Jan. 12, 1943. N. C. FOSS ET AL 2,308,071

LAMP SHADE

Filed Aug. 26, 1940

Fig. 1

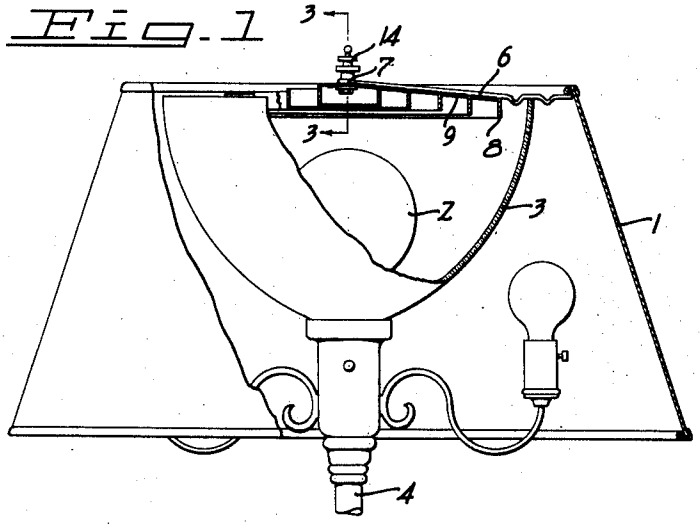


Fig. 2

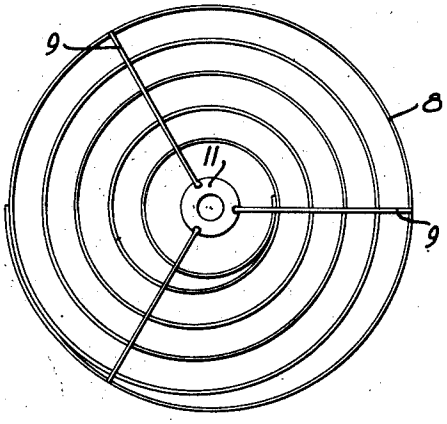
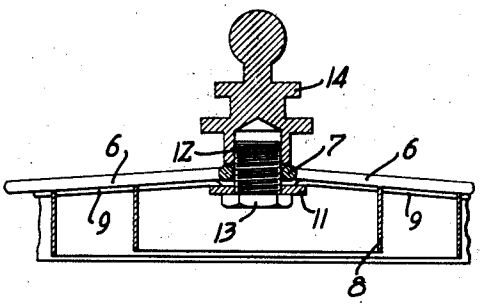


Fig. 3



INVENTORS
NORMAN C. FOSS
LEONARD E. FOSS
BY Charles S. Evans
THEIR ATTORNEY

Patented Jan. 12, 1943

2,308,071

UNITED STATES PATENT OFFICE

2,308,071

LAMP SHADE

Norman C. Foss and Leonard R. Foss,
Oakland, Calif.

Application August 26, 1940, Serial No. 354,167

1 Claim. (Cl. 240—81)

Our invention relates to lamp shades, and particularly to lamp shades provided with a screened top for preventing lateral glare; and this application is directed to improvements in the invention disclosed in our copending application Serial No. 303,386, filed November 8, 1939.

In modern indoor lighting, it has become common practice to rely more or less upon lamps supported by standards resting upon the floor, and positioned to suit the taste or covenience of occupants of the room. Lamps of that kind are usually of a height such that the tops of the lamps, and shades mounted thereover, are below the level of the eyes of persons standing in the room. Light emanating from the lamp through the top of a shade tends to diverge at a wide angle such that direct rays of light cause a glare objectionable to persons standing near the lamp, or occupying positions above the level of the lamp, as for example upon a nearby stairway.

It is among the objects of our invention to provide a lamp shade having a screen positioned within the open top of the shade for confining light rays emanating from within the shade to a relatively narrow cone extending axially upwardly therefrom, and thereby minimize objectionable glare from the lamp.

Another object of our invention is to provide a screened shade wherein the screen is mounted in connection with and supported by radial arms secured to the shade for supporting the shade around a lamp, the screen being arranged to limit the spread of direct light rays projected upwardly through the top of the shade.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of our invention. It is to be understood that we do not limit ourselves to this disclosure of species of our invention, as we may adopt variant embodiments thereof within the scope of the claim.

Referring to the drawing:

Figure 1 is a side elevational view, partly in vertical section illustrating the shade and screen of our invention as applied to a reflector type of lamp.

Figure 2 is a plan view of a preferred form of the screen unit, apart from the shade.

Figure 3 is a fragmental vertical sectional view taken upon the line **3—3** of Figure 1, in the direction indicated, showing a preferred form of screen mounting means.

In terms of broad inclusion, the device of our invention comprises a shade arranged to be mounted around a source of light and provided with a light intercepting screen positioned near the open top of the shade for limiting the divergence of light rays emanating from the source of light through the top of the shade, and confining said rays to a relatively narrow cone minimizing the area where objectionable glare may occur. The screen is preferably attached to and supported by arms supporting the shade over the source of light; and the screen surfaces are preferably of light reflective character for reflecting intercepted light rays upwardly toward the ceiling of a room.

In terms of greater detail, the device of our invention comprises a shade **1** arranged to extend around a source of light **2**, as for example a floor lamp of the reflector type, in which the source of light is disposed within an upwardly faced reflector bowl **3** supported upon a standard **4**.

The shade **1** is open at top and bottom, and is provided at its upper edge with a plurality of radially disposed, inwardly extending arms **6** for supporting the shade over the source of light. In the reflector type of lamp illustrated in the drawing, the arms **6** rest directly upon the upper edge of the reflector bowl **3**; but supporting means of any suitable character may be substituted if desired. Ordinarily the arms **6** slope slightly toward the axis of the shade, as illustrated in Figures 1 and 3; and are joined together by a center member **7**, preferably a ring to which the inner ends of the arms **6** are welded or otherwise secured.

A screen **8** is mounted upon and supported by the arms **6**. The screen **8** comprises a plurality of radially spaced bands substantially concentrically disposed about a central axis. We prefer to construct the screen **8** from a single continuous length of strip material, such as aluminum, brass, or other suitable metal, wound into the form of a spiral. Synthetic resin or other suitable material may be substituted for the metal bands, if desired.

The convolutions of the screen are substantially regularly spaced at intervals of about ⅝ inch. The bands preferably have a width of about ½ inch, and are preferably finished to produce reflective surfaces as by polishing, plating, or painting. The width and spacing of the band portions may be varied, but the proportion of about ½ inch width to ⅝ inch spacing has been found most advantageous for general use. When wider bands are used, the spacing may be proportionally increased; and when narrower bands

are used, the spacing should be correspondingly decreased.

The convolutions of the screen 8 are secured in their spaced relation by rods 9, welded or otherwise secured to the edges of strip material. Preferably the edges of the spaced turns are notched to receive the rods 9 so that the outer edges of the rods 9 will be in the plane of the edges of the screen bands.

A washer 11 is preferably secured to the inner ends of the rods 9 to provide means for detachably securing the screen 8 to the shade.

To mount the screen upon the shade, a threaded stud 12 having a head 13 is extended upwardly through the washer 11 and ring 7, and a nut 14, which is preferably of ornamental appearance, is screwed onto the stud. As the nut is tightened, the washer 11 is clamped between the head 13 and ring 7 thereby firmly securing the screen to the shade arms 6. The rods 9 and the convolutions of the screen 8 yield sufficiently to permit the screen to conform to the upward slope of the arms 6 as the nut is tightened.

When the shade 1 is placed over the source of light, the screen 8 is automatically held in position to intercept light rays emanating upwardly through the top of the shade and to direct them upwardly in a narrow cone. Direct rays, which would otherwise diverge widely and cause objectionable glare, are thus confined to a narrow cone directed toward the ceiling, and are rendered unobjectionable to occupants of a room, even when standing near the lamp.

The screen, being carried by the shade, may be readily removed with the shade to permit cleaning of the reflector bowl 3, or to permit replacement of the light source 2. The weight of the screen is uniformly distributed over the supporting arms, and the screen imposes no objectionable weight or strain upon the reflector bowl or lamp shade supporting means.

We claim:

A lighting device comprising an upwardly faced reflector, a source of light within the reflector, a shade open at top and bottom surrounding the reflector, a plurality of arms radially disposed within the top of the shade substantially in the plane thereof and resting directly upon the upper edge of the reflector for supporting the shade over the reflector, a centrally located ring connecting the inner ends of the arms, a screen mounted against the under sides of said arms in a position concentric with the reflector and projecting downwardly thereinto, said screen comprising a plurality of substantially concentric spiral convolutions of reflective band material having resiliently yieldable rods secured to the convolutions for permitting axial displacement of the convolutions while holding said convolutions against radial displacement when the screen is clamped against the shade supporting arms, a centrally located washer connecting the inner ends of the rods, and clamping means engaging the ring and washer for detachably and yieldably clamping the screen against the arms.

NORMAN C. FOSS.
LEONARD R. FOSS.