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2,544,581

INDIRECT LIGHTING FIXTURE

Filed March 28, 1949

2 Sheets-Sheet 1

FIG. 1.

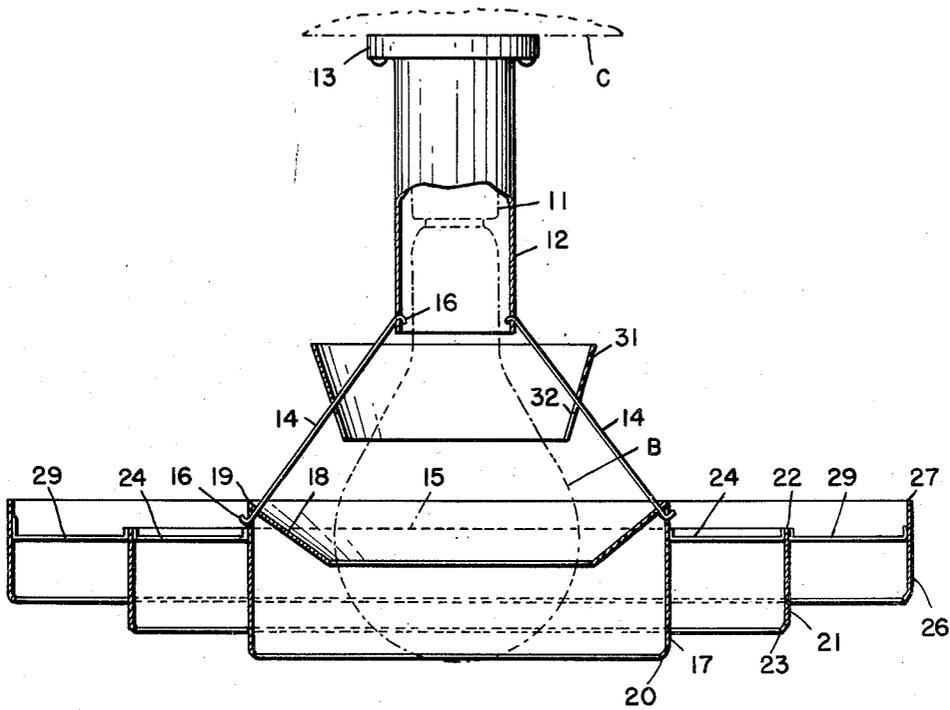
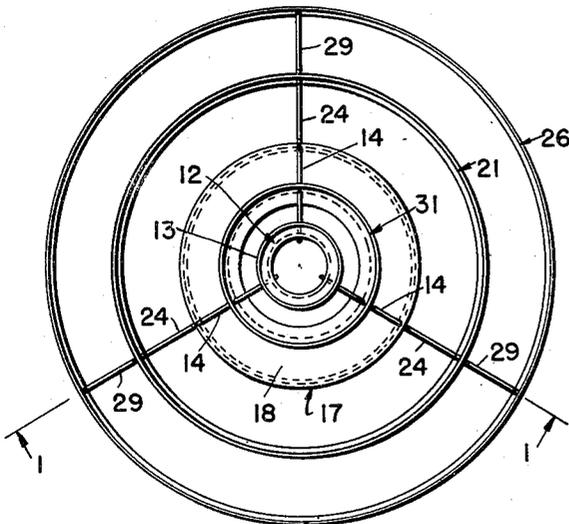


FIG. 2.



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FIG. 3.

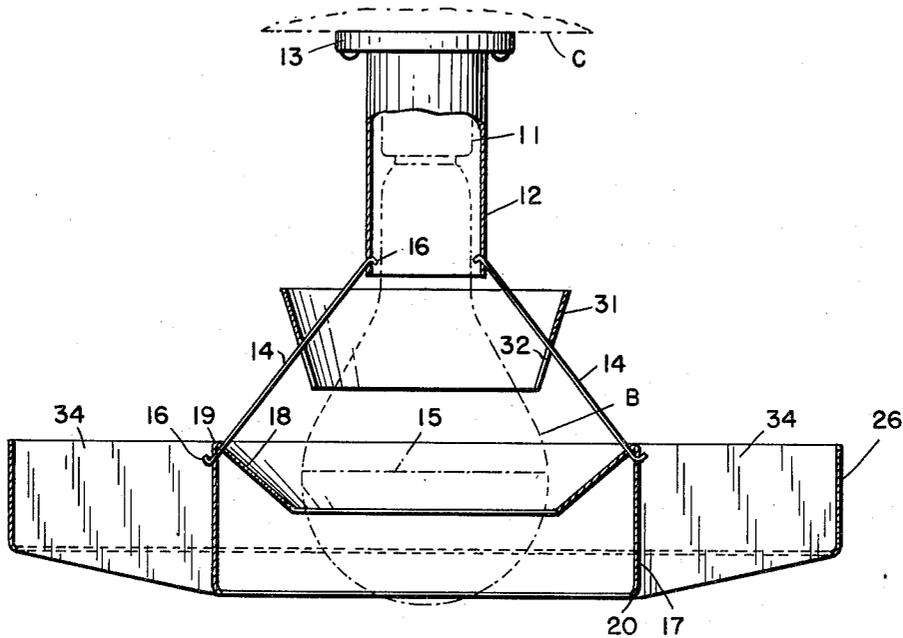
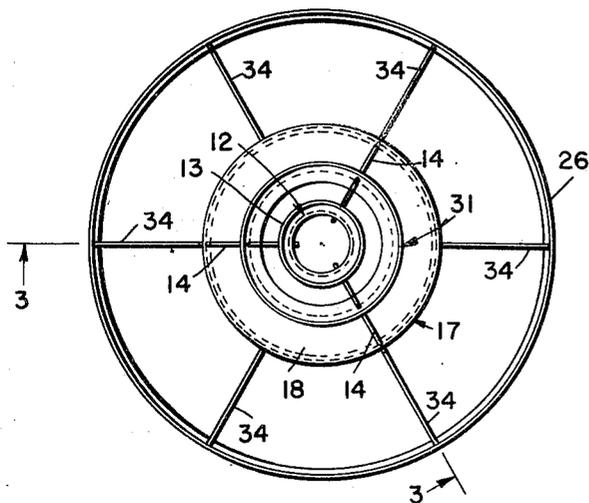


FIG. 4.



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INDIRECT LIGHTING FIXTURE

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6 Claims. (Cl. 240-78)

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This invention relates to an indirect lighting fixture and in particular to a fixture for use with a reflector type high brightness lamp.

One object of my invention is to provide an inexpensive lighting fixture utilizing a reflector type high brightness lamp. Another object is to provide an indirect lighting fixture utilizing a reflector type high brightness lamp which is free from bright surfaces when viewed from the floor area illuminated by said light. Another object is to provide an indirect lighting fixture utilizing a reflector type high brightness lamp which permits the removal and insertion of the lamp without disassembly of the fixture. A further object is to provide an indirect lighting fixture which presents to the observer below the fixture no surfaces whose brightness is greater than the reflected light from the ceiling. A still further object is to provide a lighting fixture for indirect lighting which is rugged, free from glass or other shatterable elements, and whose surfaces may be readily cleaned or refinished.

These and other objects are attained by my invention which will be understood from the following description, reference being made to the accompanying drawing which forms a part hereof, in which:

Figure 1 is an elevational view partly in section taken on the line 1-1 of Figure 2;

Figure 2 is a top plan view of my fixture;

Figure 3 is an elevational view partly in section taken on the line 3-3 of Figure 4, showing a modified form of my invention; and

Figure 4 is a top plan view of the modification shown in Figure 3.

Referring to the drawings, the preferred form of my invention is shown in Figures 1 and 2. The fixture is intended for association with a socket 11 supported from the ceiling C in the conventional manner by the use of various fittings attached to an outlet box, the details of which are not shown. A cylindrical cover 12 hides the details of the socket and its attachment to the outlet box, etc., the cover being firmly attached at the ceiling by a canopy 13. The remaining portions of the fixture are supported from the lower end of the cylindrical socket cover 12 by suspending rods 14. The lamp B is adapted to be dependently held in the socket 11 in the usual manner with the globular portion of the lamp directed downwardly, the lower portion of the suspended globular bulb being provided with a silvered or reflecting surface to a boundary line 15 at approximately the position corresponding to the brightest part of the lighting element or filament in the lamp.

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Coaxial vertically disposed cylindrical shields 17, 21, and 26, preferably made of material such as sheet aluminum, are provided around the lower half of the lamp, and lower and upper inverted conical reflectors are provided to further diffuse the light from the lamp, as will be now described in detail. The inner cylindrical shield 17 is preferably long enough to extend above the boundary line 15 defining the upper limit of the reflector surface, and to extend below the position approximately level with or slightly below the lowermost tip of the lamp bulb. The inner shield 17 is provided with an inverted conical reflector 18 which extends from the upper rim 19 of the shield 17, the lower opening of the reflector being large enough to admit the lamp therethrough. The inner shield 17 is supported from the cover 12 by the rods 14 spaced around its circumference, said rods being conveniently provided at their ends with hooks 16 which engage holes in the lower end of the cover and in the upper rim 19 of the inner shield 17. Three rods 14 are shown in the illustrative embodiment but any suitable number for the proper support of the shields may be used. A coaxial intermediate shield 21 is provided outside of said inner cylindrical shield, the length of this intermediate shield 21 being less than the length of the shield 17 and the top edge 22 being disposed below the upper rim 19 of the inner cylindrical shield 17. The lower edge 23 of the intermediary shield 21 is preferably slightly above the lower rim 20 of the inner shield 17. The intermediary shield 21 is conveniently supported from the inner shield 17 by bracket bars 24 which are spot-welded at their two ends respectively to the outside surface of the inner shield 17 and the inside surface of the intermediary shield 21. An outer cylindrical shield 26 is also provided, this being disposed coaxially with the other shields 17 and 21, and being spaced from the intermediary shield 21 by a distance approximately equal to the distance from the inner cylindrical shield 17 to the intermediate ring 21. The top edge 27 of the outer shield 26 is arranged at the same level as the upper rim 19 of the inner cylindrical shield and the lower edge of the outer shield is above the lower edge 23 of the intermediary shield. The length of the outer shield 26 is approximately the same as the intermediary shield 21. The outer shield 26 is conveniently supported from the intermediary shield 21 by bracket bars 29 which are spot-welded at their ends respectively to the outer surface of the shield 21 and to the inner surface of the outer shield 26. An upper inverted conical reflector 31 is also pro-

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vided in the space between the upper rim 19 of the inner shield 17 and the lower edge of the socket cover 12, this reflector 31 being conveniently supported on the suspending rods 14, slots 32 for each rod 14 extending from the lower edge of the reflector so that it is rigidly held in place on said rods.

The modified form of my invention, shown in Figures 3 and 4, consists in general of a similar arrangement of the socket 11, the socket cover 12, the canopy 13 and the suspending rods 14 holding the inner cylindrical shield 17 with its attached lower conical reflector 18 and the upper conical reflector 31 as previously described for the preferred form shown in Figures 1 and 2. The intermediate shield 21 is eliminated in this modification, and the outer shield 26 is supported upon radial vanes 34 which are disposed between the inner and outer shields 17 and 26 extending from the upper to the lower edges of both shields. The vanes 34 are spaced apart in the annular space between the inner and outer rings, six being shown. The vanes cut off any direct view of the bright surface of the lamp or other surfaces to an observer located in the floor area illuminated by the lamp. This alternative form of my lighting fixture is particularly adapted for the smaller sizes utilizing lower voltage lamps.

My fixture is especially adapted for lamps having large bulbs of which a portion at the end away from the socket connection may be silvered or otherwise made of light reflecting quality. Such lamps using incandescent filaments are in common use now, but any high brightness electrical light source may be used within a globular bulb.

The advantages of my indirect lighting fixture will be apparent. The construction is simple and inexpensive. The lamp may be replaced without disturbing or dismantling the fixture in any way. The lamps may be changed by means of a lamp changer on a long pole without requiring the use of ladders or other equipment. The light is evenly diffused and no excessive or eye-hurting bright spots are visible to persons in the vicinity either directly below or at the side of the fixture. The portions of the fixture near the lamp do not overheat, being cooled by the draft of air induced by the heating passing through the shields and reflectors.

I claim:

1. An indirect lighting fixture utilizing ceiling reflection and adapted for use with a bulbous reflector type high intensity lamp comprising a plurality of vertically disposed cylindrical shields arranged coaxially, including an inner shield disposed around and at a distance from the light source, the length of said inner shield being greater than the length of any other shield and its lower edge being below the lower edge of any other shield, and an outer shield having its top edge level with the top edge of said inner shield; bracket means attached to said inner shield for supporting said outer shield; a lower inverted cone reflector depending from the upper edge of said inner shield and substantially covering the central opening of said inner shield, said reflector having an axial aperture to admit a reflector type bulbous lamp; an upper inverted cone reflector disposed above the upper edge of said inner shield; means to support said upper shield; intermediate shielding means disposed between said inner and said outer shield; and means to suspend said fixture from the ceiling.

2. An indirect lighting fixture utilizing ceiling

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reflection and adapted for use with a bulbous reflector type high intensity lamp comprising a socket cover affixed to an overhead support; a plurality of vertically disposed shields arranged to coaxially surround said lamp, the inner shield being suspended below said socket cover, the length of said inner shield being greater than the length of any other shield and its lower edge being below the lower edge of any other shield, and an outer shield having its top edge level with the top edge of said inner shield; bracket means attached to said inner shield for supporting said outer shield; a lower inverted cone reflector depending from the upper edge of said inner shield and substantially covering the central opening of said inner shield, said reflector having an axial aperture to admit a bulbous reflector type lamp; an upper inverted cone reflector disposed above the upper edge of said inner shield; means to support said upper shield; and an intermediate coaxial cylindrical shielding disposed between said inner and said outer shields, the upper edge of said intermediate shield being lower than the upper edges of said inner and said outer shields.

3. An indirect lighting fixture utilizing ceiling reflection and adapted for use with a bulbous reflector type high intensity lamp comprising a socket cover affixed to an overhead support; a plurality of vertically disposed shields arranged to coaxially surround said lamp, the inner shield being suspended below said socket cover, the length of said inner shield being greater than the length of any other shield and its lower edge being below the lower edge of any other shield, and the outer shield having its top edge level with the top edge of said inner shield; rod suspending means for suspending said inner shield from said socket cover; bracket means attached to said inner shield for supporting said outer shield; a lower inverted cone reflector depending from the upper edge of said inner shield and substantially covering the central opening of said inner shield, said reflector having an axial aperture to admit a bulbous reflector type lamp; an upper inverted cone reflector disposed above the upper edge of said inner shield, said reflector being provided with slots arranged to engage said rod suspending means; and an intermediate coaxial cylindrical shield disposed between said inner and said outer shields, the upper edge of said intermediate shield being lower than the upper edges of said inner and said outer shields.

4. An indirect lighting fixture utilizing ceiling reflection and adapted for use with a bulbous reflector type incandescent lamp comprising a socket cover affixed to an overhead support; a plurality of vertically disposed shields arranged to coaxially surround said lamp, the inner shield being suspended below said socket cover, the length of said inner shield being greater than the length of any other shield and its lower edge being below the lower edge of any other shield, and an outer shield having its top edge level with the top edge of said inner shield; bracket means attached to said inner shield for supporting said outer shield; a lower inverted cone reflector depending from the upper edge of said inner shield and substantially covering the central opening of said inner shield, said reflector having an axial aperture to admit a bulbous reflector type lamp; an upper inverted cone reflector disposed above the upper edge of said inner shield; means to support said upper shield; and vertically disposed thin sheet shields disposed radially between said inner and said outer cylindrical shields.

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5. An indirect lighting fixture utilizing ceiling reflection and adapted for use with a bulbous reflector type lamp comprising a pair of vertically disposed cylindrical shields arranged to coaxially surround said lamp, including the inner shield 5 disposed around and at a distance from the light source, the length of said inner shield being greater than the length of any other shield and its lower edge being below the lower edge of any other shield, and an outer shield having its top 10 edge level with the top edge of said inner shield; bracket means attached to said inner shield for supporting said outer shield; a lower inverted cone reflector depending from the upper edge of said inner shield and substantially covering the 15 central opening of said inner shield, said reflector having an axial aperture to admit a reflector type bulbous lamp; an upper inverted cone reflector disposed above the upper edge of said inner shield; means to support said upper shield; vertically 20 disposed thin sheet shields disposed radially between said inner and said outer cylindrical shields, and means to suspend said fixture from the ceiling.

6. An indirect lighting fixture utilizing ceiling 25 reflection and adapted for use with a bulbous reflector type high intensity lamp comprising a socket cover affixed to an overhead support; a plurality of vertically disposed shields arranged to coaxially surround said lamp, the inner shield 30 being suspended below said socket cover, the length of said inner shield being greater than the length of any other shield and its lower edge being below the lower edge of any other shield,

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and the outer shield having its top edge level with the top edge of said inner shield; rod suspending means for suspending said inner shield from said socket cover; bracket means attached to said inner shield for supporting said outer shield; a lower inverted cone reflector depending from the upper edge of said inner shield and substantially covering the central opening of said inner shield, said reflector having an axial aperture to admit a bulbous reflector type lamp; an upper inverted cone reflector disposed above the upper edge of said inner shield, said reflector being provided with slots arranged to engage said rod suspending means; an intermediate coaxial cylindrical shield disposed between said inner and said outer shields, the upper edge of said intermediate shield being lower than the upper edges of said inner and said outer shields; and vertically disposed thin sheet shields disposed radially between said inner and said outer cylindrical shields.

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