May 28, 1940. J. A. KORENGOLD 2,202,590

LIGHTING SHADE

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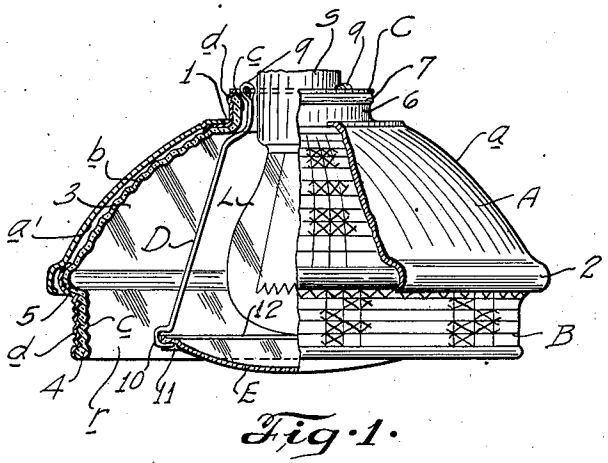


Fig. 1.

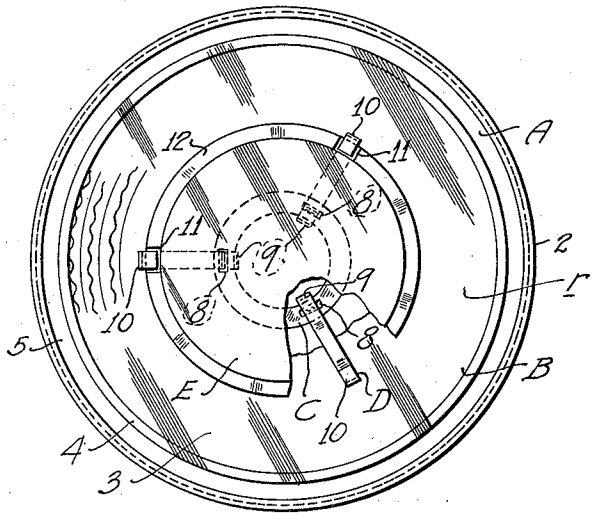


Fig. 2.

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LIGHTING SHADE

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5 Claims. (Cl. 240—93)

This invention relates in general to lighting fixtures and, more particularly, to a certain new and useful improvement in lighting shades and reflectors.

The invention has for its primary object the provision of a lighting shade and reflector which combines in its structure a prismatic member and a non-prismatic member so uniquely arranged to permit light-rays to pass through the prismatic member and be reflected back through the prismatic member by the non-prismatic reflector member, the optical and visual effects of such light being thereby augmented and increased and glare, eye-strain, and harshness of illumination eliminated.

The invention has for a further object the provision of a combined shade and reflector of the type stated which is simple and economical in structure and so constructed for preventing direct and unfiltered light-rays from reaching the eye of the user, and which is highly efficient in the performance of its intended functions.

And with the above and other objects in view, my invention resides in the novel features of form, construction, arrangement, and combination of parts presently described and pointed out in the claims.

In the accompanying drawing—

Figure 1 is an elevational view, partly broken away and in section, of a combined lighting shade and reflector constructed in accordance with and embodying the present invention; and

Figure 2 is an inverted plan view of the shade and reflector.

Referring now in more detail and by reference characters to the drawing, which illustrates a preferred embodiment of the present invention, the combined shade and reflector includes an arcuately conoidal or relatively deep dish-shaped metal shell or spinning A apertured at its apex, as at 1, and provided upon its larger or base peripheral margin with an annular arcuate lip or bead 2 having an inwardly presented cavity. The shell or reflector A may be painted, bronzed, or otherwise provided upon its outer face *a* with any suitably artistic and desirable finish, and upon its inner face *a'* is carefully buffed and provided with a polished coating of chromium, silver-plating, or other light-reflecting finish.

B designates the shade-member, which comprises a clear-glass portion 3 and an annular depending rim 4, the portion 3 being of bowl-like contour and shape in conformation with, and to fit snugly within, the shell or reflector A and the shade B integrally including intermediate its bowl or body-portion 3 and rim 4 an annular arcuate bead 5 somewhat conforming in external contour with, and for loosely fitting within, the shell-lip 2, as shown. Also preferably forming an integral part of the shade B centrally of, and projecting upwardly from, its bowl-like portion *b*, is a centrally apertured neck-like extension 6 provided along its upper peripheral edge with a bead 7.

The shade B is molded or otherwise formed with a prismatic pattern over its entire surface, the rim 5 and the neck 6 being interiorly coated with an opal finish *c* and exteriorly coated with a preferably black opaque finish *d*, all for purposes presently more fully appearing and as best seen in Figure 1.

Subjacently supported by and disposed upon the neck-bead 7, is a flat ring C provided annularly with a series of suitably spaced rectangular slots 8 for accommodating the respective eyes 9 of depending hangers D provided, in turn, at their respective lower extremities with U-shaped prongs 10 presented laterally inwardly of the shade B for engagingly fitting in recesses 11 in the annular rim 12 of a concave diffusion lens E constructed preferably of translucent opal glass or the like and smaller diametrically than the shade-rim 4, there hence being a substantially sized annular light-transmitting area or chamber *r* between the inner face of the rim 4 and the peripheral edge of the lens E, as best seen in Figure 1.

In use and operation, the combined shade and reflector is bodily inserted upwardly into a lamp-fixture having the conventional "set-screw" collar, not shown, so that the shade-neck or extension 6 will be disposed around the fixture lamp-socket S and suitably held firmly within the fixture collar, it, of course, being obvious that the lamp-bulb L is removed from the socket S during such operation. The hangers D are then swung outwardly and the diffusion lens E removed to permit insertion of the lamp-bulb L, whereupon the lens E is replaced, and the lamp-fixture is ready for normal use. It may be stated that, in the event it is desired to employ the shade and reflector without the diffusion lens E, the latter may readily be removed from the hangers D which thereupon collapsibly swing inwardly, when the ring C and its associated hangers D may be freely lifted out of the shade B.

When the lamp L is lighted, the emitted light-

rays will pass upwardly through the prismatic clear-glass bowl 3 and, striking or impinging upon the inner reflector face *a'* of the shell A, be directed back through the bowl 3 and downwardly and thence outwardly through the chamber *r*, thus passing through the prisms of the bowl 3 twice and at different angles, thereby effecting a complete diffusive refraction of the rays—a ray diffusive refraction hitherto unattainable, so far as I am aware. Those light-rays which pass directly downwardly and outwardly, impinge upon the rim 5 and, by reason of the opaque back coating *d* thereof, do not pass through the rim 5 to the eyes of the user, but are in part absorbed and in part reflected back into the confines of the bowl 3. The remaining rays which pass more or less directly downwardly from the lamp L flow freely from the shade D or impinge upon and are transmitted through the diffusion lens E when the latter is present.

It will be evident that the light transmitted by the present combined shade and reflector will be substantially free of harsh direct rays which tire the eyes and produce glare, and by my present invention; I further provide a highly economical, simply constructed lighting reflector and shade in which the rays of light are doubly refracted and are reflected from a substantially non-refractive surface.

It should be understood that changes and modifications in the form, construction, arrangement, and combination of the several parts of the lighting shade and reflector may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

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

1. A lighting device for co-operation with a light source comprising, in combination, a concave reflector, a separate transparent prismatic member disposed within the reflector, said member substantially conforming in shape to the reflector and being spaced slightly inwardly therefrom for interposition between said reflector and the light source, and an annular rim-like extension depending from said member, said extension having prisms both on its inner and outer faces and being provided on said outer face with an opaque coating.

2. In a lighting device, in combination, a shade-member having a centrally disposed upstanding ring-like neck, a ring mounted in facewise abutment upon the upper peripheral margin of the neck, a series of annularly spaced hangers swingably depending from the ring, the hangers at their lower end being provided with laterally presented clips, and a translucent light diffusion member supported by said clips.

3. In a lighting device, in combination, a shade-member having a centrally disposed upstanding ring-like neck, a flat ring removably mounted in facewise abutment upon the upper peripheral margin of the neck, a series of annularly spaced hangers swingably depending within the shade from the ring, the hangers at their lower end being provided with laterally presented clips, and a translucent light diffusion member detachably supported within the shade by the clips.

4. A lighting device for co-operation with a light source comprising, in combination, a concave reflector and a transparent bowl disposed within the reflector for interposition between the reflector and the light source, said bowl being provided at its enlarged end with a diametrally reduced skirt extending axially outwardly therefrom beyond the margin of the reflector, said skirt being provided on its inwardly presented face with a prismatic surface.

5. A lighting device for co-operation with a light source comprising, in combination, a concave reflector and a transparent bowl disposed within the reflector for interposition between the reflector and the light source, said bowl being provided at its enlarged end with a diametrally reduced skirt extending axially outwardly therefrom beyond the margin of the reflector, said skirt being provided on its inwardly presented face with a prismatic surface and on its outer face with an opaque coating.

JOHN A. KORENGOLD.