May 27, 1947. M. S. DUNKELBERGER 2,421,057

ADJUSTABLE REFLECTOR

Filed May 30, 1945

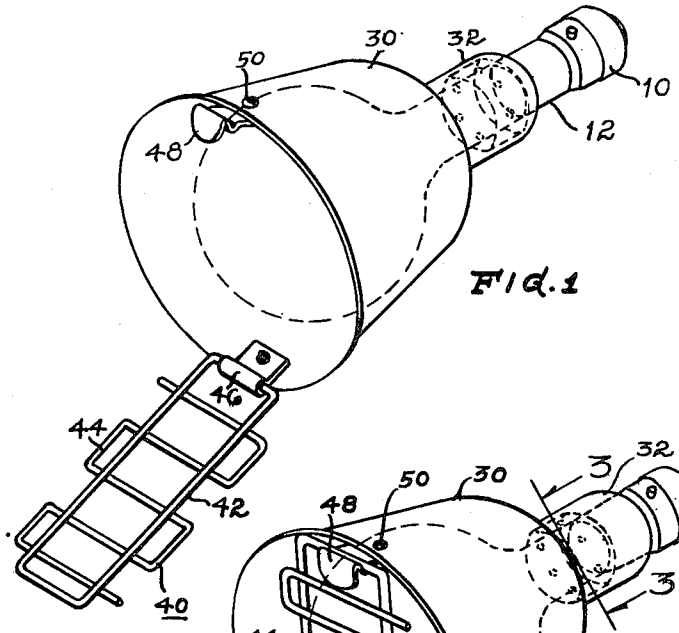


FIG. 1

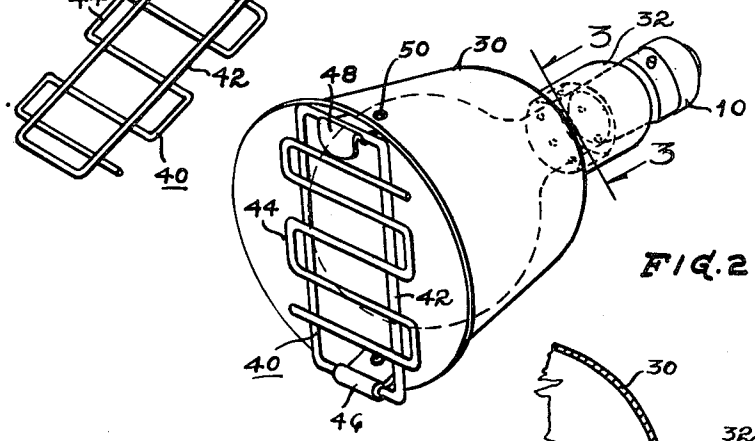


FIG. 2

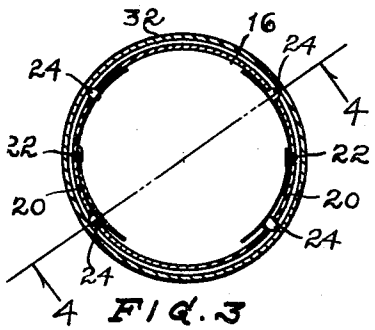


FIG. 3

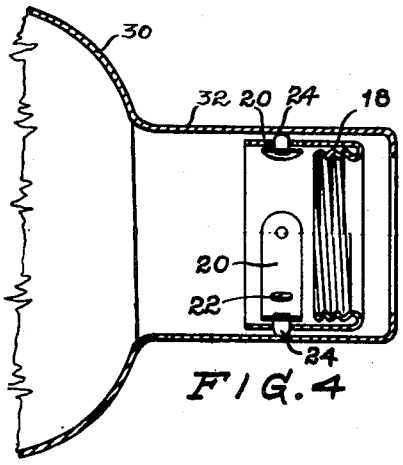


FIG. 4

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UNITED STATES PATENT OFFICE

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ADJUSTABLE REFLECTOR

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Application May 30, 1945, Serial No. 596,617

2 Claims. (Cl. 240—103)

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This invention relates to a reflector for an electric light and more particularly to a reflector that is adjustably mounted so as to accommodate various sizes of bulbs.

An object of this invention is to provide a reflector assembly adapted for use with electric lights of various sizes necessitating the adjustment of the reflector to obtain the proper focus of the light upon the work, which adjustment may be easily made and held in adjusted position.

Another object of this invention is to provide an adjustable reflector for an electric light, which reflector utilizes few parts and is easily constructed.

Another object of this invention is to provide a guard for the light bulb, which guard permits replacement of the light bulb.

Other objects and advantages reside in the construction of parts, the combination thereof and the mode of operation, as will become more apparent from the following description.

Referring to the drawings:

Figure 1 is a perspective view of the reflector and an electric socket where the reflector has been adjusted into position for use with a large bulb.

Figure 2 is another perspective view similar to Figure 1, with the reflector contracted for use with a small bulb.

Figure 3 is a cross sectional view of the reflector with the light socket removed, taken substantially on the line 3—3 of Figure 2.

Figure 4 is a cross sectional view of the reflector, taken substantially on the line 4—4 of Figure 3.

In the drawings, the reference character 10 is used to illustrate any conventional light socket provided with a restricted neck portion 12. The outer end of the light socket is provided with a threaded portion, as is conventional structure in a number of light sockets now appearing on the market. This light socket per se does not form a part of the invention.

A suitable reflector assembly is adjustably attached to the light socket. As may best be seen by referring to Figure 4, a sheet metal tubular member 16 is provided with a reentrant portion 18 that is provided with threads for threadedly engaging the outer end of the light socket. The main body portion of this tubular member has riveted thereto a pair of arcuate spring members 20, held in position by the rivets 22, one for each arcuate spring member. A pair of detents or studs 24 are fixedly attached to the outer ends of the springs 20 and project through suitable apertures in the main body member 16.

This assembly provides a frictional support for the reflector which includes a bell-shaped reflector member 30, merging into a tubular neck portion 32, provided with a reentrant flange 34,

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leaving an opening sufficiently large for the reception of the light socket. The detent members 24 are spring urged outwardly, so as to frictionally engage the inner surface of the tubular neck portion 32. This neck portion 32 is frictionally held in any adjusted position. This permits extension of the reflector or contraction thereof with respect to the socket 10.

If, for example, the reflector is used with a small, usually low-powered light bulb, it is necessary to adjust the reflector inwardly to the innermost position, in order to properly focus the light upon the work. If it is found desirable to use a larger bulb, wherein the light or filament is positioned at a greater distance from the light socket than if the lower powered bulb is used, the reflector will be out of focus if it is in the position shown in Figure 3, where it is used with a small bulb. For use with a large bulb, the reflector is pulled outwardly a suitable distance, as illustrated in Figure 1, so as to properly focus the reflector.

By this arrangement, a reflector is provided that may be adjusted into a number of positions, depending upon the type and size of bulb used. It does not necessarily follow that the size alone determines the position of the reflector. In some makes of bulbs, the filament may extend further out than it would in some other make of bulb having the same power. This reflector can then be used to focus the light of either bulb, irrespective of make and irrespective of candle power.

This reflector is ideally suited for use with extension lights used by mechanics and the like and more fully shown and described in my copending application Serial No. 596,615 filed May 30, 1945 for Extension light. Whenever the reflector has been properly adjusted, the reflector is held in position by the detents 24 frictionally engaging the inside of the tubular portion 32. The detents are at all times urged outwardly by the springs 20.

In order to protect the light bulb, a guard 40, consisting of a loop portion 42 and an in-and-out cross bar 44 welded or otherwise secured together, is pivotally mounted at 46 and held in position by a hasp 48, which hasp is secured to the side of the reflector 30. The hasp 48 is held in position by a suitable screw 50. The hasp 48 permits the removal of the guard which swings about the pivot 46, as shown in Figure 1, into the open position, permitting the removal of a light bulb or the insertion of a light bulb, as the case may be. This guard protects the light bulb from objects hitting the light bulb from the direction of the surface to be illuminated.

The reflector and the light bulb may be so positioned that the light is reflected upon the work surface or the object to be illuminated, without the light glaring in the eyes of the operator. The

reflector assembly completely shields the light bulb from the eyes of the operator when the light utilizing the reflector is used to illuminate a work surface.

Although the preferred embodiment of the device has been described, it will be understood that within the purview of this invention various changes may be made in the form, details, proportion and arrangement of parts, the combination thereof and mode of operation, which generally stated consist in a device capable of carrying out the objects set forth, as disclosed and defined in the appended claims.

Having thus described my invention, I claim:

1. A light reflector assembly for use with conventional electric light sockets provided with external threads, the combination including a collar threadedly engaging the external threads on the light socket, said collar being provided with a plurality of apertures, a pair of arcuate springs mounted within the collar, the center of the springs being riveted to the collar, detents mounted in spaced relation from the center of the springs, said detents projecting through said apertures, and a reflector mounted upon said collar, said reflector including a bell-shaped reflecting portion merging into a tubular neck portion, said neck portion overlying the collar and being held in adjusted position by said resiliently mounted detents.

2. A light reflector assembly for use with conventional electric light sockets provided with external threads, the combination including a collar threadedly engaging the external threads on the light socket, said collar being provided with a plurality of apertures, a pair of arcuate springs mounted within the collar, the center of the springs being riveted to the collar, detents mounted in spaced relation from the center of the springs, said detents projecting through said apertures, and a reflector mounted upon said collar, said reflector including a bell-shaped reflecting portion merging into a tubular neck portion, said neck portion overlying the collar and being held in adjusted position by said resiliently mounted detents, said neck portion being provided with an inwardly directed flange surrounding the light socket, said reflector being adjustable to accommodate light bulbs of various types.

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