

United States Patent

Franc

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[54] ILLUMINATION DEVICE

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 755,303, Aug. 26, 1968, abandoned.

[52] U.S. Cl.....**240/10 R**, 240/10.61, 240/10.64, 240/52.5, 240/54

[51] Int. Cl.....**F21b 1/02**

[58] Field of Search 240/1.3, 2, 6.4, 41 B, 41.35, 240/41.6, 44, 46.49 A, 52.12, 52.15, 52.2, 52.5, 54 A, 10, 10.61, 10.64, 103

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[57] ABSTRACT

A portable illumination device consisting of a substantially flat concave reflector for mounting to a card or package, and including a lamp for illuminating the card or package. The reflector may also include a flat battery having a bulb receiving connector for receiving a lamp. The illumination device may be supported from a wire or string, or mounted on a vertical edge.

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7 Claims, 6 Drawing Figures

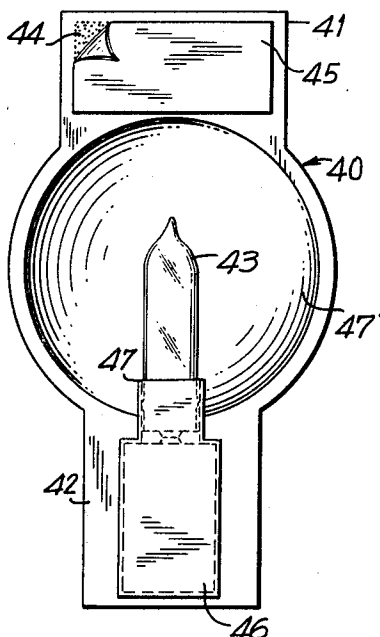


FIG. 1

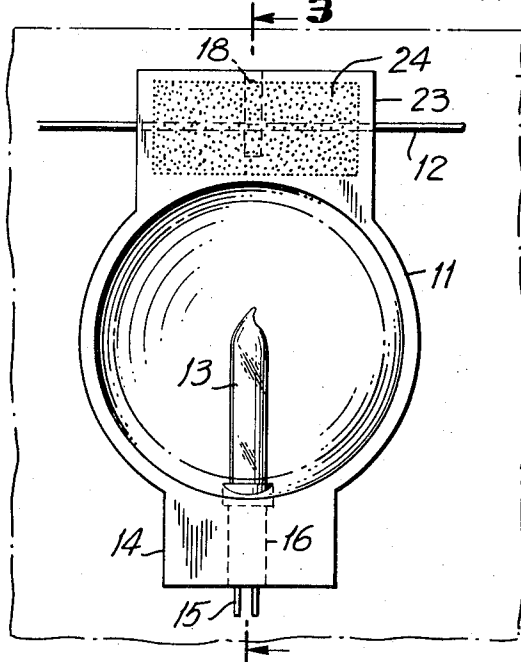
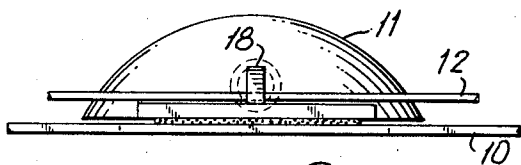


FIG. 2

FIG. 3

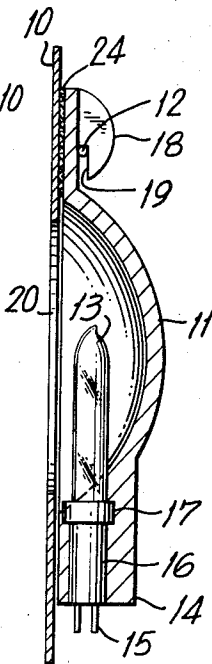


FIG. 4

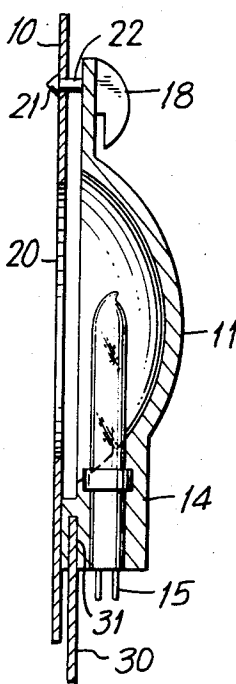


FIG. 5

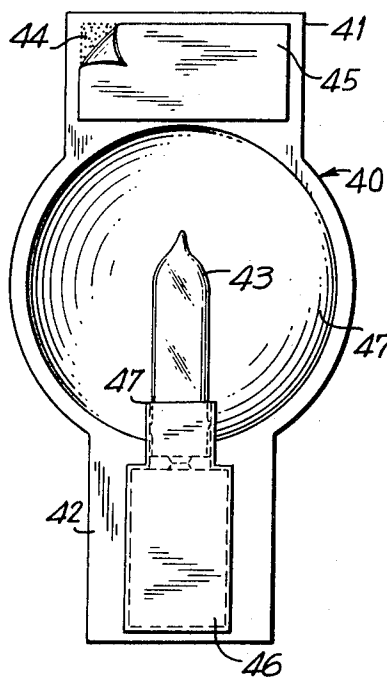
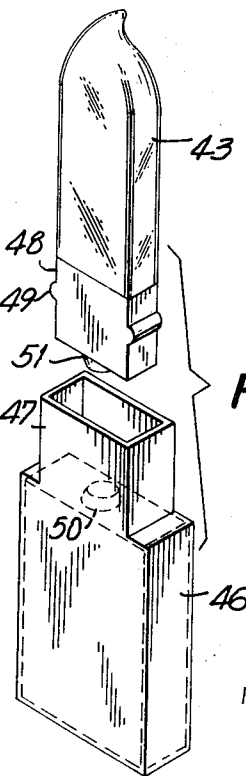


FIG. 6



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ILLUMINATION DEVICE

This is a continuation in part of application Ser. No. 755,303, filed on Aug. 26, 1968 now abandoned.

This invention relates to an illumination unit particularly suitable for attachment to a flat surface such as a greeting card.

More specifically, this invention relates to an improved illumination unit having a flat miniature battery with a bulb receiving means at one end for receiving a miniature lamp so that the entire assembly can be secured to a flat surface.

Conventional lamps which utilize batteries generally require a battery case surrounding the battery and a lamp socket for electrically connecting the lamp to the battery. This particular type of conventional assembly in some cases is rather bulky and expensive to produce. In certain applications, such as in greeting cards and packages, decorative illumination sources are secured to the cards or packages before being given to the receiver. In these types of illumination devices, it is essential that the illumination device be compact, extremely flat and inexpensive in cost. The illumination device then appears to become part of the package or card being presented and its bulk or thickness are hardly noticed in comparison to the pleasing decorative effect which is produced. In certain applications, candles, wreaths, Christmas trees and the like, can be lighted by the illumination device of the present invention. The addition of a substantially flat hollow reflector surrounding the lamp also increases the intensity of illumination and improves the decorative effect.

It is therefore an object according to the present invention to provide an illumination unit which utilizes a substantially flat battery having a bulb receiving means for connection to a miniature lamp.

It is another object according to the present invention to provide an illumination unit which can be secured to flat objects such as packages and cards.

It is another object according to the present invention to provide an illumination unit which is simple in design, reliable in operation and inexpensive in cost.

Other objects and features of the present invention will become apparent from the following detailed description considered in connection with the accompanying drawings which disclose embodiments of the invention. It is to be understood, however, that the drawings are designed for the purpose of illustration only and not as a definition of the limits of the invention.

In the drawings, wherein similar reference characters denote similar elements throughout the several views:

FIG. 1 is a top plan view of the illumination unit of the subject invention;

FIG. 2 is a plan view of the illumination unit of the subject invention;

FIG. 3 is a cross-sectional view taken along section 3-3 of FIG. 2;

FIG. 4 is another embodiment of the invention of FIGS. 1-3;

FIG. 5 is still a further embodiment of the invention showing the use of a self-contained power source; and

FIG. 6 is a perspective view of a flat battery and bulb of the subject invention.

Referring to FIGS. 1-3, there is shown one embodiment of the invention for attachment to a card 10 con-

sisting of a reflector 11 constructed of a slightly concave, partially hemispherical surface surrounding a miniature lamp 13. At the bottom of concave surface 11 is a base mounting 14 for receiving the base 16 of lamp 13. Lamp terminals 15 project through the bottom of base mounting 14. Lamp 13 also includes an enlarged flange 17 which limits the insertion of the lamp within base mounting 14. Near the top of reflector 11 is a head portion 23 which includes a hook 18 having a slot 19 for receiving a support wire 12. An adhesive 24, is deposited on the front of head portion 23 for securing reflector 11 and lamp 13 against the surface of the card. Card 10 includes a transparent or translucent portion 20 preferably disposed in front of lamp 13 to permit the light from the lamp to shine therethrough. The inside surface of reflector 11 is preferably silvered or made reflective to enhance the light produced by lamp 13. In the embodiment of FIGS. 1-3, support wire 12 may be strung horizontally along a vertical wall surface so that a plurality of cards 10 and illumination units 11 can be mounted side by side for display purposes. Adhesive 24 is preferably a pressure-sensitive adhesive having a backing strip which can be pulled away when illumination unit 11 is ready for mounting against card 10.

Referring to FIG. 4, there is shown another embodiment of the invention, wherein an enlarged prong-type fastener 21 connected on the end of shaft 22 and secured to catch 18, projects through a corresponding opening in card 10. Base mounting 14 also includes a slot 31 for receiving a flat projecting surface 30 which supports the reflector and card for display. The other elements of the embodiment of FIG. 4 are identical with respect to those shown in FIGS. 1-3. Projecting surface 30 may be the vertical edge of a display rack so that a plurality of cards 10 can be displayed side by side along the vertical edge.

In the embodiments of FIGS. 1-3 and FIG. 4, lamps 13 may be powered by connecting a conventional AC or DC power source to lamp terminals 15.

Referring to FIGS. 5 and 6, there is shown a still further embodiment of the present invention having a reflector body 40 with a concave reflective surface 47 disposed behind a flat decorative lamp 43. Lamp 43 is inserted into a lamp receiving socket 47 which is integrally formed in the case of battery 46. Within lamp receiving socket 47 is disposed a contact 50 for connection to a corresponding center contact 51 disposed on the bottom of the base 48 of lamp 43. The walls of lamp receiving socket 47 also include one contact for connection to contact 49 on the sides of lamp base 48. The entire assembly of lamp 43 and battery 46 are inserted into base mounting 42 of unit 40. The top portion 41 of unit 40 includes a pressure-sensitive adhesive 44 covered by a backing or release strip 45 similar to that shown with respect to the embodiment of FIGS. 1-3. This will enable illumination unit 40 to be attached to a package or flat card surface having a transparent or translucent window for permitting the light to decoratively shine therethrough. Lamp 43 is preferably a flat miniature lamp and may be constructed in the form of a candle as shown in the drawings. Battery 46 is preferably a miniature flat disposable battery having lamp receiving means 47 integrally formed on its top surface so as to eliminate the need for a lamp socket

and further electrical connection. Reflector 11 is preferably constructed from inexpensive plastic material.

While only a few embodiments of the present invention have been shown and described, it should be obvious that many changes and modifications may be made thereunto without departing from the spirit and scope of the invention.

What is claimed is:

1. Apparatus for illuminating a gift package, greeting card, ornament or the like, comprising:

a concave, hemi-spherical-shaped reflector, including a planar, rectangular-shaped mounting member integrally formed therewith and disposed adjacent said reflector, having front and back planar surfaces, and a rectangular-shaped support member integrally formed with said reflector and disposed adjacent said reflector opposite said mounting member, said support member having a thickness approximately equal to the depth of said reflector and including a recess opening into said concave reflector;

a lamp, having a glass envelope, a base, and at least one electrical contact member extending from said base, disposed in said recess provided in said support member so that said glass envelope of said lamp is disposed in said reflector; and

means, affixed to at least one of said front and back planar surfaces of said mounting member, for securing said reflector on the greeting card, gift package, ornament or the like.

2. The apparatus as recited in claim 1 wherein said securing means comprises a downwardly disposed planar, semi-circular hook, affixed to said back surface of said mounting member, and including a downwardly-opening slot, for securing said reflector to the greeting card, ornament, gift package or the like.

3. The apparatus as recited in claim 2 wherein said securing means further comprises pressure-sensitive adhesive material, affixed to said front surface of said mounting member opposite said hook.

4. The apparatus as recited in claim 2 wherein said

mounting means further comprises a cylindrical fastener prong, affixed to said front surface of said mounting member opposite said hook, and disposed perpendicular to said front surface of said mounting member, having a triangular-shaped tip affixed to the end thereof, for securing said mounting member on the card, ornament or package, and further comprising a vertically disposed planar projecting member, for displaying the card, ornament or gift package, and wherein said support member further comprises a downwardly opening slot, disposed adjacent said recess, for slidably receiving said projecting member and thereby supporting said reflector and the gift package, card or ornament.

5. The apparatus as recited in claim 3 wherein said recess in said support member extends entirely through said support member and is open at both ends, and wherein the length of the base of said lamp is equal to at least the length of said recess in said support member, so that said electrical contact disposed on the base of said lamp extends outwardly from said recess.

6. The apparatus as recited in claim 3 wherein said recess in said support member is rectangular shaped and is open only at its end open into said reflector, and further comprising a planar, rectangular-shaped battery, disposed in said recess, said battery including a rectangular-shaped lamp receiving socket integrally formed therewith, the positive terminal of said battery being disposed in said lamp receiving socket, and wherein the base of said lamp is rectangular shaped and has external dimensions approximately equal to the inside dimensions of said lamp-receiving socket, said lamp being slidably disposed in said lamp receiving socket parallel to the longitudinal axis of said battery.

7. The apparatus as recited in claim 6 wherein the base of said lamp further comprises at least two semi-cylindrical-shaped contact members, disposed on two opposite sides of said lamp base, for engaging said lamp receiving socket when said lamp is disposed therein and electrically coupling said lamp base to said lamp receiving socket.

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