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D. E. KEENEY

LAMP MOUNTING FOR INSTRUMENT PANELS

Filed Feb. 27, 1928

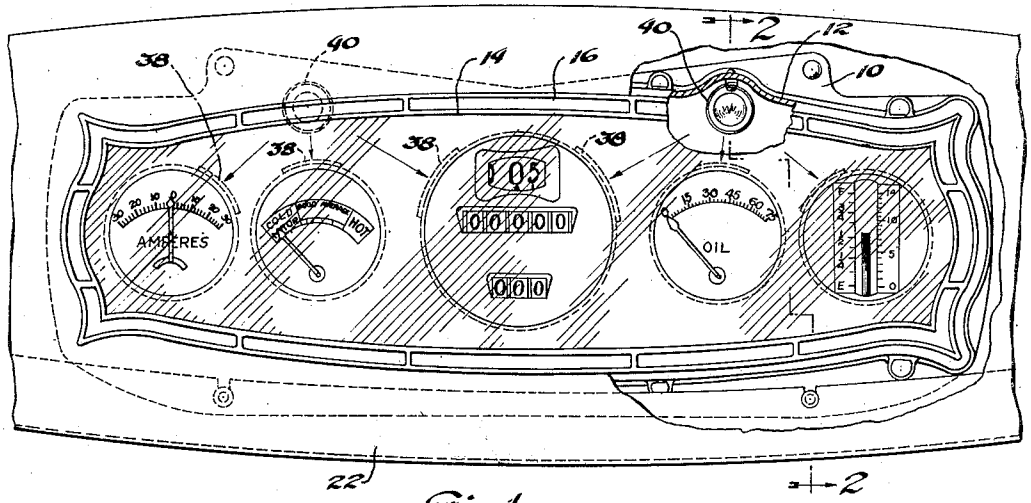


Fig. 1

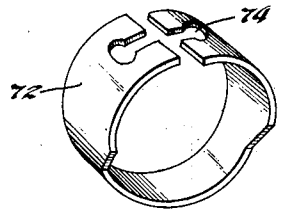


Fig. 6

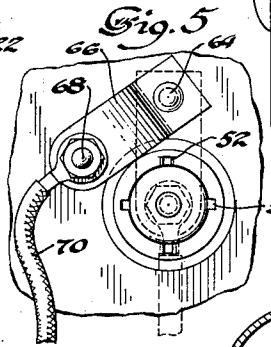


Fig. 5

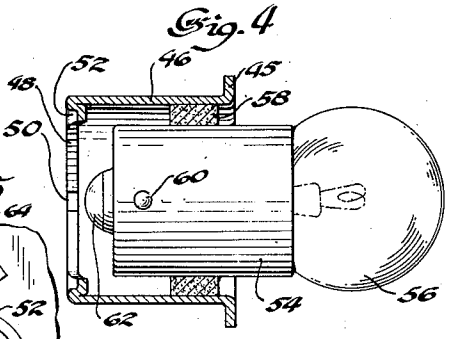


Fig. 4

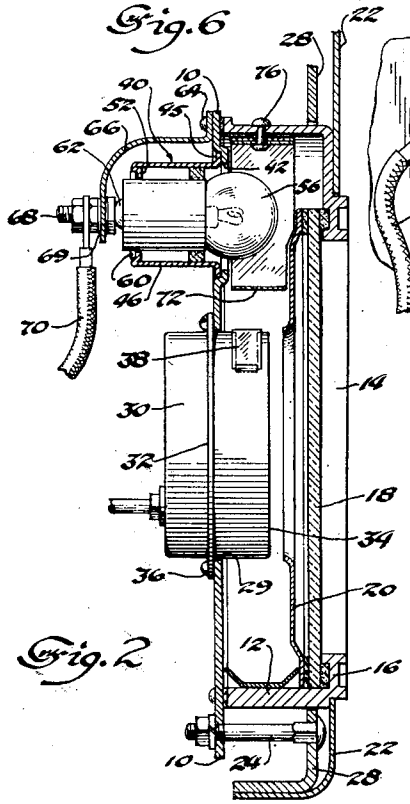


Fig. 2

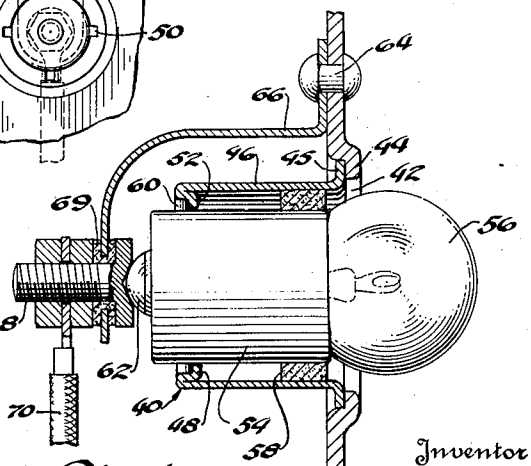


Fig. 3

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UNITED STATES PATENT OFFICE.

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LAMP MOUNTING FOR INSTRUMENT PANELS.

Application filed February 27, 1928. Serial No. 257,257.

The present invention relates to instrument panels and especially a panel of the type used on the dashboard of an automotive vehicle.

In the usual internally lighted instrument panel a single light bulb is used to illuminate several instruments. Since the instrument dials are ordinarily unequal distances from the light source, this arrangement produces uneven illumination, the reflected light from the metallic facing plate and the sides of the instrument casings causing parts of the dials to be illuminated too much and other parts too little.

It is an object of the present invention to provide an instrument panel in which the dials are illuminated by a diffused uniform light.

A further object of the invention is to provide a simple and inexpensive means for mounting a light bulb within an instrument panel for internal illumination of the instruments. More specifically, the invention contemplates means for mounting a light bulb in such a way that a good contact is assured, the bulb may be easily and quickly removed and replaced, and a secure dust-proof connection may be maintained.

Other objects and advantages of the invention will appear in the course of the following description, taken in connection with the accompanying drawing and appended claims.

In the drawing:

Figure 1 is a front elevation, partly broken away.

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

Figure 3 is an enlarged sectional view showing in detail the mounting for the lamp.

Figure 4 is a sectional view showing the lamp and its supporting sleeve partially disassembled.

Figure 5 is a rear elevation of the structure shown in Figure 3, with the spring bracket turned to one side.

Figure 6 is a perspective view of the light diffusing shield surrounding the lamp.

The illustrated instrument panel comprises a substantially flat back plate 10, to which is fixed a ring-shaped frame 12 having an opening 14 on its rearward or exposed side. The frame 12 is shown as formed with an inward extending flange 16 surrounding the opening 14, and fixed in position to close this opening are shown a glass cover 18 and an ornamental cover or facing plate 20. The glass cover and facing plate may be held within the panel by any desired means not material to the present invention; and the entire panel may be fixed in a suitable aperture in an instrument board 22, which may be the dashboard of an automotive vehicle, by any suitable means, such as bolts 24 extending through the mounting plate 10 and through brackets 28 fixed to the instrument board.

The back plate 10 is shown as formed with a number of apertures 29 in each of which is fixed an instrument casing 30 carrying a dial and indicating mechanism. Each casing may be formed with an annular flange 32 about its central portion, the flange being positioned to locate a forward rim 34 of the casing close to the facing plate 20, which, if employed, is provided with suitable openings for exposing the dials of the instruments. Screws 36 may extend through the flange 32 into the back plate for fixing the casing in the panel.

Within the panel, and on each side of the center, is shown a lighting means, indicated generally at 40 in Figure 1, and each casing 30 is shown as formed with an arcuate slot, which may be covered with a transparent sheet 38 of pyralin or similar material. Each slot is on the side of the respective casing nearest the lighting means 40, the large central casing being shown as provided with a pyralin covered slot on each side.

The lighting means will now be described. The back plate 10 is shown as formed with an opening 42 offset about its edge at 44 to receive an outward flanged rim 45 of a sleeve 46. The inner or forward end of the sleeve is shown as open and as formed with an inwardly turned flange 48, provided with notches 50 and with depressions 52, the latter being spaced a quarter turn from the notches, and the construction here referred to being preferably such that outward or rearward resilient pressure may normally hold a suitable rearwardly removable light bulb base in said sleeve.

Within the sleeve is shown the base 54 of a light bulb 56, the bulb extending far enough out through the opening 42 to position the filament rearwardly or outwardly beyond the plane of the plate 10. Means such as a felt cushioning or sealing ring 58 may be used to space the base 54 coaxially from the inner

surface of the sleeve, but the inner or forward end of the base 54 is shown as extending through the flanged opening in the inner end of the sleeve. Pins 60 on the side of the base rest in the depressions 52 and normally hold the bulb against rotation and rearward or outward movement. The inner or forward end of the base 54 is shown as formed with the customary central contact 62.

Secured to the plate 10 by means of a rivet 64 and pivotable thereon is shown a spring bracket 66 carrying on its free end a terminal bolt 68 formed with a depression on its inner end; and it will be seen that resilient pressure of a suitable conductive element upon this contact may serve not only to complete an electrical circuit to the described base but normally to retain the forwardly or inwardly removable sleeve 40 and/or the rearwardly or outwardly removable bulb against movement in either direction and in coaxial relationship to the sleeve 40. An insulating sleeve or washer 69 on the terminal bolt permits the bolt to turn in the bracket as the latter is turned to one side. The bracket 66 is under tension which holds the terminal bolt resiliently but firmly against the contact 62, this arrangement serving normally to hold the sleeve and light bulb opposite the opening 42 and the pins 60 of the bulb seated in the depressions 52. The terminal of an insulated wire 70 is connected with the terminal bolt 68 in the usual way.

When the bracket 66 is sprung away from the lamp base and turned to one side, away from what has been referred to as its "normal" position the sleeve 46 may be readily removed. The lamp may then be turned till the pins 60 and notches 50 register, and removed from the sleeve for replacement. The parts may as quickly be reassembled.

The wall of the frame 12 is shown as curved outward adjacent the light bulb and within this curved portion is shown a translucent cylindrical shield 72. The shield is shown as formed with a slot 74 in each end for overlapping on a rivet 76 fixed in the curve in the frame and as held in position by the rivet. The shield may be of any suitable light diffusing material, though I prefer to use colored pyralin with a negative finish. With this arrangement the shield shown as supported independently but coaxially of the bulb, completely encircles the light bulb, between the front and rear walls of the panel, in such manner that substantially all light reaching the instruments from said bulb must traverse said shield.

By the construction described, the dials will be illuminated by a diffused uniform light having the color of the interposed shield 72. The strips 38 covering the slots in the casings 30 may be omitted if desired if the instruments are mounted in a dust-proof panel. The light bulb is securely supported in the panel by a simple dust-proof mounting and may be easily removed for replacement. This arrangement also insures a good contact of the terminal and bulb.

It will be obvious that while the casing 30 has been shown extending forwardly from the plate 10, such forwardly extending portion may be omitted.

I claim:

1. In an instrument assembly, an instrument panel, a plurality of instruments, a source of light, and a translucent and substantially cylindrical light diffusing color shield so interposed between the instruments and the source of light that substantially all light reaching said instruments must traverse said shield, each instrument being provided with a slot which is covered by a separate translucent sheet.

2. A lighting unit comprising a tubular element having an inward extending flange at one end formed with a slot and a depression, a light bulb comprising a base within said element, said base carrying a pin positioned to pass through the slot and engage in the depression, and a cushion ring between the base and inner wall of the tubular element.

3. In an instrument assembly, a panel having an opening therein, a sleeve adapted to be held by resilient means opposite said opening, a light bulb removably held in said sleeve and including a contact, and a terminal resiliently pressed against said contact and constituting means both for holding said sleeve in position against the panel and for holding said bulb in position in said sleeve.

4. In an instrument assembly, a panel having an opening therein, a sleeve removably held opposite said opening, a light bulb in said sleeve and thereby normally held against inward movement, said light bulb including a contact, and a bracket carrying a terminal which is resiliently held against said contact and normally serves to hold said bulb against movement relatively to said sleeve.

5. In an instrument assembly: a panel having openings therein; an instrument in one of the openings in said panel; a forwardly removable sleeve in another of said openings; a rearwardly removable light bulb supported by said sleeve and having a central end contact; and resilient means, pivoted to said panel and yieldably engaging end contact and thereby normally serving not only to conduct a current to said bulb but to retain said bulb against movement in either mentioned direction.

6. In an instrument assembly: a panel having openings therein; a front plate disposed parallel to said panel and provided with corresponding openings; instruments secured in some of said openings in said panel and provided with apertured cases; a light source, and a substantially cylindrical and translucent colored screen extending between said

panel and said front plate and interposed between said source and said instruments.

7. A light unit comprising a tubular element having an inwardly extending flange at one end formed with a slot and a depression, a light bulb comprising a base within said element, said base carrying a pin positioned to pass through the slot and to engage in the depression, and additional means normally holding said base and said element in coaxial relationship.

In testimony whereof I affix my signature.

DON E. KEENEY.