

Jan. 11, 1944.

C. F. ROBBINS

2,339,196

HOUSING AND SUPPORT FOR PILOT LIGHTS

Filed Sept. 2, 1942

2 Sheets-Sheet 1

Fig. 1

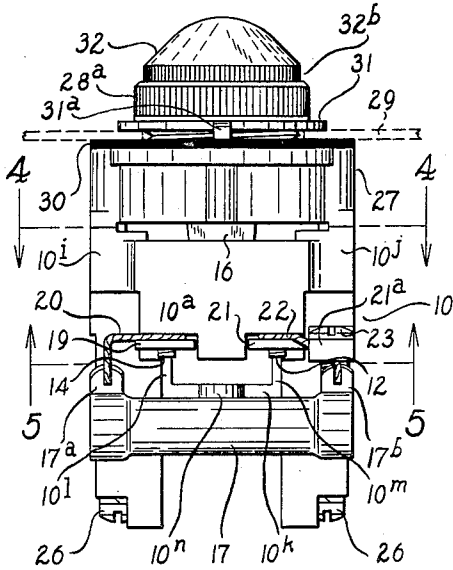


Fig. 2

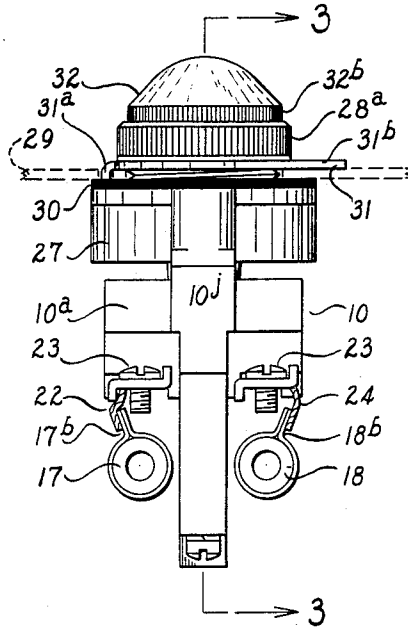


Fig. 3

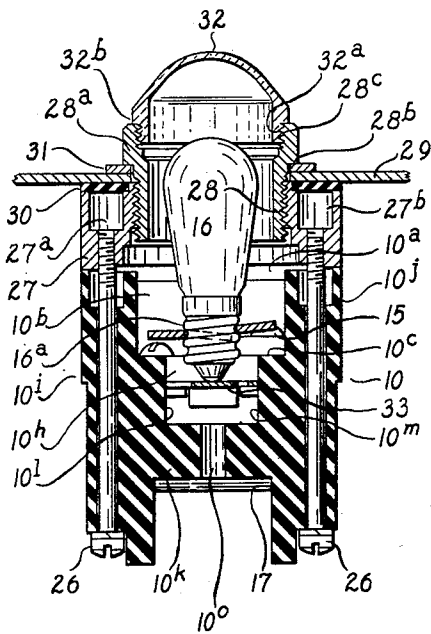
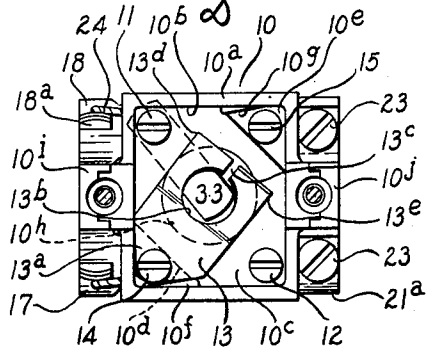


Fig. 4



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Fig. 5

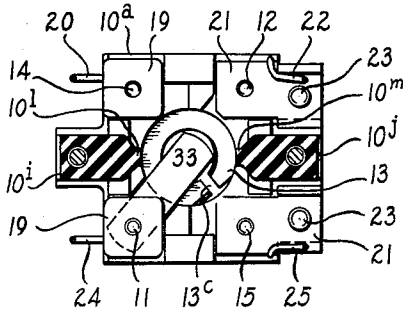


Fig. 6

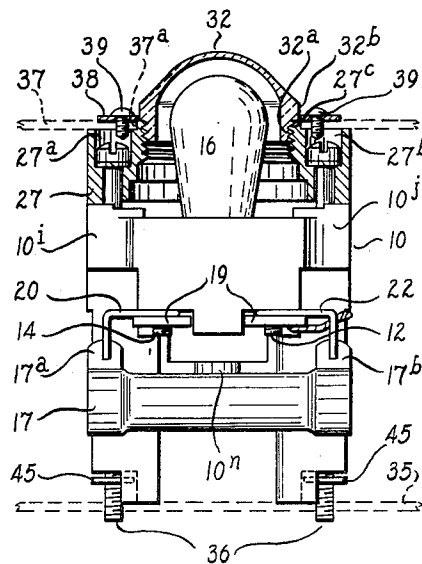


Fig. 7

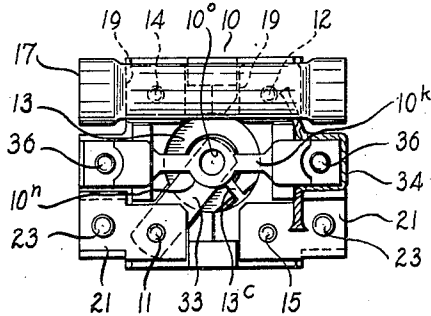


Fig. 8

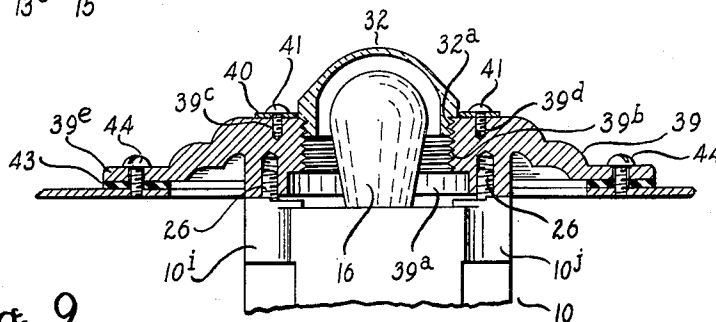
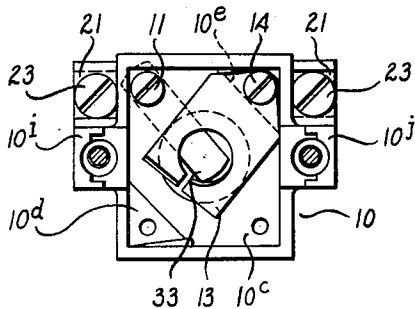


Fig. 9



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UNITED STATES PATENT OFFICE

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HOUSING AND SUPPORT FOR PILOT LIGHTS

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Application September 2, 1942, Serial No. 457,091

16 Claims. (Cl. 177-329)

This invention relates to improvements in housings and supports for pilot lights.

An object of the invention is to provide a pilot light device which is interchangeable (with respect to mounting) with any one of a number of known forms of manually operable switching devices in a push button station or the like.

Another object is to provide a pilot light device employing a plurality of elements which are standard with respect to switches of the aforementioned character, whereby mass production of the common elements is made possible.

Another object is to provide a so-called heavy duty pilot light device of extremely simple, rugged and durable construction.

Another object is to provide simple means enabling use of the pilot light device either with or without one or more resistor elements, according to the voltage of the circuit or circuits with which it is associated.

Another object is to provide a novel form of substantially unbreakable lens for use with the pilot light, said lens having means formed integrally therewith to provide for direct but removable attachment thereof to a suitable support.

Another object is to provide a novel form of one-piece molded insulating base for a pilot light device of the character herein contemplated.

Another object is to provide a pilot light device adapted for either base mounting, one-hole mounting or flush-plate mounting.

Another object is to provide novel and extremely simple forms of center and screw thread contacts for proper support of the pilot lamp.

Another object is to provide novel and simple means for rendering such a pilot light device substantially liquid-tight.

Another object is to provide novel means located interiorly of the supporting panel or cover member to afford adequate ventilation of the lamp bulb.

Another object is to provide a novel form of bushing to adapt the device for one-hole mounting.

Other objects and advantages of the invention will hereinafter appear.

The accompanying drawings illustrate certain embodiments of the invention which will now be described, it being understood that the embodiments illustrated are susceptible of modification in respect of certain structural details thereof without departing from the scope of the appended claims.

In the drawings,

Figure 1 is a side elevational view of a so-called heavy duty pilot light device of the one-hole mounting, liquid-tight type, the supporting panel or cover member, to which the device is removably attached, being shown in dotted lines, and a pair of resistors being employed.

Fig. 2 is a similar view, taken at a right angle to that of Fig. 1.

Fig. 3 is a vertical sectional view, on the line 3-3 of Fig. 2.

Fig. 4 is a transverse section, between the insulating base member and the adapter, on the line 4-4 of Fig. 1, the lamp bulb being omitted.

Fig. 5 is a transverse section, on the line 5-5 of Fig. 1, with the lamp bulb removed.

Fig. 6 is a view, partly in side elevation and partly in vertical section, of the pilot light device when base mounted, the parts being arranged to provide for attachment of a single resistor.

Fig. 7 is a bottom plan view of the device shown in Fig. 6.

Fig. 8 is a fragmentary view, partly in vertical section and partly in side elevation, showing the adaptability of the pilot light device to flush-plate mounting; and

Fig. 9 is a view substantially like that of Fig. 4, but showing one possible arrangement of the lamp socket contacts and their associated terminals with respect to the insulating base when no resistor is required.

Referring first to the heavy duty pilot light device shown in Figs. 1 to 5, the numeral 10 designates the one-piece base which is preferably not molded from any suitable insulating material, such as "Bakelite." Base 10 is provided at its upper end with a portion 10^a of rectangular contour, portion 10^a being provided with an upwardly opening substantially rectangular recess 10^b (Figs. 3 and 4). Recess 10^b is provided with a flat bottom wall 10^c. At diagonally opposite corners said bottom wall 10^c is provided with openings or passages (not shown) to accommodate the shanks of a pair of like securing screws, which I have designated by the numerals 11 and 12 (Fig. 4). At the other diagonally opposite corners of bottom wall 10^c a pair of integral fillets are provided, said fillets having flat upper surfaces 10^d and 10^e of triangular contour offset upwardly from said bottom wall. Inasmuch as recess 10^b is not of square contour I prefer to provide at the corresponding side of each triangular surface 10^d and 10^e an integral vertical shoulder 10^f and 10^g, respectively.

As shown in Fig. 4, the purpose of shoulders 10^f and 10^g is to insure proper positioning within recess 10^b of a symmetrically formed punched and stamped sheet metal member 13, upon seating of either surface of the triangular end portion 13^a thereof upon either of the ledges or surfaces 10^d or 10^e. Each ledge 10^d and 10^e is provided with an opening or passage (not shown) to accommodate the shanks of like securing screws 14 and 15, which are preferably substantially longer than the aforementioned screws 11 and 12.

As shown in Fig. 4, screw 14 is employed to

secure member 13 in position. The main body portion of member 13 is preferably of rectangular contour, as illustrated; the same having a circular opening 13^b formed therein which is adapted to be concentrically positioned with respect to a relatively larger circular opening 10^b (Figs. 3 and 4) formed in the bottom wall 10^c of said recess. Member 13 is preferably provided with a slot 13^c which extends from the free end thereof to opening 13^b, thus providing a pair of arms 13^d and 13^e, the arm 13^d being bent downwardly at a predetermined angle (from a line adjacent the inner edge of opening 13^b) and the arm 13^e being bent upwardly at a corresponding angle from said line. The peripheral edge of opening 13^b is thus arranged in the form of a spiral or thread of predetermined pitch, whereby the same is adapted to accommodate the screw shell contact 16^a of an electric lamp 16 of suitable size and capacity. In practice I prefer to employ a miniature lamp having a rating of 6 watts at 120 volts, although lamps of other capacities may, of course, be employed.

Two resistors 17 and 18, of like or different values, are employed in the device of Figs. 1 to 5, and I provide for attachment and support thereof by means associated with the pairs of screws 14, 12 and 11, 15 (Fig. 4). Thus the screw 14 is adapted to take into a tapped opening in a flat plate 19 (Figs. 1 and 5) which acts as a nut therefor. Plate 19 also acts as a clamp for the looped end of a wire 20, whose other end is welded, brazed or otherwise electrically and mechanically connected to the terminal 17^a of resistor 17. Wire 20 may be of relatively heavy single strand type, or, if of the multiple strand type, it is desirable to make the same sufficiently stiff to support one end of resistor 17 in a given position, regardless of the angle of mounting of the complete device.

The pilot light device herein contemplated is particularly adapted for association with switches of the character disclosed in my copending application, Serial No. 449,756, filed July 4, 1942. Accordingly, to minimize the number of different parts required to produce both the switches and the pilot lights, I prefer that the plate 19 shall be in the form of the square plates 56 shown in Fig. 26, for instance, of said application, Serial No. 449,756, the contact tips 42 of said plates 56, of course, not being required for use in this pilot light device.

Similarly the screw 12 takes into the tapped opening (see Figs. 1 and 5) of a terminal plate 21, whose inner end acts as a clamp for the looped end of a wire 22; the other end of which wire is attached to the terminal 17^b of resistor 17. Wires 20 and 22 thus act to support and position resistor 17 in the manner best illustrated in Figs. 1 and 5. The outer end 21^a of terminal plate 21 is tapped to accommodate the shank of a binding screw 23 to provide for attachment of a circuit wire, it being noted that screw 23 is accessible exteriorly of the main body of base 10 (see Fig. 4). In practice the terminal plate 21 corresponds exactly with one or the other of the terminal plates 39 and 40 in Fig. 11 of said application, Serial No. 449,756, but with the contact tip 42 omitted.

Similarly the screw 11 takes into the tapped opening in a plate 19 (Fig. 5) which acts as a clamp for the center contact member 33 and the looped end of a terminal and supporting wire 24, whose other end is attached to the terminal 18^a of resistor 18 (Fig. 4). Screw 15 takes into a tapped opening in one end of a terminal plate 21, 75

which end acts to clamp the looped end of a wire 25 in position, the other end of which wire is attached to the terminal 18^b of resistor 18 (Fig. 2).

As shown the base 10 has perforated lateral projections 10¹ and 10² formed integrally therewith. Said projections 10¹ and 10² are preferably of the same shape and size as the projections 35^a and 35^b of base 35 in Fig. 5, for instance, of said application, Serial No. 449,756, and perform a like function. Thus, as shown in Fig. 3 hereof, projections 10¹ and 10² are respectively provided with openings or passages to accommodate the shanks of a pair of bolts 26, 26 which act to secure base 10 and its associated parts to an adapter member 27, which is preferably a metal die casting. Member 27 may be, and preferably is, identical with the adapter member shown at 60 in Fig. 15 of said application, Serial No. 449,756. Thus, member 27 is provided with a relatively large circular opening, at least a portion of which is threaded to accommodate the externally threaded lower end portion of a hollow metal bushing 28, the relatively larger head portion of which is designated by numeral 28^a. Said head 28^a thus provides a shoulder 28^b which is adapted to clampingly engage the upper surface of a panel or cover member 29, which is provided with an opening to accommodate said threaded lower end 28 of the bushing.

If the pilot light device is to be rendered substantially liquid-tight (or oil-tight) I prefer to interpose between the upper end of adapter 27 and the inner surface of panel 29 a gasket 30 of a shape corresponding to the contour of the upper surface of said adapter, said gasket preferably being punched from a sheet of "neoprene," or a similar synthetic rubber-like material which is highly resistant to penetration therethrough of, or deterioration thereof, by, oil or grease. A perforated plate 31 is preferably interposed between shoulder 28^b and the outer surface of panel 29, said plate having any desired legend engraved, embossed, printed or otherwise applied to the exposed surface portion 31^b (Fig. 2) thereof. Plate 31 is provided with a downwardly bent lug which penetrates gasket 30 and panel 29 and engages the walls of one of the four recesses in the upper surface of adapter 27. It is obvious from the foregoing that any oil or grease which may penetrate the opening in panel 29 is prevented by gasket 30 from passage to the exterior of adapter 27 or to the exterior of base 10. The threaded connection between bushing 28 and adapter 27 effectively prevents passage of oil or grease into the interior of the device.

When the device is attached to panel 29 by bushing 28, the lamp 16 may be inserted, or removed for replacement thereof, through the relatively large internally threaded upper end or head portion 28^a of the bushing, either manually or by use of a suitable frictional gripping member (not shown).

As will be apparent from consideration of Fig. 3, the thread 28^c in the head portion 28^a of the bushing is of the same diameter as the thread in adapter 27, and the same is adapted to accommodate the externally threaded shank 32^a (Fig. 3) of a molded, hollow lens member 32. Member 32 preferably consists of a synthetic thermoplastic material which is infrangible, or substantially unbreakable, and which is transparent, or at least highly translucent. For example, a thermoplastic material sold commercially under the trade name of "Lucite" is well adapted for this purpose. The dome or light-emitting portion of member 32 is

especially designed or shaped as illustrated to insure a large degree of visibility of the same when viewed from any angle upon illumination of the lamp bulb. A peripheral portion of member 32 is preferably milled exteriorly as shown at 32^b to facilitate manual insertion and tightening thereof. The head portion 28^a of bushing 28 is likewise peripherally milled, as shown, for a similar purpose.

As aforesaid the lateral projections 10ⁱ and 10^j are extended downwardly to a degree corresponding to the length of the switch base shown at 35 in Fig. 1 of said application, Serial No. 449,756. The primary purpose of this arrangement is to provide for base mounting of the pilot light device, if desired, as shown hereinafter in Fig. 6. Additionally, however, said projections serve as proper barriers or spacers between the resistors 17 and 18 when employed, as shown in Figs. 1 and 2.

Also as shown in Figs. 1 and 3, projections 10ⁱ and 10^j are integrally connected by a strut or reinforcement 10^k, of the thickness indicated by the upward extensions of said strut shown at 10ⁱ and 10^j in Figs. 1, 3 and 5, and of the length shown in Fig. 3. The mid-portion of strut 10^k is enlarged to approximately cylindrical contour, as indicated at 10ⁿ in Fig. 1, said enlargement having an opening or passage of circular cross section extending therethrough, as shown at 10^o in Fig. 3. As best illustrated in Figs. 1, 2 and 3 relatively large spaces or openings are provided between base 10 and adapter 27, and in base 10 below and around the lamp bulb 16, so that adequate ventilation for the latter is provided at the rear of panel 29, notwithstanding the aforesaid liquid-tight connection between the device as a unit and said panel. The passage 10^o is adapted to accommodate and position the lower end of a brass or other suitable metal stud (not shown), an intermediate threaded portion of which is clamped by opposed nuts to a specially perforated form (not shown) of center contact member 33, when the pilot light device is to be attached to panels of from two inches to four inches in thickness. In such an arrangement the upper end of the stud has attached thereto a resilient metal member which acts as the center contact for cooperation with a lamp, and a special form of screw shell contact is attached to but insulated from such stud.

The resistors employed in a pilot light device of the character herein contemplated may vary from 400 ohms (with a normal wattage of 10) to 6000 ohms (with a normal wattage of 20). The two-resistor arrangement is usually employed in conjunction with controlled circuits of 440 or 550 volts. Where the pilot light is used in conjunction with a 110 or 220 volt circuit, only one resistor of suitable value may be employed; whereas in relatively low voltage circuits it is possible to entirely omit the resistors. The base 10 is especially adapted to provide for use thereof without change under all of the conditions just mentioned.

The device of Figs. 6 and 7 differs from that of Figs. 1 to 5 primarily in respect of adaptability thereof for base mounting (thus avoiding the necessity for bushing 28); the device of Figs. 6 and 7 also illustrating, by way of example, the use of only one resistor. Those parts of the device of Figs. 6 and 7 which correspond with parts of the device of Figs. 1 to 5 have been designated by like numerals of reference. As best illustrated in Fig. 6, the shanks of screws 14 and 12 each take

into tapped openings in metal plates 19, which respectively clamp the looped ends of wires 20 and 22 associated with the terminals 17^a and 17^b of a resistor such as 17, it being understood that the head of screw 14 is adapted to clamp in position the screw-thread contact 13 of the socket, in the manner best illustrated in Fig. 4. Also, as shown in Fig. 7, the shanks of screws 11 and 15 respectively take into tapped openings in a pair of terminal plates 21, the center contact member 33 being clamped in position by the left-hand terminal plate 21 in Fig. 7.

In order to provide a circuit in series through lamp 16 and resistor 17, a multiple-strand wire or bus member 34 has its respective ends welded, brazed, soldered or otherwise electrically connected to the right-hand plate 19 and the right-hand terminal plate 21 (Fig. 7). In practice wire 34 is connected to said parts 19 and 21 prior to attachment thereof to base 10, said sub-assembly of elements being like that shown in Fig. 27 of said application, Serial No. 449,756, but with the contact tips 42 omitted.

Base 10, with all of its parts assembled, may be attached (base mounted) to the inner panel shown in dotted lines at 35 in Fig. 6, as by means of a pair of bolts 36, 36 the threaded shanks of which take into suitable tapped openings in said panel 35, the heads of which bolts are located in countersinks or recesses in the upper surface of adapter 27. It is to be noted that whereas in the adapter 27 as shown in Fig. 3 the passages which communicate with recesses 27^a and 27^b are threaded for cooperation with the shanks of bolts 26, 26, in the adapter of Fig. 6 such passages are made sufficiently large to provide sliding clearance for the shanks of bolts 36, 36, for an obvious purpose.

As shown in Fig. 6 the outer panel or cover member shown in dotted lines at 37 is provided with a circular opening 37^a to rather closely fit about the annular extension 27^c on adapter 27, whereby panel 37 is adapted to seat against the substantially annular upper surface of said adapter. Annular sheet metal ring 38 may be attached to the outer surface of panel 37 as by means of a pair of drive screws 39, 39, whose shanks penetrate suitable clearance openings formed in ring 38 and act to form threads upon the walls of drilled openings of suitable size formed in said panel 37. Ring 38 may have any suitable legend or indicia printed or otherwise applied to its outer or exposed surface. As will be noted, in the device of Fig. 6 the lens 32 is adapted to be threadedly attached directly to the internally threaded upper end of the passage through adapter 27.

In Fig. 8 the base 10 with its associated parts is attached by the bolts 26, 26 to the inner surface of a flush plate 39, said flush plate having a passage 39^a extending therethrough to accommodate the upper end of lamp 16, and the reduced upper end portion of said passage being threaded, as shown at 39^b to receive the threaded lower end portion 32^a of lens 32. An annular sheet metal plate 40 is attached to the upper surface of flush plate 39, as by means of drive screws 41, 41, which penetrate suitable clearance openings in plate 40 and are adapted for formation of cooperating threads upon the walls of drilled recesses shown at 39^c and 39^d.

Flush plate 39 is provided with a flat peripheral flange portion 39^e, between which and a panel 42 an oil-tighting gasket 43 is interposed. Gasket 43 preferably is punched to the desired rectan-

gular contour from a sheet of synthetic rubber-like material, such as "neoprene." The peripheral flange 39 is preferably provided along each of the four sides thereof with a plurality of openings which register with corresponding openings in gasket 43, and with tapped openings in panel 42 which cooperate with the shanks of securing screws, two of which are shown at 44, 44 in Fig. 8. As will be apparent, the lens 32 coacts with the threaded opening or passage through flush plate 39 to provide an oil-tight connection between said parts, whereas gasket 43 coacts with flush plate 39 and panel 42 to provide an oil-tight connection therebetween.

In Fig. 9 I have shown base 10 with the center contact member 13 attached thereto through the medium of screw 11 and a terminal plate 21, with a tapped opening in which the shank of screw 11 is adapted to engage. Similarly the head of screw 14 is adapted to clamp the screw-thread contact member 13 in the position illustrated, the shank of screw 14 taking into a tapped opening in a terminal plate 21 at the right-hand side of base 10. The arrangement illustrated provides a circuit through the pilot lamp (16 in the other figures) when no resistor (such as 17 or 18, or both) is required. In the particular arrangement illustrated the binding screws 23, 23 are accessible at the points illustrated. It is obvious, however, that if desired the groups of elements 11, 33 and 21 and 14, 13, and 21 may be transposed to diagonally opposite points, with respect to those illustrated, or either group only may be so transposed. Any desired arrangement of the pair of binding screws 23, 23 may thus be provided (to facilitate wiring in a particular installation), without in anywise affecting the electrical characteristics of the complete device. As will be understood the base 10 with its associated parts in Fig. 9 may be associated with other elements to provide for either one-hole mounting, base mounting, or flush plate mounting, as disclosed in the various other figures of the drawings.

Also, with reference to Fig. 7, it is to be understood that an equivalent result may be obtained by substituting for the right-hand plate shown in dotted lines at 19 a terminal plate 21, thus obviating the necessity for use of said plate 19 and the wire or bus member 34, the disadvantage (from a wiring viewpoint) of having the binding screws 23, 23 located at diagonally opposite corners of base 10 being relatively slight. Various other modifications and rearrangements of the parts of the devices will at once suggest themselves to those skilled in the art.

Referring again to Fig. 6, it will be noted that fiber or laminated paper washers 45, 45 are preferably employed for cooperation with the threaded shanks of bolts 36, 36 to provide for temporary retention of adapter 27 and base 10 in assembled relationship to each other prior to attachment of the unit to panel 35.

I claim:

1. In a pilot light device, in combination, a one-piece molded insulating base having a relatively large substantially rectangular recess opening to the upper surface thereof, the bottom wall of said recess having a relatively smaller substantially circular opening formed therein, said opening providing downward clearance for the center and screw shell contacts of a lamp, a flat, punched sheet metal center socket contact member secured to said base and underlying the bottom wall of said recess and having a free end

portion thereof aligned with said opening, a second punched sheet metal contact member insertable downwardly into and positioned within said recess in upwardly offset relation to the bottom wall of the latter, said second contact member having a portion thereof aligned with said opening and formed to accommodate the screw shell contact of a lamp, and a pair of terminal members secured to and also underlying the bottom wall of said recess and having portions thereof projecting a substantial distance laterally beyond and at right angles to the respective side walls of said recess to facilitate wiring of the device, each of said terminal members being electrically connected with one of said contact members.

2. In a pilot light device, in combination, a one-piece molded insulating base having a relatively large substantially rectangular recess opening to the upper surface thereof, the bottom wall of said recess having a relatively smaller substantially circular opening formed therein, said opening providing downward clearance for the center and screw shell contacts of a lamp, a flat, punched sheet metal center socket contact member secured to said base and underlying the bottom wall of said recess and having a free end portion thereof aligned with said opening, a second punched sheet metal contact member insertable downwardly into and positioned within said recess in upwardly offset relation to the bottom wall of the latter, said second contact member having a portion thereof aligned with said opening and formed to accommodate the screw shell contact of a lamp, a pair of terminal members secured to and also underlying the bottom wall of said recess and having portions thereof projecting a substantial distance laterally beyond and at right angles to the respective side walls of said recess to facilitate wiring of the device, each of said terminal members being electrically connected with one of said contact members, a die-cast metal member to the lower surface of which the upper surface of said insulating base is rigidly but removably secured, said metal member having an opening formed therein and aligned with said recess to accommodate the bulb of an electric lamp, and a hollow lens formed of substantially unbreakable translucent material of a desired color removably secured to said metal member, said lens being dome shaped to provide for a relatively large degree of visibility of the same when viewed from any angle upon illumination of the lamp bulb.

3. In a pilot light device, in combination, a one-piece molded insulating base having a recess opening to the upper surface thereof, the bottom wall of said recess having an opening formed therein, said opening providing clearance for the center and screw shell contacts of a lamp, a flat, punched sheet metal center socket contact member secured to said base and underlying the bottom wall of said recess and having a free end portion thereof aligned with said opening, a second punched sheet metal contact member positioned within said recess in upwardly offset relation to the bottom wall of the latter, said second contact member having a portion thereof aligned with said opening and formed to accommodate the screw shell contact of a lamp, a pair of terminal members secured to the bottom wall of said recess and having portions thereof projecting laterally beyond the side walls of said recess to facilitate top or bottom wiring of the

device, each of said terminal members being electrically connected with one of said contact members, a die-cast metal member to the lower end of which said insulating base is removably secured, said metal member having a threaded opening formed therein, a hollow metal bushing having a reduced and threaded lower end portion adapted for cooperative engagement with said threaded opening, a panel adapted to overlie said metal member and having an opening to provide clearance for the lower end of said bushing, the relatively large upper end of said bushing having an annular shoulder overlying said panel to provide for one-hole mounting of said pilot light device as a unit with respect thereto upon a given adjustment of said bushing, said enlarged upper end of the bushing having an internal thread of a diameter corresponding to that of said metal member, and a molded hollow dome-shaped lens of highly translucent substantially unbreakable material having an exteriorly threaded lower end portion for cooperative engagement with the internal thread on said bushing.

4. In a pilot light device, in combination, a one-piece molded insulating base having a recess opening to the upper surface thereof, the bottom wall of said recess having an opening formed therein, said opening providing clearance for the center and screw shell contacts of a lamp, a flat, punched sheet metal center socket contact member secured to said base and underlying the bottom wall of said recess and having a free end portion thereof aligned with said opening, a second punched sheet metal contact member positioned within said recess in upwardly offset relation to the bottom wall of the latter, said second contact member having a portion thereof aligned with said opening and formed to accommodate the screw shell contact of a lamp, a pair of terminal members secured to the bottom wall of said recess and having portions thereof projecting laterally beyond the side walls of said recess to facilitate top or bottom wiring of the device, each of said terminal members being electrically connected with one of said contact members, a die-cast metal member to the lower end of which said insulating base is removably secured, said metal member having a threaded opening formed therein, a hollow metal bushing having a reduced and threaded lower end portion adapted for cooperative engagement with said threaded opening, a panel adapted to overlie said metal member and having an opening to provide clearance for the lower end of said bushing, the relatively large upper end of said bushing having an annular shoulder overlying said panel to provide for one-hole mounting of said pilot light device as a unit with respect thereto upon a given adjustment of said bushing, said enlarged upper end of the bushing having an internal thread of a diameter corresponding to that of said metal member, a molded hollow dome-shaped lens of highly translucent substantially unbreakable material having an exteriorly threaded lower end portion for cooperative engagement with the internal thread on said bushing, said engagement between said lens and said bushing being substantially liquid-tight, and a gasket of synthetic rubber-like material interposed between the upper end of said metal member and said panel to render the connection therebetween substantially liquid-tight.

5. In a pilot light device, in combination, a one-piece molded insulating base having a rela-

tively large substantially rectangular recess opening to the upper surface thereof, the bottom wall of said recess having a relatively smaller substantially circular opening formed therein, said opening providing downward clearance for the center and screw shell contacts of a lamp, a flat, punched sheet metal center socket contact member secured to said base and underlying the bottom wall of said recess and having a free end portion thereof aligned with said opening, a second punched sheet metal contact member insertable downwardly into and positioned within said recess in upwardly offset relation to the bottom wall of the latter, said second contact member having a portion thereof aligned with said opening and formed to accommodate the screw shell contact of a lamp, a pair of terminal members secured to and also underlying the bottom wall of said recess and having portions thereof projecting a substantially distance laterally beyond and at right angles to the respective side walls of said recess to facilitate top wiring of the device, each of said terminal members being electrically connected with one of said contact members, said base having a pair of integral lateral projections extending downwardly a substantial distance below the bottom wall of said recess, a die-cast metal member overlying the upper surface of said insulating base, said metal member and said projections having aligned passages formed therein, and a pair of headed bolts the threaded shanks of which extend downwardly through said aligned passages, said shanks being adapted to take into tapped openings in a suitable panel, to thereby provide for base mounting of said pilot light device.

6. In a pilot light device, in combination, a one-piece molded insulating base having a recess opening to the upper surface thereof, the bottom wall of said recess having an opening formed therein, said opening providing clearance for the center and screw shell contacts of a lamp, a flat, punched sheet metal center socket contact member secured to said base and underlying the bottom wall of said recess and having a free end portion thereof aligned with said opening, a second punched sheet metal contact member positioned within said recess in upwardly offset relation to the bottom wall of the latter, said second contact member having a portion thereof aligned with said opening and formed to accommodate the screw shell contact of a lamp, a pair of terminal members secured to the bottom wall of said recess and having portions thereof projecting laterally beyond the side walls of said recess to facilitate top wiring of the device, each of said terminal members being electrically connected with one of said contact members, said base having a pair of integral lateral projections extending like distances above and below the side walls of said recess, a metal member overlying said insulating base, said metal member and said projections having aligned passages formed therein, a pair of headed bolts the shanks of which are positioned within said passages, and means adapted for cooperative engagement by the threaded shanks of said bolts, whereby said base and said metal member are retained in assembled relation.

7. In a pilot light device, in combination, a one-piece molded insulating base having a recess opening to the upper surface thereof, the bottom wall of said recess having an opening formed therein, said opening providing clearance for the center and screw shell contacts of a lamp, a flat, punched sheet metal center socket contact mem-

ber secured to said base and underlying the bottom wall of said recess and having a free end portion thereof aligned with said opening, a second punched sheet metal contact member positioned within said recess in upwardly offset relation to the bottom wall of the latter, said second contact member having a portion thereof aligned with said opening and formed to accommodate the screw shell contact of a lamp, a pair of terminal members secured to the bottom wall of said recess and having portions thereof projecting laterally beyond the side walls of said recess to facilitate top wiring of the device, each of said terminal members being electrically connected with one of said contact members, said base having a pair of integral lateral projections extending like distances above and below the side walls of said recess, a metal member overlying said insulating base, said metal member and said projections having aligned passages formed therein, a pair of headed bolts the shanks of which are positioned within said passages, the passages in said metal member being tapped, the threaded shanks of said bolts being adapted to cooperatively engage said tapped passages to retain said base and said metal member in assembled relation, said metal member having a relatively large centrally located threaded opening formed therein, and a shouldered hollow metal bushing having an externally threaded lower end engageable with said threaded opening to provide for one-hole mounting of said device to a perforated panel or the like.

8. In a pilot light device, in combination, a molded insulating base having a relatively large substantially rectangular recess opening to the upper surface thereof, the bottom wall of said recess having a substantially circular recess formed therein to provide downward clearance for the center and screw shell contacts of a lamp, the bottom wall of said first mentioned recess having a pair of integral ledges formed thereon at diagonally opposite corners thereof, a punched and stamped sheet metal socket contact member having one end thereof seated upon one of said ledges and removably attached thereto, said member having a substantially circular opening formed therein adjacent to the other end thereof, said member having a slot formed therein and extending from said last mentioned end to said opening to provide a pair of arms, said arms being respectively bent in opposite directions from the initial plane thereof to deform the peripheral edge of said opening into the form of a spiral to accommodate the screw-shell contact of an electric lamp, a center socket contact comprising a flat, punched sheet metal member underlying the bottom wall of said first mentioned recess and removably secured thereto, the free end portion of said last mentioned contact being aligned with said opening for cooperation with the center contact of a lamp, and a pair of wiring terminal members also underlying the bottom wall of said recess and projecting a substantial distance laterally therebeyond in a plane parallel thereto to facilitate attachment of circuit wires, each of said wiring terminal members being electrically connected with one of said socket contacts.

9. In a pilot light device, in combination, a molded insulating base having a substantially rectangular recess opening to the upper surface thereof, the bottom wall of said recess having a relatively large substantially circular opening

formed therein to provide clearance for the center and screw shell contacts of a lamp, the bottom wall of said recess having a pair of integral ledges formed thereon at diagonally opposite corners thereof, a punched and stamped sheet metal socket contact member having one end thereof seated upon one of said ledges and removably attached thereto, said member having a substantially circular opening formed therein adjacent to the other end thereof, said member having a slot formed therein and extending from said last mentioned end to said opening to provide a pair of arms, said arms being respectively bent in opposite directions from the initial plane thereof to deform the peripheral edge of said opening into the form of a spiral to accommodate the screw-shell contact of an electric lamp, a center socket contact comprising a flat, punched sheet metal member underlying the bottom wall of said recess and removably secured thereto, the free end portion of said last mentioned contact being aligned with said opening for cooperation with the center contact of a lamp, a pair of wiring terminal members also underlying the bottom wall of said recess and projecting laterally therebeyond to facilitate attachment of circuit wires, each of said wiring terminal members being electrically connected with one of said socket contacts, a die-cast metal member superimposed upon said base and removably attached to the latter, said die-cast member having an opening formed therein to accommodate a lamp bulb, and means including an externally and internally threaded hollow metal bushing associated with said die-cast member and adapted to provide for one-hole mounting thereof to a suitable support.

10. In a pilot light device, in combination, a one-piece molded insulating base having a relatively large recess opening to the upper surface thereof, the bottom wall of said recess having an opening formed therein, said opening providing downward clearance for the center and screw shell contacts of a lamp, a flat, punched sheet metal center socket contact member secured to said base and underlying the bottom wall of said recess and having a free end portion thereof aligned with said opening, a second punched sheet metal contact member insertable downwardly into and positioned within said recess in upwardly offset relation to the bottom wall of the latter, said second contact member having a portion thereof aligned with said opening and formed to accommodate the screw shell contact of a lamp, a pair of terminal members secured to and underlying the bottom wall of said recess and having portions thereof projecting laterally a substantial distance beyond and at right angles to the respective side walls of said recess to facilitate wiring of the device, each of said terminal members being electrically connected with one of said contact members, and means associated with said base to alternatively provide for base mounting or one-hole mounting of the device as a unit to a suitable support, said means comprising a perforated die-cast metal member superimposed upon said base, a pair of perforated legs formed integrally with said base and projecting downwardly a substantial distance therefrom, and a pair of bolts the shanks of which are positioned within the perforations in said metal member and said legs.

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