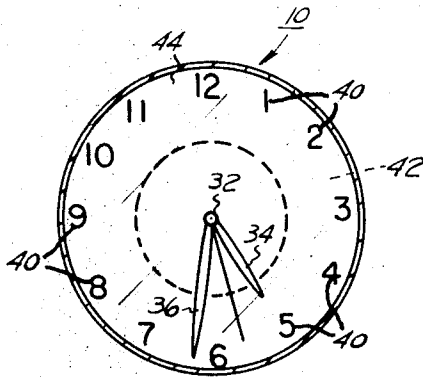


FIG. 2

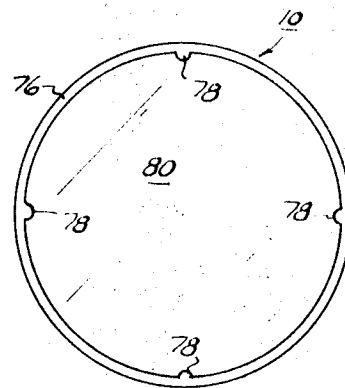


FIG. 3

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ILLUMINATED CLOCK

BACKGROUND OF THE INVENTION

1. Field of The Invention

The present invention refers in general to illuminated clocks in conjunction with a safe-light feature, and more specifically to an illuminating device which can be safely used in a photographic darkroom, hospital room or the like when in emission of normal optical light rays from the illuminating device would prove to be harmful.

2. Description Of The Prior Art

Illuminating devices embodying a clock dial are known in the art, the most common being clocks provided with dials and hands coated with a phosphate solution, which glow in the dark. Although these are sufficient for reading the time in a darkened room, they do not provide sufficient light for a person to move about in a darkened room or to read, or perform any other activities without the aid of an additional light.

Likewise, electrically or battery operated dial clocks have been provided heretofore which are adapted to illuminate the clock dial and at the same time serve as a night light, T.V. light or the like, permitting the movement about of a person in an otherwise darkened room. Although these devices perform satisfactorily for the need for which they are designed, they are not adaptable for specific uses such as in a photographic darkroom or in a room occupied by a person having a serious eye infirmity where it is required to keep away any unrestricted radiation of optical light rays in whatever form.

Electroluminescent cells have been proposed as night lights, bedside lights or the like, and in conjunction with a clock dial as an illuminated clock. Although these cells emit a soft, glowing light, they are likewise not adaptable for use in a photographic darkroom since their radiation of optical wave lengths is still of such range as to cause a harmful effect on the photographic film to be developed.

SUMMARY OF THE INVENTION

By the novel features disclosed herein, the present invention provides a safe light for photographic darkrooms or the like having light radiation within a range so as not to expose photographic film, but sufficient to permit a person to move about in the darkened room. This is accomplished by the provision of light filters placed in front of the light source, which may be in the form of low power light bulbs, to provide a low level of illumination of a safe radiation length which will not effect exposure of the film.

A time indication means can preferably be combined with the above safety light since time is of the essence in the film developing process to enable the darkroom operator to clearly read the time in the otherwise darkened room. In this case, a transparent clock dial can be provided for positioning in front of the light source between the light source and the light filter, the light filter being of such construction as to be sufficiently transparent to permit easy reading of the lighted clock dial.

The novel structure is preferably embodied in a light-tight insulated housing which is provided with adjustable pivotal support means to permit adjusting of the device to a preferred position.

BRIEF DESCRIPTION OF THE DRAWINGS

Additional novel features will become evident or specifically be pointed out in the following detailed description by reference to the appended drawings illustrating a preferred embodiment.

FIG. 1 is an assembly view of the present novel illuminating device partly in cross section to show the interior construction.

FIG. 2 is a transverse cross section of the device in FIG. 1 representing a plan view of the illuminated clock dial.

FIG. 3 is a front view of the novel device in FIG. 1 showing a light filter mounted in place in front of the clock dial.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to FIG. 1, the present novel illuminating device may comprise a substantially cylindrical housing 10 having closed end indicated at 12 and an open front indicated at 14. Instead of being cylindrical, the housing 10 may be square or rectangular as desired.

The housing 10 is pivoted on a pedestal 16 which in turn is pivotal on a support bracket 18 by which the housing 10 is secured to any suitable surface 20. By loosening and thereafter tightening of the respective pivotal pins 22 and 24, the housing 10 may be adjusted to any desired convenient position.

The housing 10 encloses the present novel illuminating device and clock mechanism comprised of a motor 26, positioned in the rear of the housing and having an electrical connection by means of a conduit 28 extending out of the housing to establish contact through a suitable plug (not shown) with any available source of electrical current, such as common household or plant current.

The motor 26 is suitably secured within the housing 10 by means of a support bracket 30 and is adapted to drive a clock mechanism (not shown) commonly associated with the motor in order to rotate a conventional telescoping shaft assembly 32 extending from the motor 26 longitudinally through the center of the housing 10, towards the front thereof.

The ends of the shaft assembly 32 receive the usual hour hand 34 and minute hand 36 respectively for rational rotation by the shaft assembly 32. The end of the shaft assembly 32 immediately adjacent to the rear of the hands is rotatively supported centrally within a transparent shield 38 which is suitably fastened within the housing 10. The front surface of the transparent shield 38 is provided with numerals 40 as seen in FIG. 2 to provide a clock-face or dial 42. A second transparent shield 44 is positioned in front of the hands and the dial 42 which is likewise suitably secured within the housing 10 and which is without any markings to provide a clear view of the dial 42. Thus, the hands 34 and 36 are enclosed within the transparent shields 38 and 44 which are preferably sealed into the housing 10 to prevent the entry of foreign matter into the clock mechanism. The transparent shields may be made of natural glass, artificial glass, such as plexiglass, or clear non-warping plastic, whichever material is found to be more suitable.

Situated behind the transparent shields 38 and 44 and in front of the motor 26 is an illuminating device 46 which comprises a reflector 48, mounted on the front extension 27 of the motor 26.

The reflector 48 has a central bracket portion 50 onto which are mounted a pair of lamp sockets 52 and 54 respectively located to both sides of the clock drive shaft assembly 32. The sockets 52 and 54 adapted to each receive a light bulb 56 of relatively low power (for instance 6 volts has been found to be adequate) and are provided with terminals 58 and 60 at the rear of the central bracket portion 50 to which are attached electrical wires 62 and 64 respectively, which are connected within the motor 26 to the source of electric current. The circuit for the bulbs is completed by branch wires 66 and 68, which are connected to an OFF-ON switch 70 outside of the housing 10, to permit switching the light bulbs 56 ON or OFF as desired.

A shield of insulating material 72 is preferably provided between the reflector 48 and motor 26, which is supported on the front extension thereof, and through which the electric wires 62 and 64 extend.

The open front 14 of the housing 10 is provided with external threads 74 adapted to receive a screw-on cap 76 which is laterally provided with circumferentially spaced lips 78 (FIG. 3). The screw cap 76 is adapted to secure and clamp a light filter 80 over the open front end of the housing in front of the dial 42. Upon tightening of the screw cap 76, the light filter 80 is securely held in place by the lips 78 against the circumferential edge 82 of the open end of the housing 10.

The light filter 80 is of suitable construction and characteristic so as to selectively absorb certain light rays emitted from the bulbs 56 through the transparent shields 38 and 44 to allow only such rays to pass as will not cause film exposure during the development process in the darkroom, but is of such color and transparency as to permit a clear view of the lighted clock dial through the filter. Light filters of this type are commercially available and due to the screw-on cap arrangement one filter may be easily exchanged for a filter of another type as may required in any particular application.

Obviously, the lighting means shown herein as bulbs 56 may be replaced by other suitable lighting means, such as fluorescent lights or the like, and no limitation is intended to be placed on the invention by the particular light means shown.

In order to allow access to the inside of the housing 10 for servicing the motor 26 and the electrical connections without having to disassemble the unit, and for setting the hands 34 and 36, a door 84 may be provided at the rear of the housing, which is attached to the housing by hinges 86 and normally closed by a pivotal hook 88.

Thus, the present invention provides an improved combination of safe light and illuminated clock for use in darkened rooms where it is required to filter out certain light rays emitted from the lighting means. This is accomplished by the provision of a filter disposed forward of the illuminated clock dial for protection against radiation of optical wave lengths which would be harmful, for instance, to a film when the device is being used in a film-processing darkroom.

The device provides a low level of illumination of a safe in-

tensity which will not affect the film, at the same time providing a time indication means for the development process.

The invention may be embodied in other forms without departing from the spirit and essential characteristic thereof. Therefore, the present embodiment is to be considered in all respects as illustrative only and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description.

I claim:

1. An illuminated clock device for use in a photographic dark room comprising a lightproof housing open at one end, an electrical light source in said housing for emitting light rays, said light source mounted on a reflector shield, at least one shield of transparent material disposed in said housing forwardly of said light source, a clock mechanism mounted behind said reflector shield and including a shaft extending through said reflector shield and through said transparent shield, a clock dial formed on said transparent shield and clock hands mounted to said shaft in front of said clock dial, filter means mounted to said housing in front of said clock dial for absorbing optical wave lengths harmful to photographic film, said filter means including screw threads formed on the exterior surface of said housing, a removable screw cap adapted to engage said screw threads, retaining means provided on said screw caps, and a light filter adapted to be placed in said screw cap against the retaining means so that said filter is clamped between said retaining means and said open end of said housing upon tightening of said screw cap upon said housing.

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