Jan. 16, 1940. R. T. ZWACK 2,187,551

LIGHT DIRECTING DEVICE

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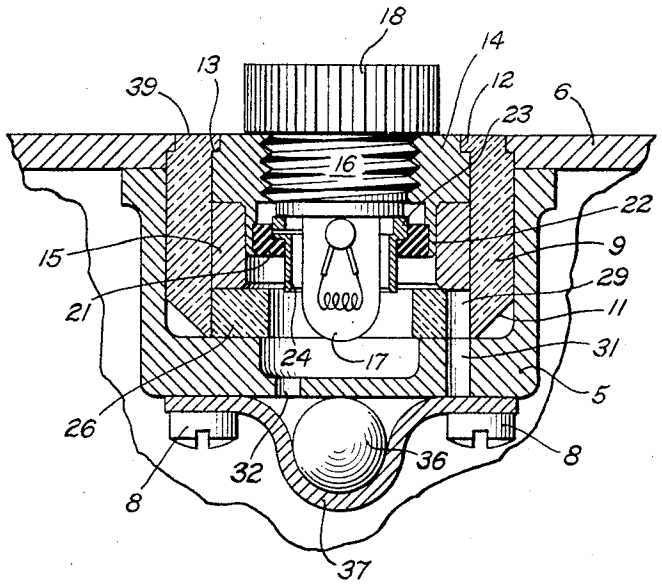


Fig. 1

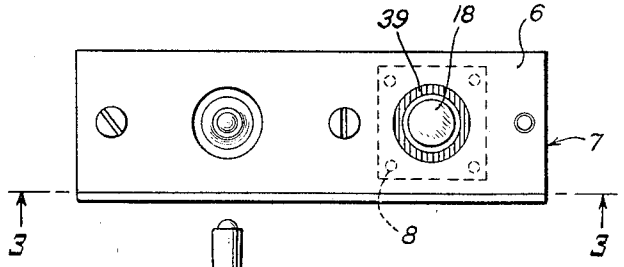


Fig. 2

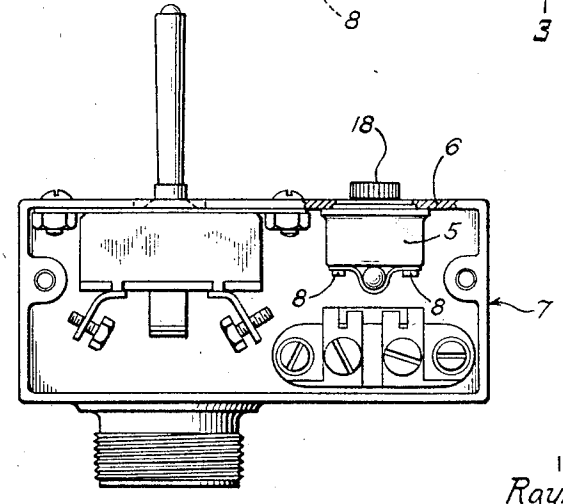


Fig. 3

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LIGHT DIRECTING DEVICE

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3 Claims. (Cl. 177—311)

This invention relates to light directing means, and particularly to the art of illuminating a panel or wall section, by means of light from a source disposed beneath, or within, the wall or panel's outer surface.

In certain installations of indicating instruments and the like, it is present day practice to employ electric lights or lamps having bases which attach to a supporting surface in such manner as to cause the light emitting part of the device to be disposed wholly or partly beneath, or within, the outer wall or surface of the supporting member or members. Such an arrangement is shown, for example, in patent to Kollsman No. 2,088,559, wherein the light is directed along a channel parallel to the panel surface.

It is an object of the present invention to direct the light into a circular path concentric with the light source itself, thus providing a circular band of light, of any desired color, to form a ring around the light base on the surface of the supporting wall or panel.

Other objects of the invention will become apparent from inspection of the following specification when read with reference to the accompanying drawing wherein is illustrated the preferred embodiment of the invention. It is to be expressly understood, however, that the drawing is for the purpose of illustration only, and is not designed as a definition of the limits of the invention, reference being had to the appended claims for this purpose.

In the drawing,

Fig. 1 is an enlarged view in longitudinal section through a light directing device embodying the present invention;

Fig. 2 is a view of a combined switch box and lamp housing having the device of Fig. 1 mounted therein; and

Fig. 3 is a view of the box of Fig. 2 as it appears when viewed along the line 3—3 of Fig. 2—that is, with the cover plate removed.

In Fig. 1 reference character 5 designates a supporting cup secured to wall 6 of box 7 (Figs. 2 and 3) by suitable screws 8 near the four corners of the supporting cup. The inner wall of the cup is cylindrical, to receive the cylinder 9 of highly transparent plastic material, such as that obtainable in the market under the trade name "Lucite", or it may be any equivalent thereof, provided with a beveled lower edge, as shown at 11, and preferably having an outer lip 12 to rest upon ledge 13 of the metallic lamp socket 14, with which the base 16 of lamp 17 is threadedly engaged, there being a protruding thumb nut or knob 18 to facilitate insertion and withdrawal. As shown socket 14 is supported on a spacer 15 which in turn rests upon part 26 to be further described. To provide a more resilient support a rubber or equally absorbent pad 21 is installed in the depending skirt 22 of the socket 14, and receives the shouldered portion 23 of the lamp base extension 24. Surrounding extension 24, and in the plane of the beveled surface 11 of the cylinder 9, is a second translucent member 26, of annular shape, and fitting snugly within the lower end of cylinder 9, with its base resting on the floor of the cup 5. For electrical current feeding purposes, annular disc 26 may be apertured as at 29, to register with aperture 31 of cup 5, there being also a second aperture 32 in cup 5 for a similar purpose, that is, to receive the lead that passes to the positive side of the lamp filament, preferably by way of extension 24, which may be insulated from base 16, as taught by the above identified Kollsman patent. The conduit containing this lead may enter by way of the space shown adjacent resistor 36, the latter being supported by strap 37 and screws 8. The resistor 36, of course, is not a part of the invention claimed herein.

Due to the bevel 11, the light rays from source 17, after passing through translucent disc 26 (of the desired color) are deflected upwardly to illuminate the outer surface 39 of cylinder 9, thus forming an illuminated circular band surrounding the knob 18, which will be sufficiently striking in its effect to attract the attention of the person to whom a signal or other intelligence is intended to be transmitted. To increase the effectiveness, surface 39 may be serrated, knurled, "pebbled", or otherwise worked.

What is claimed is:

1. In a device of the class described, the combination with a box having an apertured opaque wall, an opaque supporting cup secured to the inner surface of said apertured wall, said cup having a flat floor and a cylindrical inner wall aligned with the aperture in said opaque wall, a translucent plate resting on said floor, a translucent cylinder interposed between said plate and said inner cylindrical wall, said cylinder being beveled to deflect light rays in a direction parallel to the axis of the cylinder, and away from the floor of the supporting cup, a lamp socket disposed within said cylinder, and supported upon said first-named translucent plate, means engageable with said lamp socket to retain a light source in suspension therewithin, and means for

locking all of said elements against removal from the box by way of said apertured wall.

2. In a device of the class described, the combination with a box having an apertured opaque wall, an opaque supporting cup secured to the inner surface of said apertured wall, said cup having a floor and a cylindrical inner wall aligned with the aperture in said opaque wall, a translucent plate resting on said floor, a translucent cylinder interposed between said plate and said inner cylindrical wall, a lamp disposed within said cylinder, means engageable with said lamp socket to retain a light source in suspension therewithin, and means for locking all of said elements against removal from the box by way of said apertured wall.

3. In a device of the class described, the combination with an apertured opaque wall, an opaque supporting cup secured to the inner surface of said apertured wall, said cup having a floor and a cylindrical inner wall aligned with the aperture in said opaque wall, a translucent plate resting on said floor, a translucent cylinder interposed between said plate and said inner cylindrical wall, a lamp socket disposed within said cylinder, means engageable with said lamp socket to retain a light source in suspension therewithin, and means for locking all of said elements against removal by way of said apertured wall.

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