Nov. 13, 1934. L. BROSILOW ET AL 1,980,183

LAMP REFLECTOR

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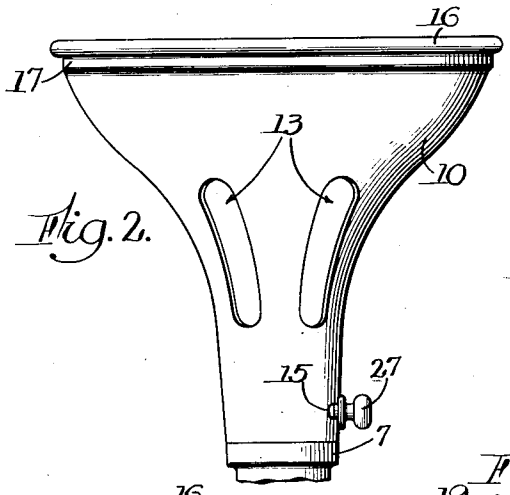


Fig. 2.

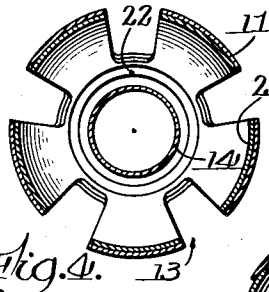


Fig. 4.

Fig. 3.

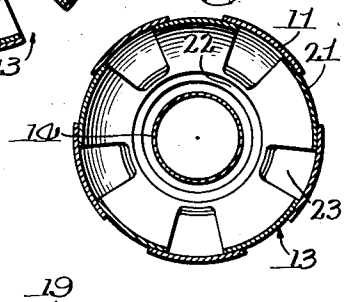


Fig. 1.

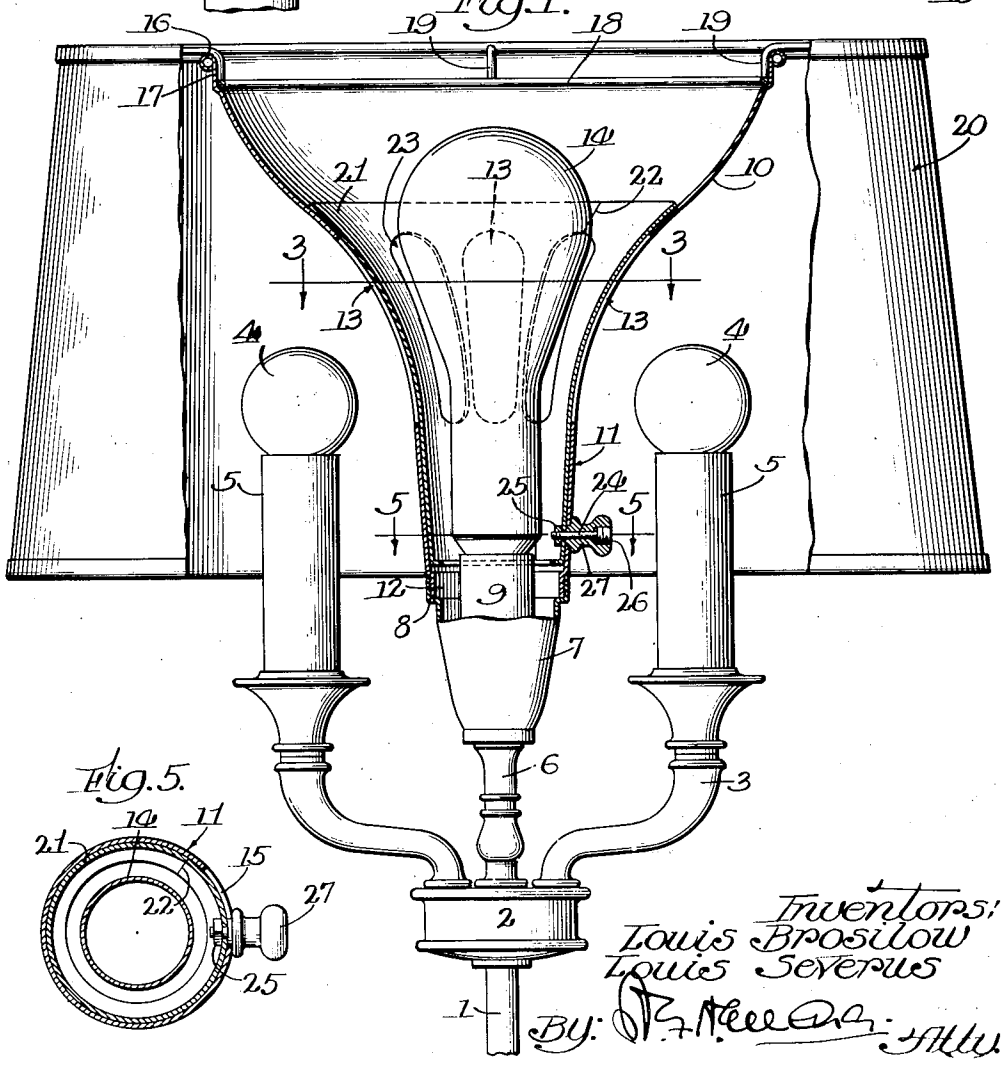


Fig. 5.

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LAMP REFLECTOR

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Application January 23, 1933, Serial No. 652,998

7 Claims. (Cl. 240—81)

This invention relates to improvements in that type of electric lamp generally characterized in the trade as a reflector lamp, having for an object to provide a combination direct and indirect reflector lamp, the light reflecting means of which is so constructed that a single light source may be optionally caused to provide either indirect or combined indirect and direct illumination.

It is also an equally important object of the invention to provide a novel form of reflector, which in one stage of adjustment will function as a means for producing indirect illumination; that is, the reflection of light rays into a zone above the light source for re-reflection from a receiving surface, and hence, afford flood-like lighting of a given area, and which, in another stage of adjustment, will produce combined indirect and direct illumination, causing a portion of the lumens emitted by the light source to be upwardly directed for indirect floor lighting and another portion of such lumens to be coursed outwardly and downwardly from said light source into those zones immediately adjacent and below the same for direct illumination.

Another object of the invention is to provide a reflector for lamps of the character indicated, said reflector being equipped with a simple and practical form of light ray controlling means, enabling a user of the device to so regulate it that the light rays from the supplied source within the reflector may be directly projected therefrom in a manner to bring about an even and uniform degree of direct illumination and at the same time, to evenly and uniformly illuminate a shade disposed about the reflector; the light rays directly projected outwardly from the reflector, a portion of which are received upon said shade, being capable of being modulated, hence, permitting of a graduatable luminosity of said shade and enabling a user to attain different degrees of lighting effects thereupon.

Yet another and equally important object of the invention may be stated to reside in providing the reflector with means whereby the rays emitted from a light source equipped therewith can be outletted to produce direct illumination without in any way disturbing the normal positioning of the reflector and/or the shade with which the reflector is provided.

Other objects of the invention will be in part obvious and in part pointed out hereinafter.

In order that the invention and its mode of operation may be readily understood by those skilled in the art to which it appertains, we have in the accompanying drawing and in the detailed description based thereupon, set out one embodiment of our invention.

In the drawing:

Figure 1 is an elevation of a reflector type of lamp equipped with our invention, a portion of which is shown in section;

Figure 2 is a side elevation of the improved reflector, drawn upon a reduced scale, showing the light outletting ways or windows of the reflector in their open positions;

Figure 3 is a horizontal section taken on the line 3—3 of Figure 1, looking in the direction in which the arrows point;

Figure 4 is a similar view, but wherein the light outletting ways or windows are shown in their open positions, and

Figure 5 is a transverse section taken on the line 5—5 of Figure 1, looking in the direction in which the arrows point.

Having more particular reference to the drawing, in connection with which like characters of reference will designate corresponding parts throughout, we have shown for purposes of illustration our invention as being adapted to a so-called reflector lamp, wherein the lamp standard is designated by the numeral 1, said standard being provided with a fitting 2 from which the usual candle lamp bracket supporting arms 3 extend and receive thereupon "candle" lamps 4, as well as the usual ornamental fixtures 5. The fitting 2 is also provided with an upright tubular extension 6 supporting a cup-like device 7 upon its upper end, the device 7, in turn, being formed with an annular shoulder 8 adjacent its open upper end and being internally screw-threaded, for a purpose which will be presently apparent.

It is, of course, to be understood that the usual electrical wiring is provided the standard 1, extending through the fitting 2 into and through the brackets 3 for electrical connection with the candle lamps 4; also, that a portion of this wiring is extended through the tubular extension 6 into electrical contact with the terminals of a suitable electric lamp receiving socket or fitting 9, fixedly received within the cup-like device 7. Suitable circuit closing devices, not shown, are provided the candle lamps and the lamp receiving socket 9.

A substantially bowl-shaped reflector 10 is provided the construction, being made of suitable light reflecting material. The normally lower portion of this reflector 10 is formed or provided with a reduced tubular extension or throat 11, the lower end of which is preferably shouldered, as at 12, and screw-threaded in order that the

same may be turned into substantially fixed engagement with the device 7, as is well shown in the Figure 1 of the accompanying drawing.

The intermediate portion of the reflector 10 has a plurality of relatively longitudinally disposed light outlettting ways or windows, generally indicated by the numeral 13 formed therein, it being noted that these windows are disposed, in spaced relation, entirely about said intermediate portion of the reflector. Furthermore, it will be noted upon reference to the Figure 1, that the windows 13 are so disposed within the reflector 10 that they will be juxtaposed with respect to a material portion of an incandescent electric lamp 14 received within the reflector 10 and engaged in the aforesaid socket 9. It is preferable that this lamp 14 shall be of a wattage or candle power considerably greater than that of the candle lamps 4. Furthermore, the lower portion of the reflector throat 11 is formed with an elongated and transversely disposed slot 15, whose utility will be hereinafter more fully described, while the open upper side of the reflector is suitably finished, as by rolling or otherwise treating it, as indicated at 16; being also formed with an annular shoulder 17 whereby to permit of the snug and supporting engagement of an annular bracket 18 therein. The bracket 18 in turn, is connected by radially disposed supporting arms 19 to the upper portion of a desirable type of lamp shade, designated in its entirety by the numeral 20, hence, permitting said lamp shade to be advantageously supported from the reflector 10 and about it, as well as the candle lamps 4.

Snugly and rotatably received within the reduced portion or throat 11 of the reflector 10 is a tubular sleeve 21. It is to be noted, in this connection, that the sleeeve 21, which is constructed of suitable material, such for example, as that from which the reflector 10 is constructed, is of a size and shape corresponding to that portion of the reflector 10 and throat 11 receiving it; also, that this sleeve is longitudinally split as indicated at 22, in order that the inherent spring of the material from which it is constructed will cause the same to snugly and firmly engage, throughout its outer surface, with the adjacent inner sides of the reflector 10 and throat 11. In other words, the sleeve 2 is mounted within the reflector 10 and the throat 11 so as to have a snug and somewhat frictional contact with the adjacent portions thereof, particularly, to avoid vibratory movement as between the said two elements. The upper portion of the sleeve is formed with a plurality of light outlet ways or windows, generally indicated by the numeral 23. These windows correspond in shape, size and disposition, to the windows 13 formed in the reflector 10 and by consequence, with rotation of the sleeve 21 to a predetermined position, the windows therein will be moved into complete registration with the windows 13, as is shown in the Figures 2 and 4. By rotating the sleeve 21 in a counter direction its windows 23 will be disaligned or brought out of registration with the windows 13, thus, closing the latter and preventing the outletting of light rays.

With a view toward providing the sleeve 21 with means for facilitating rotation or turning thereof within the reflector, a bolt 24 is passed through the slot 15 into fixed engagement with an adjacent portion of said sleeve 21, as indicated at 25. The outer end of the bolt 24 is formed with an enlarged and screw-threaded head 26 so that when the bolt is passed through a knob or finger piece 27, as is shown in the Figure 1, said screw-threaded head 26 will engage with the internal screw-threads formed upon an adjacent portion of said knob, hence, effecting an adjustable mounting of the latter upon and with relation to said bolt 24. Thus, by turning the knob 27 in one direction, the inner end of the same will be caused to have binding engagement with an adjacent portion of the reflector throat 11, thus, locking the sleeve 21 against adjustment, whereas with rotation of the knob 27 in a reverse direction, the inner end thereof will be disengaged from said portion of the reflector throat 11 and will permit of free turning of the sleeve 21 with the exertion of the proper lateral thrust or pressure upon the knob 27. At this point, it is to be understood that the slot 15 is of such a length that when the bolt 24 is adjacent one end thereof, the windows 23 in the sleeve 21 will be completely disaligned with respect to the reflector windows 13 and when said bolt 24 has been moved through the slot 15 to its opposite end, said windows 23 in the sleeve 21 will be in full registration with the reflector windows 13. It is to be furthermore understood that the sleeve 21 may be so rotated or turned through the knob 27, as to effect but a partial registration of its windows 23 with the reflector windows 13, hence, permitting of the regulating of the intensity of the light emitted from the reflector 10 for direct illumination. The sleeve 21 may be positively locked in any one of its adjusted positions by means of the screw-threaded mounting of the knob 27 upon the head portion 26 of the bolt 24, as aforesaid.

In usage of our improved reflector, and referring to the herein presented embodiment thereof, when the same is to be used for producing only indirect illumination, the sleeve 21 is turned or moved to a position whereat the windows 23 thereof will be completely disaligned with respect to the reflector windows 13, hence closing the latter and thereby causing the entire output of lumens from the lamp 14 to be upwardly reflected. When it is desired that the reflector shall produce combined indirect and direct illumination, the sleeve 21 is rotated to the limits of its opposite position, whereat the windows 23 will completely register or align with the reflector windows 13. When in such a position, it will be seen that a portion of the lumens produced by the lamp 14 will be directed outwardly from the reflector through said windows 13, thus producing direct illumination. The residual portion of the light rays from the lamp 14 will be projected upwardly from the open end of the reflector 10 to produce indirect flood-like illumination. The intensity of the light rays by-passed or projected from the reflector through the windows 13 may be modulated to the desired nicety, such as conditions or preference may dictate, by so rotating the sleeve 21 as to increase or decrease the size of the windows 13 due to the movement of the windows 23 of the sleeve with respect thereto.

At times, when the improved device is used to produce combined indirect and direct illumination, it will be understood that the candle lamps 4 shown in the present embodiment, need not be energized. The light rays passing through the reflector windows 13 will be found to amply serve to bring the shade 20 to the desired degree of luminosity. Furthermore, it will be seen that the degree of luminosity of the shade 20 under such operating conditions may be either increased or decreased, by rotation of the sleeve 21 and that in this way, different lighting effects may be produced upon the shade. When the reflector windows 13 are closed, as by complete disalignment

of the windows 23 of the sleeve 21 therewith, the candle lamps 4 may be then energized to provide illumination for the shade 20.

While we have herein shown the invention as being adapted to a shade equipped lamp, it is, of course, to be understood that the same may be as advantageously adapted for different types of illuminating devices, as for example, torchères with or without candle lamps, wall fixtures and various other devices too numerous to mention.

Manifestly, the construction shown is capable of considerable modification, and such modification as is within the scope of our claims, we consider within the spirit of our invention.

We claim:

1. A reflector of the character described having a plurality of windows therein, an expansible sleeve nested within said reflector and formed with a plurality of openings corresponding to the reflector windows, and means engaged with a portion of said sleeve and disposed exteriorly of the reflector for facilitating rotation of the sleeve in a manner to effect alignment or disalignment of said openings with said windows.

2. A reflector of the character described, comprising a bowl-like body having a reduced throat upon its normally lower side, the intermediate portion of the reflector having a plurality of relatively spaced windows formed thereabout, a sleeve snugly received within the reflector and extending into said throat and rotatable with respect thereto, said sleeve having a plurality of openings thereabout corresponding to said windows, and means engaged with a portion of the sleeve and extended without the reflector for facilitating adjusting movement of the former.

3. A reflector of the character described, comprising a bowl-like body and a reduced throat extending from the lower side thereof, said reflector having a plurality of windows formed therein adjacent the lower portion of the bowl and the upper portion of the throat, and shutter means movably mounted upon the reflector in proximity to said windows, operable in a manner to optionally close or partially close the same.

4. A reflector of the character described, comprising a bowl-like body portion, and a reduced throat co-axially extending from the lower side thereof, said reflector having a plurality of windows formed in and disposed about the same adjacent the lower portion of the bowl and the upper portion of the throat, and an expansible sleeve snugly and rotatably received within the reflector adjacent the lower portion of the bowl and the upper portion of the throat, said sleeve having a plurality of openings therein corresponding to the windows in the reflector, whereby with rotation, said windows may be opened or closed.

5. A reflector of the character described, comprising a bowl-like body portion and a reduced throat extending from the lower side thereof, said reflector having a plurality of windows formed therein adjacent the lower portion of the bowl and the upper portion of the throat, an expansible sleeve snugly and rotatably received within the reflector adjacent the lower portion of its bowl-like body and its throat, said sleeve having a plurality of openings therein corresponding to the windows in the reflector, and means engaging the lower end of said sleeve through an adjacent portion of the throat of said reflector, operable from without the reflector for imparting rotary motion to said sleeve and for preventing movement of the sleeve longitudinally with respect to the reflector.

6. A lamp, comprising in combination, a standard, a reflector supported upon the standard, a light source within the reflector, said reflector consisting of a bowl-like body and a reduced throat co-axially extending from the lower portion of the bowl-like body, said reflector having a plurality of light outletting ways formed therein, the light outletting ways being of sizes relatively smaller than the size of said light source, an expansible sleeve snugly and movably mounted within the reflector adjacent the lower side of its body and said throat, said sleeve having a plurality of openings therein corresponding to the windows in the reflector, and means connected to a portion of said sleeve through an adjacent part of the reflector throat to facilitate imparting of movement to the sleeve and to prevent displacement of the sleeve with respect to the reflector.

7. A reflector of the character described, having light outletting means in the sides thereof, an expansible sleeve nested within said reflector formed with light outletting means corresponding to the light outletting means in said reflector, and means connected to a portion of said sleeve engageable from a point exteriorly of the reflector for facilitating movement of the sleeve whereby to effect alignment or disalignment of the outletting means in the sleeve with the light outletting means in the reflector.

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