

April 15, 1969

J. W. MCROSKEY ET AL

3,439,159

AUXILIARY LIGHT UNIT

Filed Nov. 9, 1966

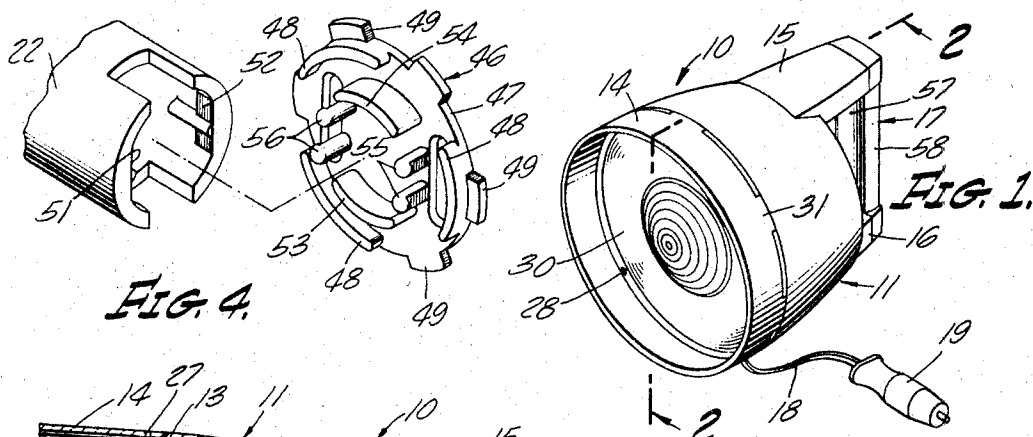


FIG. 4.

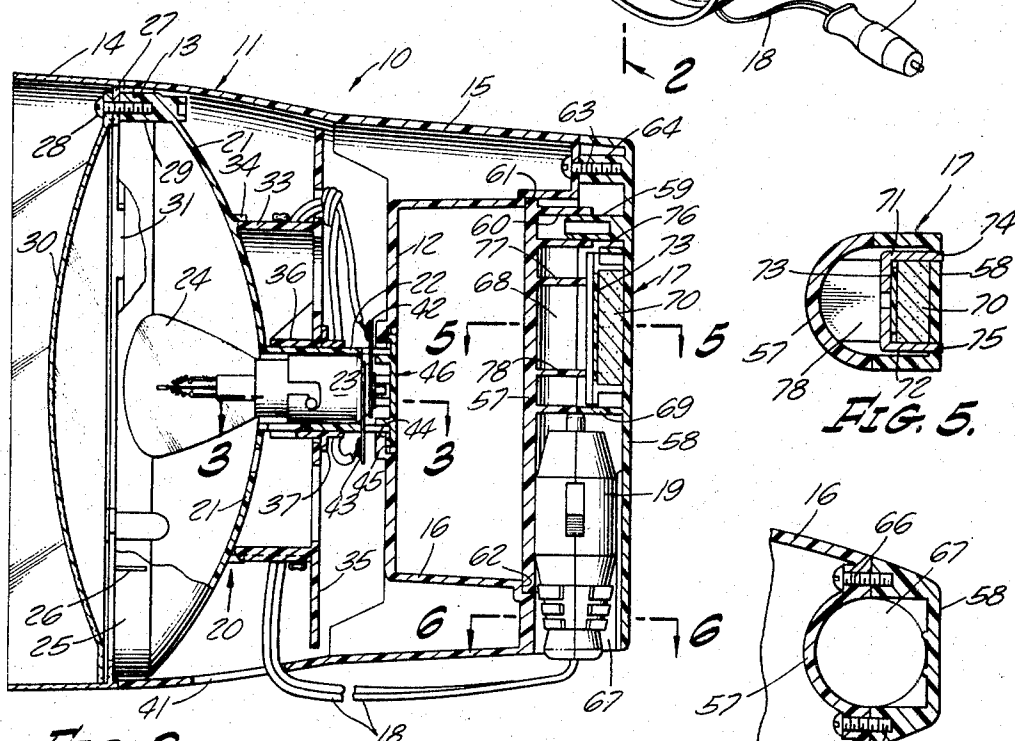


FIG. 2.

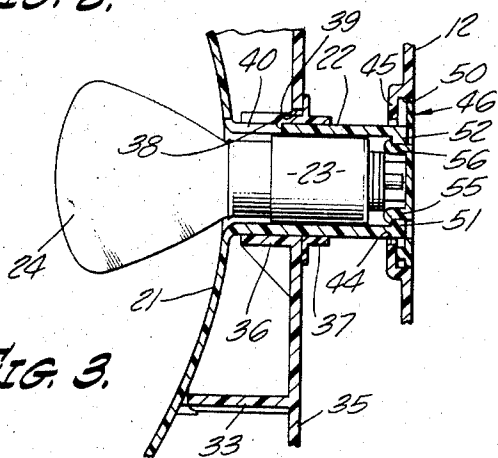


FIG. 3.

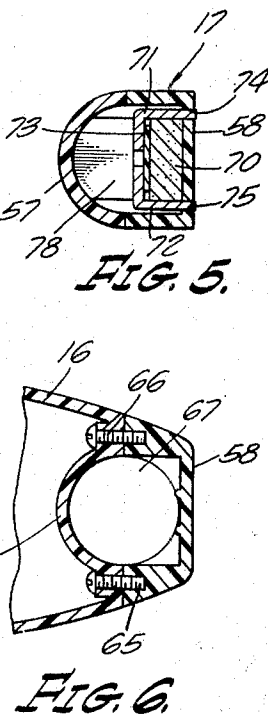


FIG. 5.

FIG. 6.

JOHN W. MCROSKEY
LEONARD H. MCROSKEY
INVENTORS.
WHANN E. McMANIGAL
Attorneys for Applicants
BY
Shankman
ATTORNEY

1

2

3,439,159

AUXILIARY LIGHT UNIT

John W. McRoskey and Leonard H. McRoskey, Los Angeles, Calif., assignors to Republic Tool & Manufacturing Corp., a corporation of California

Filed Nov. 9, 1966, Ser. No. 593,175

Int. Cl. B60q 1/56

U.S. Cl. 240—8.18

4 Claims

ABSTRACT OF THE DISCLOSURE

An auxiliary light unit having a shell-like outer casing with a forward brim defining an opening for projection of light, an inner rotatably supported casing unit within the outer casing which has an extension abutting said brim, a curved wall providing a reflector, and a winding reel extending from the back side of the reflector wall. The inner casing unit being rotatable by means of the wall extension to manually wind an electrical cord on the reel, this cord being connected to a lamp at the center of the reflector wall. A hollow handle is supported on the rear of the outer casing so as to extend transversely in spaced relation, this handle having an end opening to releasably receive and stow a connection fitting of the electrical cord, the handle also being provided with a magnet permitting removable attachment of the light to a metal surface.

The present invention relates generally to electric lighting devices, and is more particularly concerned with an auxiliary light unit of the portable type.

It is one object of the herein described invention to provide a simple, durable and inexpensive portable auxiliary light unit which is particularly useful in connection with vehicles such as automobiles, boats, airplanes, golf carts and the like, and which is arranged so that it can be readily connected with a battery electric circuit of the vehicle.

A further object is to incorporate in an auxiliary light unit of the herein described type, a compact casing structure housing a unique winding reel arrangement upon which an extension electric cord is wound for storage, and from which it can be unwound to a desired length when the light is in use.

A still further object is to provide a light unit having a handle for directing the direction of light beam from the unit, and wherein a plug connector on its electric connection cord can be housed, when the light unit is stored or not being utilized.

Another object is to provide an auxiliary portable hand light unit having a magnet for releasably attaching and supporting the light unit on a metallic surface.

Still another object is to provide an auxiliary portable light unit in which a portion of the casing surrounding the projected beam opening is made of a translucent red material which is laterally visible during use to provide a safety signal feature.

Further objects of the invention will be brought out in the following part of the specification, wherein detailed description is for the purpose of fully disclosing the invention without placing limitations thereon.

Referring to the accompanying drawings, which are for illustrative purposes only:

FIG. 1 is a perspective view of an auxiliary light unit embodying the features of the present invention;

FIG. 2 is a generally longitudinal section taken substantially on line 2—2 of FIG. 1, showing the internal construction;

FIG. 3 is an enlarged fragmentary section taken substantially on line 3—3 of FIG. 2;

FIG. 4 is an exploded view showing details of the retaining and securing means for rotatably connecting portions of the assembly together;

FIGS. 5 and 6 are respectively transverse sections taken through different portions of the handle of the unit, substantially on lines 5—5 and 6—6 to show the internal structure thereof.

Referring more specifically to the drawings, for illustrative purposes, the auxiliary light unit is shown in FIG. 1 as generally comprising a casing or housing structure, as generally indicated at 10. This housing structure includes an outer casing 11 which is molded or otherwise formed from a suitable plastic or other material to provide a shell like container having a back wall closure 12 and a front circular opening 13 at its brim portion which is associated with a cylindrical wall extension 14 providing an outlet for a light beam projected from the device. This extension is preferably made of a translucent red material so that, when the unit is viewed from the side, it will have a red illuminated end at the wall extension which serves as a safety signal particularly while using the light unit under hazardous conditions. At the rear end of the unit there is formed a pair of rearwardly projecting hollow arm members 15 and 16, these members being connected at their outer ends by a hollow handle 17 which forms a hand grip for manipulating the unit and directing the light beam therefrom. Electrical connection is made to the unit by means of an electrical connection cord 18 which carries a plug connector 19 of conventional construction at its free end by means of which the unit may be connected with a suitable source of electricity such as the battery circuit of a vehicle.

Rotatably supported within the outer casing 11 is an inner casing structure, as generally indicated at 20. This inner casing comprises a dished part that provides a reflector 21 and is centrally formed with a tubular neck 22 for housing for a lamp socket 23 arranged to receive an electric light bulb 24 as a light source for the unit. At its periphery, the reflector 21 is constructed with a circumferentially extending brim flange 25 which is adapted to fit within the front circular opening 13 of the outer casing, surface bearing ribs 26 being circumferentially spaced around the flange for engagement with the adjacent wall of the outer casing, these ribs providing bearing surfaces of low friction.

The reflector 21 at the flange 25 is secured to an inwardly extending circumferential flange 27 carried by the cylindrical wall 14 of the extension by means of retaining screws 28 which extend through the flange 27 into integrally formed bosses 29 so as to releasably connect the extension 14 as a part of the rotatable inner casing 20 assembly. The screws 28 also serve to peripherally secure a transparent lens member 30 in an operative position in front of the light source 24 and reflector 21. The extension 14, as best shown in FIG. 1, is provided with a plurality of edge projections 31 which are circumferentially spaced around the extension 14 and provide bearing surfaces which are adapted to engage the adjacent edge of the outer casing.

The inner casing assembly also includes a winding reel 32 having a winding drum 33 which is coaxial with the tubular neck 22 and is secured at one end to the rear side of reflector 21 by being telescoped with annular flange 34 on the reflector. The opposite end of the drum carries an integrally formed end flange 35, this end flange being centrally supported by a hub sleeve 36 which surrounds the tubular neck 22. The winding reel is retained in assembled relation by means of a retaining ring 37, as best shown in FIG. 3, having circumferentially spaced hook-fingers 38 which extend through openings 39 in the end flange and have their outermost ends snapped over adjacent edges of slots 40 provided in the sleeve 22.

As thus arranged, the reflector 21 and end flange 35 coact with the winding drum 33 to provide a winding space within which the electrical connection cord 18, which enters the housing structure through an opening 41, may be wound. The conductors at the inner end of the connection cord are connected to socket terminals 42 and 43.

The inner casing assembly is retained in operative assembled position within the outer casing by means of a bearing and retaining structure at the back wall 12, as will now be described. As best shown in FIGS. 3 and 4, the tubular neck 22 projects through an opening 44 which is formed in a central recessed portion 45 of the back wall 12. The rotatable inner casing is retained against axial movements by means of a retaining member, as generally indicated at 46, which is arranged to seat in the recessed portion 45 and is so constructed as to releasably engage the adjacent end of the tubular neck 22.

As best shown in FIG. 4, the retaining member 46 is of generally circular disk-like construction and includes a circular wall 47 having circumferentially spaced arcuate projections 48 forming abutment pads for engagement with the bottom wall of the recessed portion 45 when the retaining member is seated in the recessed portion. The wall 47 is also formed with circumferentially spaced peripheral radial projections 49 having outer end surfaces which engage the surrounding wall 50 of the recessed portion 45 to form a rotatable bearing support for the inner casing at this point in the back wall 12.

The associated end of the tubular neck 22 is provided with diametrically opposed shoulders 51 and 52. In assembling the retaining member 46 in its securing position with respect to the tubular neck 22, the member is so positioned that its diametrically opposed arcuate flanges 53 and 54 will enter the end opening of the tubular neck and extend between the shoulders 51 and 52 so as to retain the member 46 against relative rotation. In this position, the member 46 is releasably latched by means of diametrically positioned pairs of hook-fingers 55 and 56 which are arranged to hook their ends over the inner edges respectively of the shoulders 51 and 52.

The handle 17 is of hollow construction formed of a pair of cooperable shell sections, an inner section 57 and an outer section 58. These sections are longitudinally joined on opposite sides and are aligned by an aligning plug 59 on the outer section which fits into a receiving socket 60 on the inner section. The ends of the inner section are seated respectively in edge grooves 61 and 62 at the ends of the arm members 15 and 16. The handle assembly consisting of the two sections is then retained in assembled relation by means of a securing screw 63 which engages a boss 64 in an end extension of the outer section, while securing screws 65 and 66 engage bosses at the lower end of the outer section 58 on opposite sides of an end opening cavity 67. This cavity is separated from an upper cavity 68 by a separating wall portion or partition 69. The cavity 67 is utilized for storage of the plug connector 19 which can be inserted endwise into the handle when the light is not being used, as shown in FIG. 2. The cavity 68 of the handle is utilized for the mounting of magnetic suspension means which permits the auxiliary light unit to be supportingly attached to a metal surface, when desired. As shown in FIGS. 2 and 5, the magnet assembly comprises a substantially rectangular permanent magnet 70 of magnetized material which is mounted between angle pole members 71 and 72, the magnet having one side face separated from the adjacent legs of the pole members by a spacer strip 73 which may be of an insulating material. The other legs of the pole members extend through elongate slots 74 and 75 to provide exposed ends of the pole members for engaging any metal surface upon which the unit is to be supported.

The magnetic assembly just described is retained within a pocket between the side walls of the outer section, the adjacent partition 69 at one end and a transversely

extending web 76 at the other end, by means of spaced projections 77 and 78 which extend from the wall of the inner section 57 and have their outer ends bearing against the adjacent legs of the pole members. The magnet assembly is thus securely held in position against shifting movement.

In using the auxiliary light unit, the connection cord 18 may be unreeling simply by applying a pulling force to the portion thereof which is outside the casing 11. As the pull is continued, the cord will be unwound from the reel. When it is desired to again store the light unit, the connection cord may be retrieved by rewinding upon the reel within the casing simply by rotating the wall extension 14 in a rewind direction. As previously stated, when the plug connector 19 is not in use it may be conveniently inserted into the cavity 67 for storage. The magnet support may be utilized to hold the unit in a desired position either during times of use or when it is being stored in a particular location by attaching it to a metallic surface.

From the foregoing description, it is believed that it is clearly apparent that the stated objectives of the invention will be accomplished.

Various modifications may suggest themselves to those skilled in the art without departing from the spirit of our invention, and, hence, we do not wish to be restricted to the specific form shown or uses mentioned, except to the extent indicated in the appended claims.

We claim:

1. An auxiliary light unit, comprising:

- (a) an outer casing structure having a forward brim defining an opening therein for the projection of a light beam from an internal light source;
- (b) an inner rotatably supported casing unit within said outer casing including a cylindrical wall extension abutting said forward brim, a curved wall portion extending inwardly from said cylindrical wall extension forming a reflector for said light source, and a winding reel supported within said outer casing and extending from the back of said reflector forming wall for an electrical connection cord for said light source, said cord having its free end projecting through the outer casing structure; and
- (c) means including said wall extension for manually rotating said inner casing and said reel in a winding direction from the exterior of said outer casing structure.

2. An auxiliary light unit according to claim 1, including a handle grip connected at the rear of said outer casing structure, and magnetic means mounted in said handle and having exposed pole members extending through a wall of the handle.

3. An auxiliary light according to claim 1, including a spaced transversely extending hollow handle carried by said outer casing structure at the rear thereof, said handle having an entrance opening to its interior, and a plug connector at the free end of said electrical connection cord insertable into said handle through said opening for non-use storage therein.

4. An auxiliary light unit according to claim 3 having magnetic means carried by said handle whereby the unit may be releasably supported from a metallic structure.

References Cited

UNITED STATES PATENTS

1,932,143	10/1933	Piercy	240—52.15
2,407,737	9/1946	Erasmus	240—8.18
2,662,970	12/1953	Zediker	240—8.18 XR
3,322,944	5/1967	Mellyn	240—8.18
3,342,985	9/1967	Huber	240—46.59 XR

NORTON ANSHER, *Primary Examiner*.

W. A. SIVERTSON, *Assistant Examiner*.

U.S. Cl. X.R.

240—46.59. 52.15