Dec. 20, 1955 E. R. FARBER ET AL 2,727,980

LIGHT REFLECTOR AND BAFFLE ASSEMBLY

Filed Dec. 27, 1952

Fig. 1

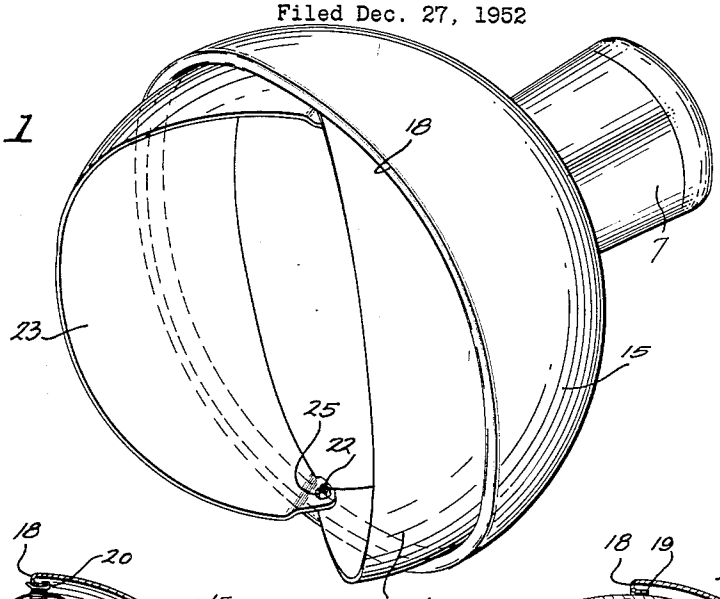


Fig. 2

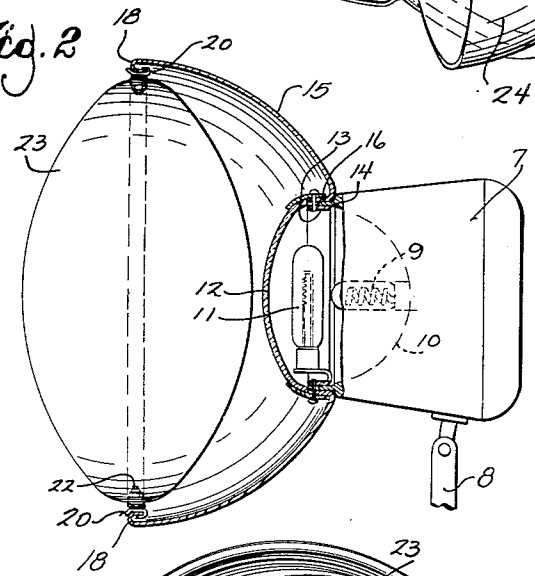
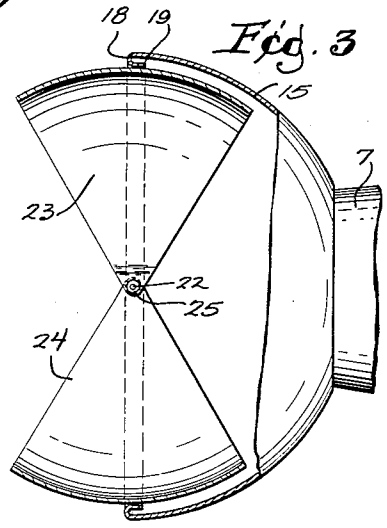


Fig. 3



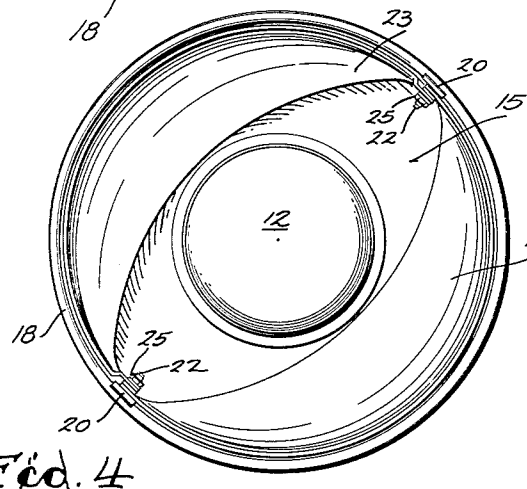


Fig. 4

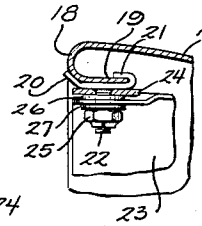


Fig. 5

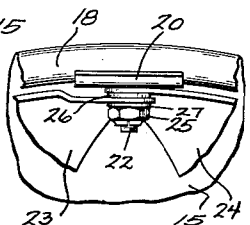


Fig. 6

INVENTORS
EDWARD R. FARBER
RICHARD R. RAUCH

BY

Wheeler, Wheeler & Wheeler
ATTORNEYS

United States Patent Office 2,727,980
Patented Dec. 20, 1955

2,727,980

LIGHT REFLECTOR AND BAFFLE ASSEMBLY

Edward R. Farber and Richard R. Rauch, Milwaukee, Wis., assignors to Strobo-Research, Milwaukee, Wis., a corporation of Wisconsin

Application December 27, 1952, Serial No. 328,226

4 Claims. (Cl. 240—1.3)

This invention relates to a light reflector and baffle assembly.

The light is usable generally but is particularly designed for photographic use. An object is to provide a baffle arrangement whereby the projected beam of light can be controlled in such a manner as to restrict the illumination of areas that would otherwise be within the field of the beam. A stand of any desired sort supports a fixture which carries a lamp. The usual concave reflector shell surrounds the lamp. One or more internal or external baffle segments which are shaped to conform to the contour of the shell may be pivoted at or near the rim of the shell, the arrangement being such that either the reflector shell bodily or the supports for the baffle segments may be rotated about the axis of the reflector to vary the angular position of the segments so that light may be cut off from any desired portion of the periphery of the beam.

In the drawings:

Fig. 1 is a view in perspective of a mounted reflector shell and baffle arrangement embodying the invention.

Fig. 2 is a view partially in side elevation and partially in axial section showing in relatively separated positions a fixture and reflector shell made in accordance with the present invention, the reflector shell having a baffle mounted as above described.

Fig. 3 is a view taken through the reflector in a section at right angles to that in which Fig. 2 is taken.

Fig. 4 is a view in front elevation showing the baffles adjusted around the axis of the reflector to a position about 45° removed from that in which they appear in the other views.

Fig. 5 is a large fragmentary detailed view in transverse section through the connection between the baffle support and the reflector bead.

Fig. 6 is a view in front elevation of the parts shown in Fig. 5.

The fixture 7, which may be of any desired construction is mounted on a stand 8. It frequently has more than one light source including bulbs 9 and 11, but the arrangement of the lamps is immaterial. The lens 12 is held by a retaining ring 13 upon an annulus 14 which fits onto the end of fixture 7 in the assembled position of the parts.

A large concave reflector 15 encircles the light source and is ordinarily concentric with the optical axis upon which beams of light are projected from the bulbs 9 or 11. The reflector 15 may be parabolic or spherical. In either case it is desirably annular, being provided about its inner rear margin with a flange 16 formed forwardly to be engaged between the retaining ring 13 and the annulus 14. Ordinarily the reflector flange is clamped between these parts, but it may be made to rotate between them, whereby the entire reflector is rotatable about its own axis.

In the preferred arrangement of the parts, the reflector is fixed to the fixture 7 and support 8 and is provided near its outer perimeter with a bead 18 having an inwardly and reversely turned free edge at 19, as shown in detail in Fig. 5. At diametrically opposite points are clips 20, each of which comprises a slide having a hooked rear margin 21

engaged over the free edge of the reversely turned flange 19 of bead 18. Each slide carries a pivot stud 22. Upon these studs are pivotally mounted the segmental baffles 23, 24 for pivotal movement in and out of reflector shell 15 upon the diametrical axis common to studs 22. Nuts 25, threaded upon the respective studs 22 maintain the parts in assembly. A washer 26 may be interposed between the baffles and another washer at 27 may be interposed between the innermost baffle and the adjacent nut in the manner shown in Figs. 5 and 6. Consequently, the respective baffles may be freely pivoted to any desired position with respect to the reflector. If the baffles are internal, as in the optional arrangement shown, and are wholly retracted into the reflector, their inner surfaces function as a part of the reflector and none of the light is intercepted. To the extent that either baffle is withdrawn from a nested position respecting the reflector by oscillating it outwardly upon its pivot studs 22, such baffle will intercept a greater or lesser portion of the light at one side of the optical axis.

The baffles are not only pivoted with respect to the slides 20 but also provide mechanical support which holds such slides in position upon the reflector rim. In other words, the fact that the baffles are interposed between the slides prevents the slides from escaping from their interlocked engagement with the reflector rim flange 19.

It will be apparent that the operator can readily rotate the entire baffle assembly, including the two baffles and the clips or slides 20 around the optical axis of the reflector to position the baffles to cut off light from any desired side or sides of the beam issuing from the reflector. As above indicated, this is preferably done by letting the slides rotate around the reflector bead, but the invention is not limited to this feature, since the reflector as a whole may also be rotated around the stand-supported fixture. It is preferred that the reflector be fixed because the reflector is larger than the baffles, and a sturdy construction is more easily possible, with less expense, when the reflector is fixed and the slides are movable with respect to the reflector, as well as the fixture.

I claim:

1. A light comprising the combination with a reflector having an annular bead and reversely turned flange, of clips slidable circumferentially about said bead and flange, and having portions in interlocked engagement with the bead and flange, said clips being disposed diametrically opposite each other across the reflector and having substantially diametrical studs, together with a pair of segmental baffles pivoted upon said studs for movement on an axis substantially through said reflector bead to and from positions for intercepting portions of the beam issuing from said reflector, the assembly of said baffles and clips being bodily rotatable about the reflector bead to position said baffles at selected points about the axis of said reflector.

2. The combination with a light source fixture and a concave reflector having an optical axis and an arcuate rim, of at least one segmental baffle having a contour complementary to the reflector whereby to be adapted to be nested with respect to the reflector, said rim being provided with pivotal mountings for said baffle on which the baffle is pivoted on an axis through said rim, said pivotal mountings comprising means slidable circumferentially upon the reflector rim whereby said baffle may be rotated about the optical axis of the reflector independently of the reflector.

3. The device of claim 2 in which the reflector rim is provided with a rearwardly turned flange, said mountings comprising clips having portions engaged with said flange and having diametrical studs upon which said baffle is pivoted.

4. The device of claim 2 in which the reflector and the fixture have complementary bearing parts in rotatable connection, whereby the reflector rotates with said baffle respecting the fixture.

References Cited in the file of this patent

UNITED STATES PATENTS

1,209,235	Vass	Dec. 19, 1916
1,403,496	Higert	Jan. 17, 1922
1,437,731	Elsey	Dec. 5, 1922
1,445,399	Kilfoyle	Feb. 13, 1923
1,542,980	Yingling	June 23, 1925
1,930,738	Bergenson	Oct. 17, 1933
2,086,108	Wuelker	July 6, 1937

FOREIGN PATENTS

461,005	France	Dec. 17, 1913
280,021	Great Britain	Nov. 10, 1927