Sept. 20, 1955 C. SABIERS 2,718,635

ELECTRIC SAFETY AND TROUBLE LAMP

Filed Oct. 12, 1953

FIG. 1

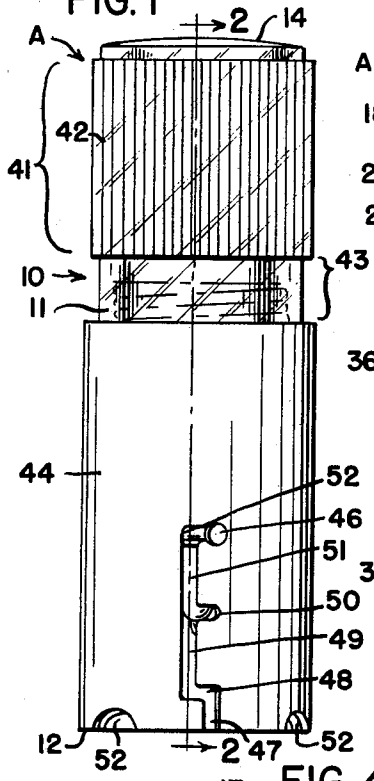


FIG. 2

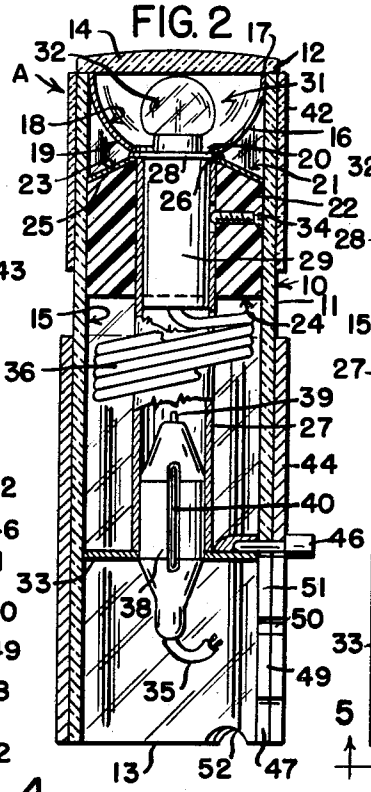


FIG. 3

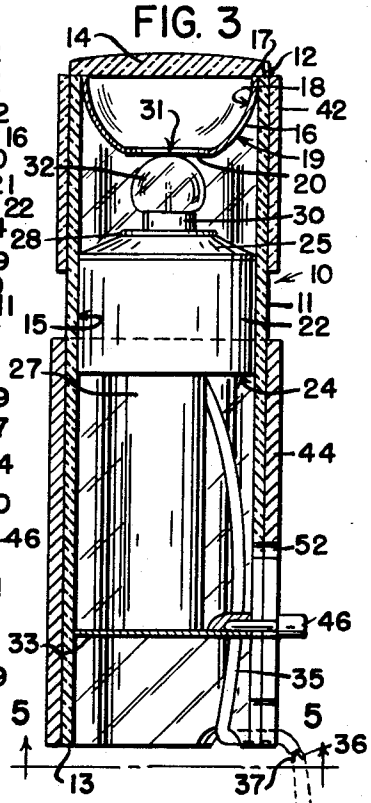


FIG. 4

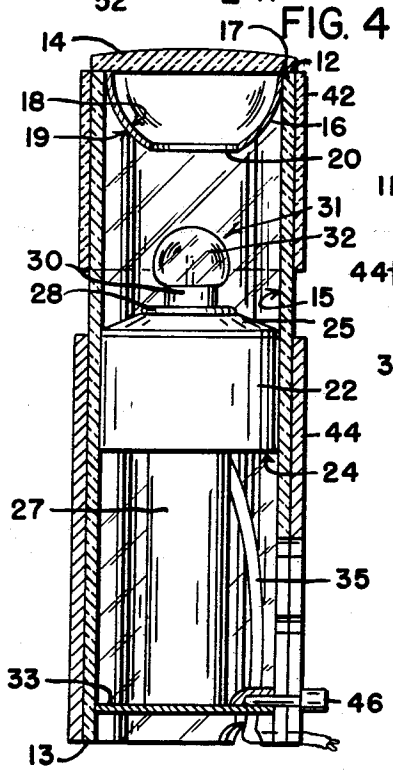
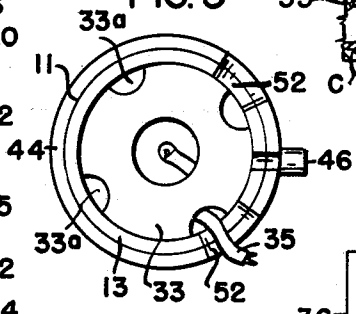


FIG. 5



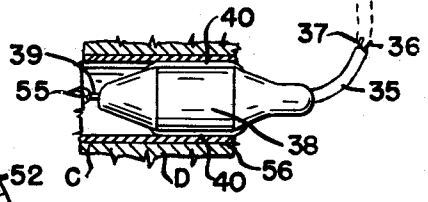
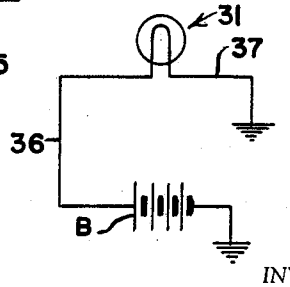


FIG. 6



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ELECTRIC SAFETY AND TROUBLE LAMP

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6 Claims. (Cl. 340—366)

This invention relates to electric lamps and more specifically to electric lamps which may be employed as automobile safety and trouble lamps.

An important object of the invention is to provide such a lamp which affords three selected kinds of illumination so that there will be available a conventional spotlight illumination, with the light rays projecting outwardly from an end of the lamp, or a signal lamp illumination, such as a red danger illumination, or a red-and-clear illumination desirable when making repairs on automobiles or changing tires, for example, along the roadside.

Another important object is to provide an electric lamp as described above, comprising parts which have dual functions, whereby the number of parts is reduced.

A further important object is to provide an electric lamp of the class described which is adapted to contain a suitable electric conductor and electric connector so that the latter may be plugged into a suitable outlet, as the conventional cigar-lighter socket of an automobile.

Also, an important object is to provide such an electric lamp which may be hand held or set up on one end for stationary use and is not apt to tip over.

Other objects and advantages of the invention will be apparent during the course of the following detailed description of the invention taken in connection with the accompanying drawing, forming a part of this disclosure, and in which drawing:

Fig. 1 is an elevation of the new electric lamp, with a portion lined to indicate red.

Fig. 2 is a vertical section substantially on the line 2—2 of Fig. 1 with the parts in positions to afford flashlight or spotlight illumination.

Fig. 3 is a vertical section somewhat along the lines of Fig. 2 but with the parts in positions to provide a colored (as red) illumination along a portion of the body of the lamp.

Fig. 4 is also a somewhat similar vertical section but with the parts now in position to furnish both a colored and a clear-glass illumination at the same time. There is also shown an electric socket, support therefor and electric plug.

Fig. 5 is a bottom plan of the new lamp.

Fig. 6 is a wiring diagram with the lamp associated with a storage battery such as employed in automobiles.

In the drawing, wherein for the purpose of illustration is shown a preferred embodiment of the invention and wherein similar reference characters designate corresponding parts throughout the several views, the letter A designates the new lamp as a whole; the letter B, a source of electric energy; C, an electric socket, electrically connected with the source B; and D, a support for the socket C.

The new electric lamp A includes an elongated housing **10** with a preferably tubular housing side wall **11**, which is preferably of substantially clear colorless hardened synthetic plastic material having opposite end edges **12** and **13**. The end edge **12** supports a window **14** which

is preferably a disc of clear hardened plastic which may be secured to the edge **12** in any approved way, such as by a suitable adhesive or by thermal bonding. There is thus provided an open-ended compartment **15** within the housing **10**, defined by the wall **11** and window **14**.

Mounted within the compartment **15** is a reflector **16** which is domed, with its mouth or edge **17** preferably abutting the inner face of the window **14** at the edge area or portion thereof and also engaging the inner face of the wall **11** to which it may be secured in any approved way, such as by a suitable adhesive. Both the outer and inner faces **18** and **19** respectively of the reflector **16** are light rays reflecting surfaces such as provided by polished metal or silvering the material of the reflector. The axial central portion of the reflector **16** is provided with an opening **20**, preferably circular, having a diameter slightly greater than the diameter of the electric lamp envelope **32** employed in the new lamp, whereby the envelope may be slid in and out of the opening, as can be appreciated in Fig. 3, for example.

Removably, rotatably and slidably carried by the housing **10** is an electric light rays-emitting medium support and socket structure **21**. This includes a preferably tubular body portion **22** having one truncated conical end face **23** and an opposite flat face **24**. The diameter of the body portion **22** is such that the latter may be inserted into the compartment **15** and slid along and rotated within the compartment in frictional engagement with the inner face of the wall **11**. Upon the truncated conical end face **23** is a light rays reflecting material **25** which may be a truncated conical metal disc having a polished outer face. The disc has an axial opening **26** for a purpose later detailed. Preferably, the tubular body portion **22** is of dielectric material. Carried within the hollow of the tubular body portion is an elongated tubular member **27** which extends, at one end, to the truncated conical end face **23** and through the opening **26**, has an outwardly-extending peripheral head or flange **28** to fit over the adjacent wall of the disc **25** adjacent the opening **26** thus retaining the disc **25**. This end detachably carries a suitable electric lamp socket assembly **29** of conventional construction adapted to receive the base portion **30** of an electric light rays-emitting medium, which may be a conventional pre-focusing electric lamp bulb **31** with the envelope **32** thereof of a diameter to slide through the opening **20**, with only a minimum space to spare.

The tubular member **27** projects from the end face **24** and its end, opposite the bead **28**, is provided with an outwardly-extending peripheral flange **33**, having dual purposes, as will be detailed later, and provided with a plurality of spaced-apart cut outs **33a**, preferably arcuate, at its peripheral edge. The elongated tubular member **27** may be secured to the tubular body portion **22** in any approved manner, such as by the set screw **34** of Fig. 2.

In addition to its function as a housing for the electric lamp socket assembly **29**, the tubular member **27** provides a support for the electrical conductors cord **35** of the conductors **36** and **37**, one terminal of each of which extends into the assembly **29**, and they are electrically connected with the base portion **30** of the bulb **31**. The cord **35** may be coiled for storage about the protruding portion of the member **27** and the flange **33** prevents the coiled cord from sliding off the end of the member **27**. In addition, the interior of this protruding portion provides a storage socket for the plug **38** electrically connected with the other terminals of the cord. This plug **38** is of conventional construction and is one adapted to be inserted into the socket C in order to close an electric circuit through the source of electric energy B (as a storage battery), socket C, plug **38**, conductor **36**, elec-

tric lamp socket assembly **29**, electric lamp bulb **31**, conductor **37**, and ground to source B.

The plug **38** has an exposed end terminal **39** and a spring-urged side terminal **40** for ground, each being electrically connected with a terminal of the conductors **36** and **37**.

The flange **33** is provided, as shown, with arcuate slots any one of which will accommodate a portion of the cord **35** so that the plug **38** may be inserted into the interior of the member **27** as stated.

Referring now to the portions of the new lamp carried by the wall **11** it will not noted that a first light rays transmitting portion or window **41** is represented by that part of the wall **11** at the end thereof adjacent the window **14** and a relatively broad band or tube **42** of suitably colored or tinted transparent plastic material or the like encircling this part and preferably rigid therewith, so that the two are integral. In the example shown, this band or tube is of a red color and extends from the end edge **12** a distance of, for example, two inches, along the wall **11**.

Beyond the first light rays transmitting portion **41** is a second light-rays transmitting portion or window **43**, of substantially clear colorless material, represented by a portion of the wall **11**. This may be substantially ⅝" wide, for example.

Next to the portion **43** is a preferably opaque portion **44** made opaque by a suitable covering on the wall **11** to the end edge **13**. This covering may be paint, leather, metal, hardened plastic or the like.

Means **45** to selectively position the electric lamp bulb **31** in the compartment **15** is shown to comprise a finger hold lug **46** carried by and extending radially from the member **27** at the flange **33**. The lug **46** contacts the flange along a portion of its length and is partly supported thereby.

The means **45** also includes the walls of a compound bayonet slot **47** through which the lug **46** is adapted to slide. The slot **47** opens at one end to the edge **13** and extends longitudinally of the housing wall **11** a distance sufficient to carry the edge of the disc **25** substantially level with the inner edge of the portion **44** and the lamp bulb **31** partly opposite both the portions **41** and **43**, as is clear in Fig. 4. The parts may be latched in position by moving the lug **46** into the transversely extending slot portion **48**. When the electric lamp bulb **31** is in this position and the lamp A is upright as in Fig. 4, there will be a clear illumination upon the support for the lamp A (as the ground) since some of the light rays from the bulb will be reflected downwardly and outwardly by the inner face **19** of the reflector **16** and some reflected upwardly by the surface of the disc **25** and then downwardly and outwardly by the face **10**. Some rays will also be reflected through the colored portion **41** but these will spread out less obliquely. Of course some light rays will not be reflected but will shine through the portions **41** and **43**.

If the lug **46** is now slid from the slot portion **48** and then through the longitudinally-extending slot portion **49** to and into the transversely-extending slot portion **50**, the parts will be latched as in Fig. 3 with the greater part of the colored portion **41** illuminated and the disc **25** shutting off any light rays from the portion **43**. However, the reflecting face **19** will tend to reflect rays to spread the light rays projected through the portion **41**. This affords, with the portion **41** red, a danger signal.

With the lug **46** slid from the slot portion **50**, through the slot portion **51** and into the slot portion **52**, the parts will be latched as in Fig. 2 and the reffector **16** confines the rays so there is no illumination of the portions **41** or **43** but the rays will be projected through the window **14** to provide a flashlight or spot light effect.

While the entire structure **21** with the electric lamp bulb **31** may be removed from the housing compartment **15** and the energized bulb employed for illumination,

this has only limited uses. It may be employed, however, where space is too confined for the entire lamp A

It will be noted that the wall **11** at the end edge **13** is provided with spaced-apart arcuate recesses **52** through which the conductor cord **35** may extend when the lamp A is set upright as in Figs. 1 to 4 inclusive.

The electric socket C is of conventional construction and only sufficient is shown to illustrate how the plug makes contact with the socket terminal **55** by way of the plug terminal **39** and with the ground terminal **56** and plug terminal **40**. The support D for the socket C may be a suitable grounded portion of an automobile frame.

The lug **46** of course provides a means to initially start to remove the movable structure from within the compartment **15** although the finger tips may be inserted into opposite cutouts **33a** in order to draw the movable structure farther from the housing and then the coiled conductor cord grasped in order to effect complete withdrawal.

Various changes in the shape, size and arrangement of parts may be made to the form of invention herein shown and described, without departing from the spirit of the invention or scope of the claims.

What is claimed is:

1. An electric safety and trouble lamp including an elongated housing having a tubular side wall of electric light rays-transmitting substantially colorless material and defining an inner face, an outer face, opposite end edges and a compartment; a colored portion of electric light rays-transmitting material covering a portion of a face of said wall, and a portion of substantially opaque material covering a portion of a face of said wall and spaced from said colored portion, whereby said wall is uncovered between the adjacent ends of said colored and opaque portions, providing a window; a movable support within said compartment; an electric light-rays-emitting medium carried by and extending from said support and being within said compartment; means for moving said support to position said medium selectively opposite said colored portion or to position said medium selectively opposite said window and an adjacent part of said colored portion, and means for conducting electric current to said medium for energizing said medium.

2. An electric safety and trouble lamp according to claim 1 characterized in that said colored portion is a tube and covers a portion of said outer face.

3. An electric safety and trouble lamp according to claim 1 characterized in that said colored and opaque portions are tubes and cover portions of said outer face, and said support is in frictional contact with said inner face.

4. An electric safety and trouble lamp according to claim 1 characterized in that said colored and opaque portions cover portions of said outer face, said support is in frictional contact with said inner face and has a truncated conical light rays-reflecting face from which last-named face said medium extends.

5. An electric safety and trouble lamp including a housing provided with a window and an open end; a movable support within the housing including a body portion, support means carried thereby to support an electric light rays-emitting medium within said housing, and an elongated tubular member carried by and extending from said body portion at an end of said body portion opposite said support means, said tubular member having an outwardly-extending peripheral flange at its end portion remote from said body portion and being open at said end portion, whereby a recess is provided within said tubular member, said flange having a plurality of spaced-apart openings in its periphery; an electric light rays-emitting medium carried by said support means and extending outwardly from an end of said body portion; manually-operated means for sliding said body portion, tubular member and medium as a unit longitudinally of said housing to position said medium selectively opposite said window and

selectively away from said window, the last-named means including a finger hold carried by said elongated member; and means for conducting electric current to said medium for energizing said medium, including an electric plug and an electric cord electrically connected with said medium, whereby the hollow of said tubular member provides a recess to receive said plug for storage and a portion of said cord may extend through one of said openings, the wall surfaces of the other of said openings providing finger tip holds for aid in removing said body portion, tubular member, cord, plug, support means and medium as a unit from said housing at said open end of said housing.

6. An electric safety and trouble lamp according to claim 5 characterized in that said finger hold is a lug disposed with a portion thereof in contract with said flange, whereby said lug is reinforced by said flange.

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