

Aug. 2, 1938.

J. P. HOBART

2,125,635

ILLUMINATING DEVICE

Filed Jan. 14, 1935

2 Sheets-Sheet 1

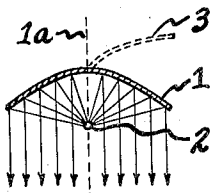


FIG. 1.

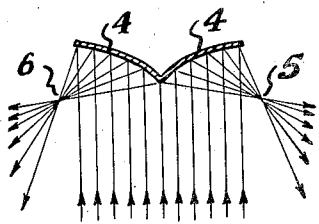


FIG. 2.

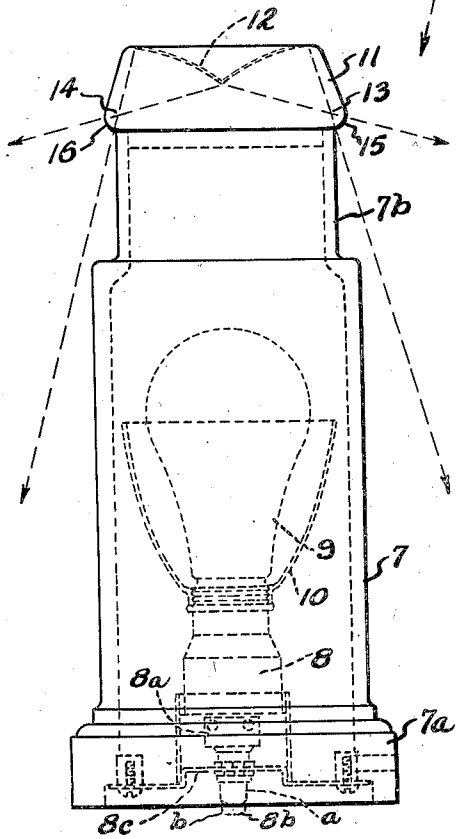


FIG. 3.

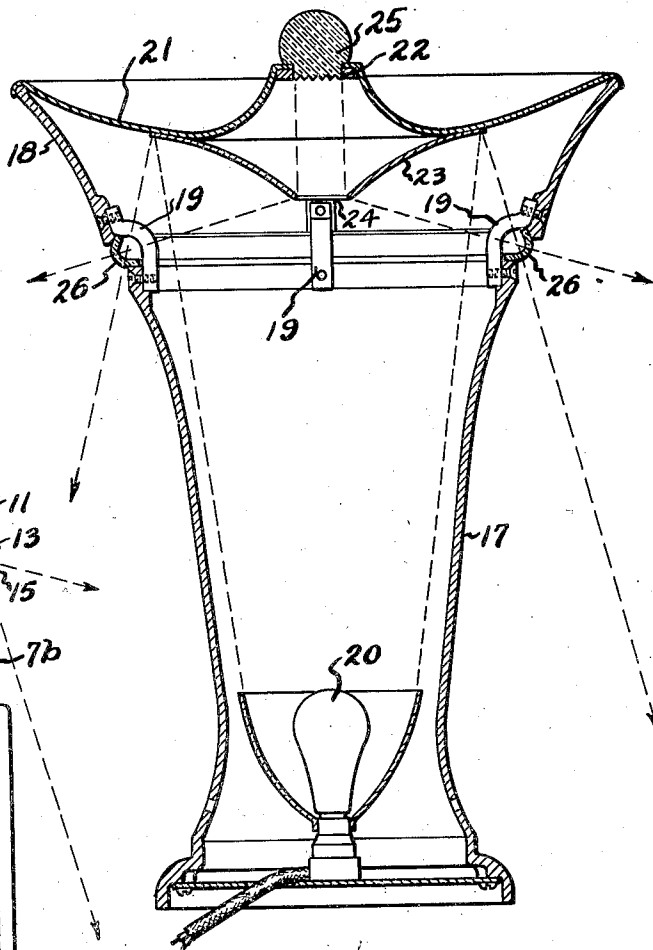


FIG. 4.

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2 Sheets-Sheet 2

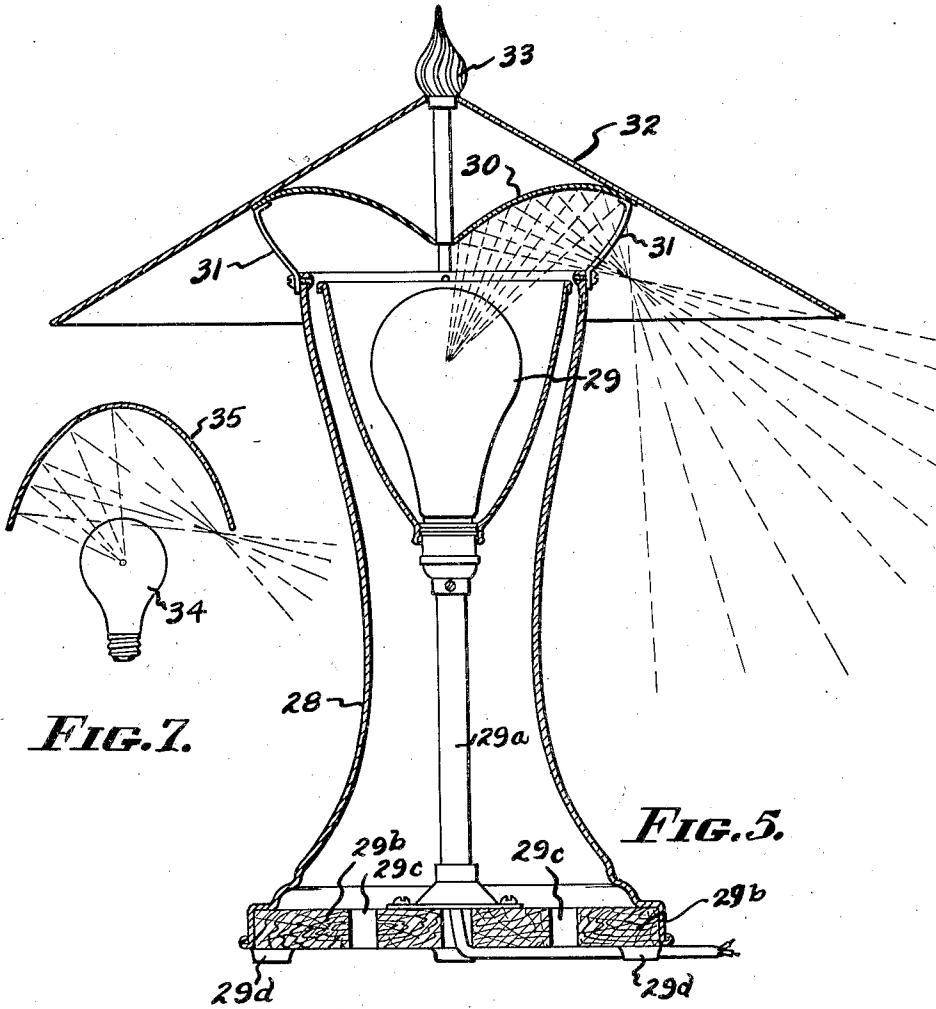


FIG. 7.

FIG. 5.

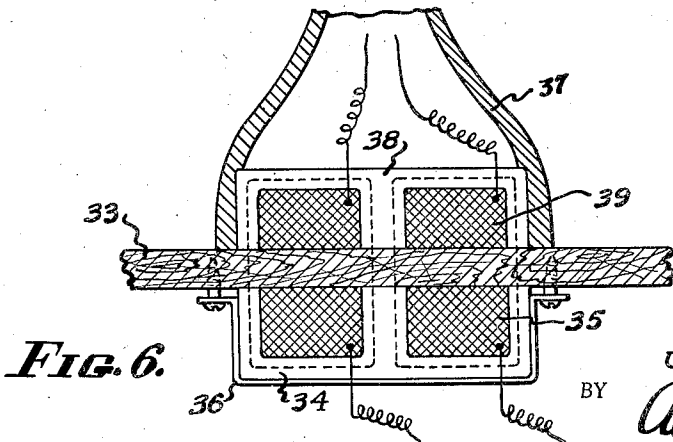


FIG. 6.

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2,125,635

ILLUMINATING DEVICE

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Application January 14, 1935, Serial No. 1,609

4 Claims. (Cl. 240—81)

My invention is addressed to the provision of illuminating devices having novel utility and capable of producing new artistic and utilitarian effects. An object of my invention is the creation of a lamp of better illuminating properties, giving uniform illumination over a desired area. Another object of my invention is the provision of a lamp of unique exterior appearance, by having the source of illumination, switches, sockets, reflectors and the like concealed as fully as possible. Still another object of my invention is to give to illuminating devices new artistic and decorative forms. Still another object of my invention is the provision of means for supplying energy to lamps without the use of exposed connecting cords.

My lamps are useful as table lamps, reading lamps, floor or standing lamps, sources of illumination for the dinner table, garden and outdoor furnishings, and for the creation of special effects on a larger scale. The objects which I have mentioned above, and others which will be apparent to one skilled in the art upon reading these specifications, I accomplish by that certain construction and arrangement of parts of which I shall now describe certain specific embodiments, which will be understood as exemplary only and as not limiting. Reference is made to the drawings wherein:

Figure 1 is a diagrammatic representation of the action of an ordinary parabolic reflector.

Figure 2 is a diagrammatic representation of the action of a different reflector developed therefrom.

Figure 3 is an elevational view of a table lamp embodying my invention and having a novel switch.

Figure 4 is a sectional elevation of an illuminated garden fixture embodying my invention.

Figure 5 is a sectional view of another table lamp embodying my invention.

Figure 6 is a sectional view of transformer means for supplying energy to a table lamp without direct cord connection.

Figure 7 shows a further modified lamp.

Broadly stated my invention involves the reflection of light from a suitable source which is concealed, in a novel way, whereby highly ornamental lamps having new and increased utilities and novel decorative effects may be produced as will hereinafter be more fully set forth. It is, of course, understood that with any light source, such as an incandescent electric lamp, there is no single point from which radiation occurs, but rather an area, as the filament of the lamp. This

also is true of the secondary location from which radiation is effective in my improved lamp.

An example of my invention may be understood in a broad sense from Figs. 1 and 2, which are diagrams only. Vertical parallel lines in Fig. 1 illustrate the direction of rays from the parabolic reflector 1, as derived from the light source 2. A dotted line representation at 3 illustrates how such a reflector may be modified to form a reflector suitable for use in my invention as seen in Fig. 2. This section 3 of the reflector is shown as tilted around a point on the axis at 4a; and in Fig. 2 a reflector is shown which may be thought of as a figure of revolution of the section 3. If this reflector be illuminated by parallel rays of light from beneath, as shown by the arrows, the light will be diverted sidewise and will be substantially focused at points marked 5 and 6. In a reflector formed as described, these points will lie in an annular or ring-shaped focus of the reflector. It will now be appreciated that the entire lamp may be contained in a housing which is continuous excepting at the annular focus, where the opening may be very small. It will also be appreciated that this creates new opportunities for artistic design in lamps, particularly in that the upper reflector does not need to be large in size, and the ordinary shade may be eliminated excepting where desired for decorative purposes. It will further be clear that I have provided for the effective and efficient concentration and direction of illumination where desired. This is exemplary only of one type of reflector which I may employ.

In the practice of my invention it is not necessary that a reflector formed as a figure of revolution be used, nor a reflector developed from a portion of a parabola. Nor is it necessary that the reflector have an annular focus. If illumination is desired at but one side of the lamp, for example the reflector may be a planar figure corresponding to the line 3 in Figure 1. Reflectors may be made having lines of focus of other shapes than annular. Appropriate changes in the housing members may be made, giving lamps of many new shapes.

In Figure 3 I have shown a lamp having a hollow cylindrical pedestal 7 containing a socket 8 for a lamp bulb 9. A reflector 10 assists in directing the light upwardly. The pedestal may be made of any material desired, such as metal, vitreous ware, pottery, etc. It will usually be opaque, but not necessarily so. The upper part of the housing is, in this instance, a round glass member 11. The upper surface of this member is hollow ground or moulded to form a reflecting

surface 12 corresponding to the reflector 4 of Figure 2. The surface of this portion will preferably be silvered as in forming a mirror, and the metal film may be protected in any way desired. Points in the annular focus of this reflector are indicated at 13 and 14. The lower edges of the glass member are rounded as at 15 and 16 to avoid refraction, and are substantially the sole places where light is emitted. Very little if any light comes through the side edges of the glass member. The extent of the illumination is indicated by the dotted lines.

In Figure 3 I also show a novel switch, comprising a casing 8a next to the bottom of the socket 8 of the lamp 9, and an operating element 8b for this switch projecting downward through a support 8c fixed in the base 7a. It will be understood that the terminals of this switch are connected to the respective terminals of the lamp and to the source of current, so that the switch controls the supply of current to the lamp. Also it will be understood that the switch is of such a type, that, with the element 8b movable up and down, the switch will be opened by one up and down movement of the element 8b and will be closed by the next up and down movement thereof, and so on. With this provision the lamp may be lighted by lifting or tilting it on the table or other surface, and then bringing it to normal position; and it may be turned off by a repetition of such movements.

Figure 4 shows a garden fixture comprising a vase-shaped housing in two parts, 17 and 18. These parts are held slightly interspaced by bracket members 19. A socket, lamp and reflector are contained in the lower housing member and are indicated generally at 20. The upper housing member may be surmounted by a bowl 21 for a bird bath, for example. This bowl is carried upwardly at its center and is perforated as at 22. The diverting reflector is shown at 23 and may be made of stainless steel or plated metal. It is also perforated as at 24. A portion of the light from the source passes through the perforations 22 and 24 and may be used to illuminate a glass or other translucent ornament 25. The annular focus of the reflector 23 is substantially at the interspace between the housing portions 17 and 18. This interspace may either be left free or filled with sectional glass rim members 26. The extent of the illumination is again indicated by dotted lines. Obviously other types and designs of ornamental and/or utilitarian housing members may be employed.

In Figure 5 I have shown a lamp comprising a base 29b and pedestal 28 containing lamp 29 and its mounting. A reflector 30 is held above the pedestal by interspaced supports 31. A dummy shade 32 surmounts the reflector. This form of lamp is shown to indicate a different design of housing structure and also the use of a type of reflector which need not have a relatively sharp annular focus. It will be noted, however, that equivalent effects are obtained, namely, concealment of the light source, conservation and more effective distribution of the light, a relatively small opening for the passage of light, and novel design effects. The lamp here shown has the transparent ornament 33 passing vertically through openings in the dummy shade 32 and in the reflector 30 so that it will be illuminated by the lamp 29. Also, as here shown, the lamp 29 is mounted on a stem 29a projecting up from the base 29b; and the latter is provided with ventilating openings 29c, and has feet 29d. A free cir-

culatation of air is thus afforded up through the interior of the lamp, to keep it cool. It will be understood that such ventilating means may be provided in any of the other examples.

In Figure 6 I have shown means for supplying energy to a lamp, such for example as a lamp upon a dinner table, without carrying a cord across the table. A table top is indicated at 33. Beneath this I fasten a transformer portion comprising an E-shaped or cup-shaped core 34 and a primary winding 35. The transformer portion may be held in place by means of a strap 36 and screws as shown. In the pedestal 37 of the table lamp I locate a corresponding core section 38 having a secondary winding 39 which will be understood as connected to the light source in the lamp. If the lamp is positioned on the table top so that the transformer sections match, energy will be transferred from the primary section to the secondary section. The lines of flux are indicated by dotted lines. It will be understood that this type of transformer is not highly efficient; but in accordance with known principles of design may be constructed to deliver the required amount of energy in spite of the relatively large dielectric gap in the core.

In Figure 7 is a modification in which the lamp 34 and dome-shaped reflector 35 are so arranged that the light rays, as indicated by the dotted lines, leave the lamp from the left side to travel to the reflector, and are reflected to the right where they converge to form part of an annular focus. In this example any focal point is at the opposite side of the lamp from the portion of the reflector surface which converges the rays to the said focal point. Such a reflector may be formed as a figure of revolution of the section 3 of Figure 1 when tilted in the opposite direction; but again the reflector section need not be a section of a parabola.

When using my types of reflector, they may be shaped to give any degree of illumination where ever desired. For instance, if it is desired to have the surface illuminated more brightly farther away from the lamp than near its base, it is only necessary to reflect a larger percentage of light to the farther area than is reflected to the base area. This may be done by appropriate change in the reflector contour. This is impossible to obtain with any direct light, as with such light the brightest intensity is always closest to the lamp.

Modifications may be made in my invention without departing from the spirit thereof. It will be understood that my lamps may be made with longer or shorter pedestals, or even without pedestals in the sense of means which support the lamp from beneath; and it will further be understood that my lamps may be made in a wide variety of shapes and configurations and with any type of external decoration desired. The reflector may have sharp or diffused lines of focus, annular or not, as desired. It will be understood that my invention is not limited otherwise than as set forth in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a lighting fixture, a hollow pedestal, a source of light in said pedestal, a reflector thereabove receiving light from said source and diverting said light outwardly and downwardly and confining said light to a relatively narrow band slightly above the upper edge of said pedestal, and housing means covering said reflector and interspaced from said pedestal top substantially

only sufficiently to let the reflected light through at said band only, said housing means comprising a covered bowl-shaped member, said reflector being fastened to the underside of said cover.

5 2. In a lighting fixture, a hollow pedestal, a source of light in said pedestal, a reflector there-
above receiving light from said source and di-
verting said light outwardly and downwardly and
confining said light to a relatively narrow band
10 slightly above the upper edge of said pedestal,
and housing means covering said reflector and
spaced from said pedestal top substantially only
sufficiently to let the reflected light through at
said band, a continuous perforation through said
15 reflector and said housing centrally and a trans-
lucent ornamental member in optical connection
with said perforation.

3. In a lighting fixture, a hollow pedestal, a
20 source of light in said pedestal, a reflector there-
above receiving light from said source and divert-
ing said light outwardly and downwardly and

confining said light to a relatively narrow band
slightly above the upper edge of said pedestal, and
housing means covering said reflector and inter-
spaced from said pedestal top substantially only
sufficiently to let the reflected light through at
said band only. 5

4. A stand lamp comprising a hollow pedestal,
a light source and a concentrating reflector in
the lower portion of said pedestal for projecting a
substantially parallel beam upwardly, a second
10 reflector supported above the top thereof and
shaped to receive said concentrated light and
converge it to an annular focus near the upper
periphery of said pedestal and housing means
supported from said pedestal and covering the
15 second reflector and having its lower edge spaced
from the periphery of the pedestal to provide a
narrow gap to allow light at said annular focus
to pass through.

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