Feb. 5, 1963 T. A. STIFFEL 3,076,892

DIFFUSING MEANS FOR USE IN CONNECTION WITH LIGHTING FIXTURES

Filed March 14, 1956 2 Sheets-Sheet 1

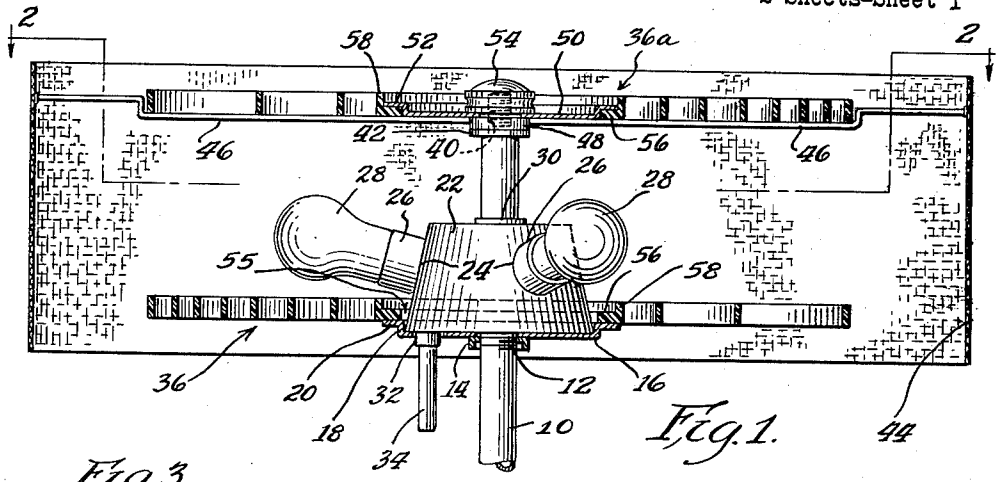


Fig. 1.

Fig. 3.

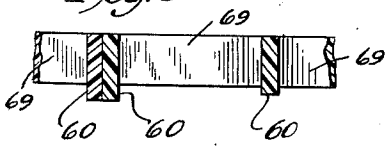
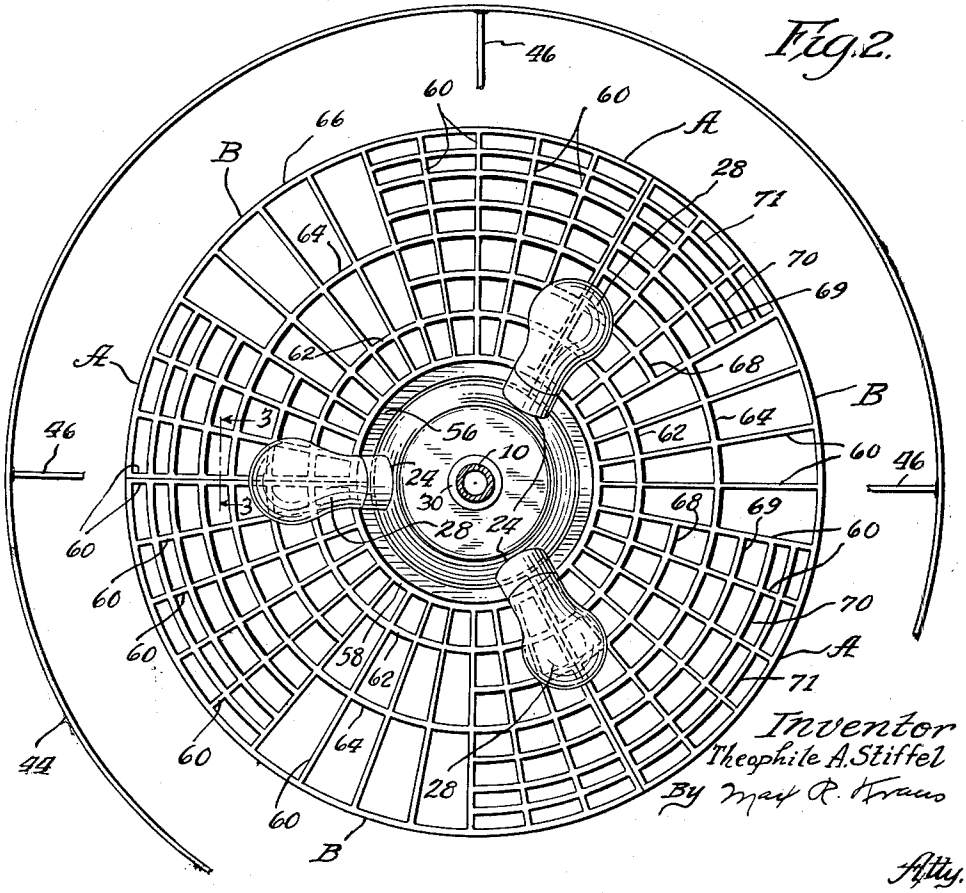


Fig. 2.



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Filed March 14, 1956 2 Sheets-Sheet 2

Fig. 4.

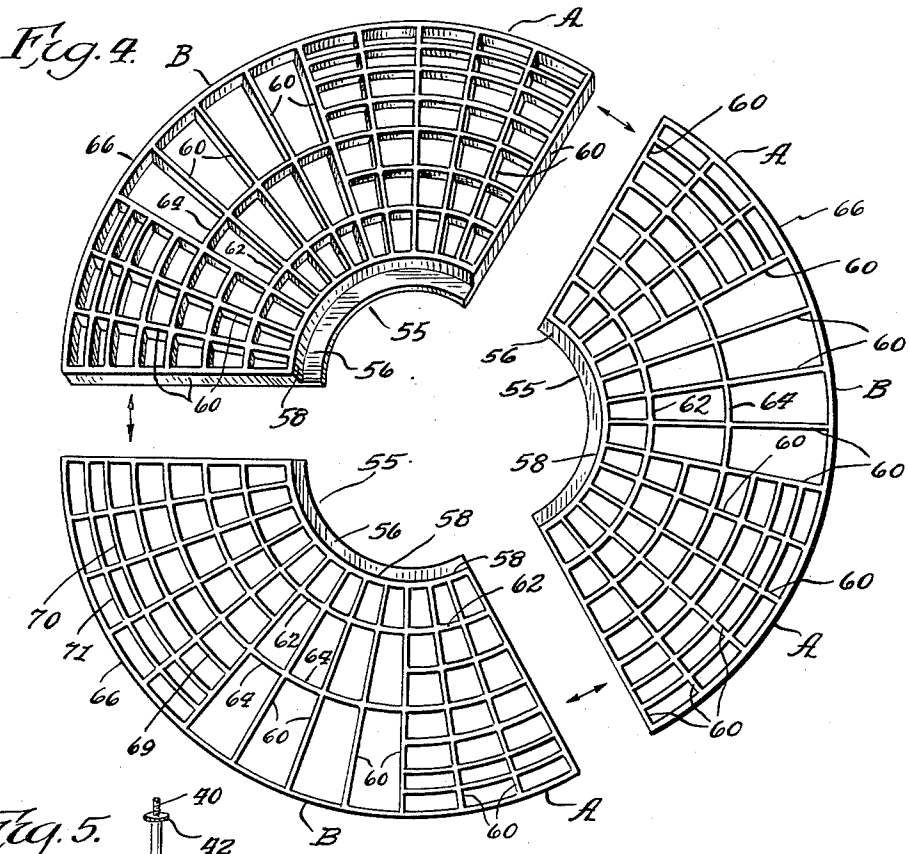


Fig. 5.

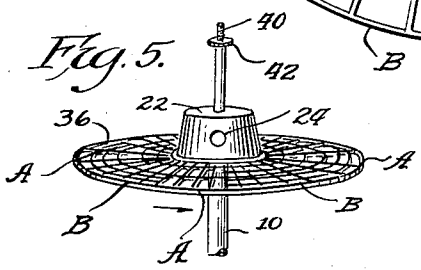


Fig. 6

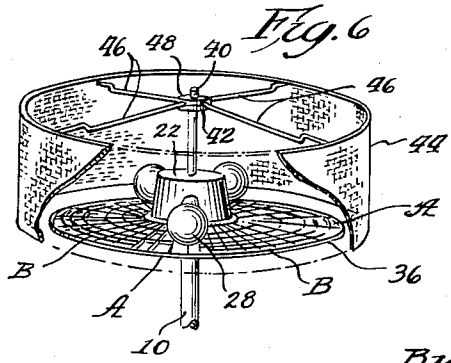
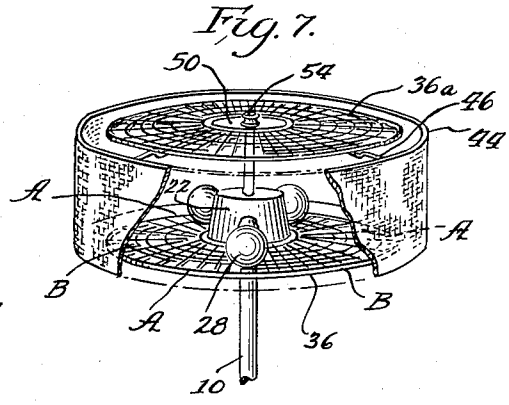


Fig. 7.



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DIFFUSING MEANS FOR USE IN CONNECTION WITH LIGHTING FIXTURES

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5 Claims. (Cl. 240—81)

This invention relates to diffusing means for use in connection with lighting fixtures, more particularly table and floor lamps.

One of the objects of this invention is to provide diffusing means for use in connection with lighting fixtures, namely table and floor lamps which comprises an annular grid formed of a series of spaced radial ribs and spaced annularly arranged intersecting ribs which are connected to the radial ribs so constructed that certain sections of said grid serve as the light diffusing sections and other sections serve as the non-light diffusing sections.

Another object of this invention is to provide a light diffuser comprising a grid having spaced radial ribs and spaced intersecting and connecting arcuate shaped ribs so constructed that certain sections of said grid are provided with a large network of ribs which serve as light diffusers and other sections with a lesser number of ribs to provide non-light diffusing areas.

Another object of this invention is to provide a light diffuser for floor and table lamps formed of a grid having light diffusing sections and non-light diffusing sections which grid is mounted for rotation to selectively control the light emanating from the lighting fixtures.

Another object of this invention is to provide light diffusing means for lighting fixtures which are ornamental and add to the attractiveness of the lighting fixtures.

Other objects will become apparent as this description progresses.

In the drawings:

FIG. 1 is a cross-sectional view showing the light diffuser in combination with a lighting fixture, particularly a lamp or the like.

FIG. 2 is a plan view taken on lines 2—2 of FIG. 1.

FIG. 3 is a sectional view taken on lines 3—3 of FIG. 2.

FIG. 4 is a plan view of the grid or louver showing same in the sections before being united with the upper left hand section in perspective.

FIG. 5 is a perspective view showing the lower grid mounted on a lamp.

FIG. 6 is a perspective view partly broken away showing the second step in mounting the upper grid, and

FIG. 7 is a perspective view partly broken away showing both the lower and upper grids mounted on the lamp.

The floor or table lamp as shown includes an upright post or tubular member 10 which is supported on a base not shown. The tubular member has an externally threaded portion 12 adjacent the upper end thereof to which is threadedly secured a locking nut 14. Supported on said tubular member and resting on said locking nut is a disc member 16 having a depressed or dish shaped portion 18 and an outer annular flange or rim 20. Supported on the post 10 and resting in the well of disc member 16 is a hollow socket housing 22 having radially spaced openings 24 in which are received conventional sockets 26 into which are threaded conventional light bulbs 28. A locking nut 30 is threadedly secured to the post 10 to fixedly secure the socket housing 22 on the post between the locking nuts 14 and 30. Electrical conducting wires (not shown) are connected to said sockets and extend interiorly of the tubular post 10 to the base of the lamp and from there the conducting wire is connected to a plug which is plugged into any wall socket or the like, as is well understood. The disc member 16 is provided with an opening 32 which communicates with the interior

of the socket housing 22. A manually operated rotatable switch member 34 is suitably supported in opening 32 and is connected to the conducting wires as is well understood.

A light diffusing member generally indicated by the numeral 36 is supported on flange 20 of the disc member 16 around said socket housing and is positioned below the light bulbs and within the lamp shade. An identical light diffusing member generally designated by the numeral 36*a* is supported on the post above the light bulbs. The construction of said diffusing member will be described in detail hereafter. The post 10 which extends upwardly of the socket housing 22 is provided with a reduced threaded portion 40 defining a shoulder on which rests a suitable washer 42. A shade generally designated by the numeral 44 is provided with spider arms 46 connected to a central hub 48 having an opening which is received on the threaded portion 40 of the post 10. The top diffusing member 36*a* is positioned to rest on the top of the spider arms 46 of the shade. A disc member 50 identical to disc 16 hereinbefore described is positioned on the threaded portion 40 of the post and the annular flange 52 of said disc rests on top of the inner flange of the diffusing member 36*a*. An internally threaded cap or screw member 54 is secured to the threaded portion 40 of the post to lock the disc 50 in place and thereby positively secure the upper diffusing member 36*a* between the spider arms 46 and the disc 50.

It will be seen that the inner circumferential flange of the lower diffuser 36 rests loosely on the flange 20 of the disc 16 so that same may be readily manually rotated or turned.

The construction of the lower and upper diffusing members 36 and 36*a* which are identical in construction will now be described. The diffusing member is of grid like structure and is preferably moulded of plastic material such as translucent thermo plastic material such as polystyrene and is preferably formed in three equal segments, such as shown in FIG. 4, and united together or same may be integrally molded as a unit if desired. The grid as a unit comprises a central hub section 55 having a flat horizontal annular ring or flange portion 56 provided with a concentric vertical wall or rib 58. Radiating from said concentric wall 58 in the manner of spokes of a wheel are radial ribs 60 which are equally spaced. The radial ribs 60 are intersected and joined either by concentric or annular ribs or by arcuate shaped ribs concentric with the hub of the grid. Three spaced annular ribs 62, 64 and 66 concentric with the hub are provided as best shown in FIG. 2. The three spaced sections of the grid which are indicated by the letters A serve as the light diffusing sections and in these sections there are a series of spaced arcuate shaped ribs 68, 69, 70 and 71. Thus the light diffusing sections A are all of equal area and are provided with a network of radial and arcuate shaped ribs connected and intersecting each other. The three intermediate sections indicated by the letters B do not include arcuate shaped ribs but are bounded by the annular ribs 62, 64 and 66 and therefore do not have a network of ribs. The three sections B therefore do not diffuse the light as do the sections A.

When the lower light diffuser or grid 36 is rotated and positioned as best shown in FIG. 2 in which the diffusing sections A are below the light bulbs, the light from said bulb will be diffused, whereas when the grid is rotated so that the sections B of the grid are under the light bulbs more light will pass through. It will thus be seen that the lower grid is provided with equally spaced light diffusing sections and with equally spaced non-light diffusing sections and that said grid may be rotated as desired.

As previously explained the grid may be integrally molded as a complete unit or same may be formed in a

plurality of equal sections such as shown in FIG. 4 and united. If formed in such a manner then the sections or segments are joined together by some suitable adhesive or bonding material so as to form a single unit. In such an instance each arcuate shaped segment is provided with radial end ribs which are joined with the end radial ribs of the other segments, therefore at such juncture there will be two radial ribs, as best shown in FIG. 3.

The construction described, namely the diffusing member, is ornamental, attractive and utilitarian and is very simple and inexpensive to manufacture.

It will be understood that various changes and modifications may be made from the foregoing without departing from the spirit and scope of the appended claims.

I claim:

1. In combination, a floor or table lamp having a vertical post for supporting light bulbs, a shade supported on said vertical post and surrounding said light bulbs, a horizontally disposed supporting member secured to said post below the light bulbs, a light diffusing member supported on said supporting member adjacent the lower end of said shade, said light diffusing member comprising a grid formed of plastic material and having a plurality of light diffusing sections and a plurality of non-light diffusing sections, said light diffusing sections being formed of a network of interconnected ribs and said non-light diffusing sections being formed of a lesser number of ribs, said light diffusing member being manually rotatable on said supporting member to position same in relation to said light bulbs in either light diffusing or non-light diffusing positions.

2. In combination, a floor or table lamp having a vertical support for supporting a light bulb, a shade supported on said vertical support and surrounding said light bulb, a light diffusing member horizontally positioned with respect to said vertical support and positioned below said light bulb and adjacent the lower end of said shade, said light diffusing member being horizontally rotatable with respect to said vertical support and said light bulb to control the light from said light bulb, said light diffusing member having a plurality of light diffusing sections and non-light diffusing sections, said light diffusing sections each having radial ribs and arcuate shaped ribs concentrically arranged and intersecting said radial ribs, said non-light diffusing sections each having radial ribs and arcuate shaped ribs concentrically arranged and intersecting said radial ribs but with a lesser number of arcuate shaped ribs than said light diffusing sections.

3. In combination, a floor or table lamp having a vertical support for supporting a light bulb, a shade supported on said vertical support and surrounding said light bulb, a pair of similarly constructed light diffusing members horizontally positioned with respect to said vertical support with one of said light diffusing members positioned above said light bulb and adjacent the upper end of said shade and the other positioned below said light bulb and adjacent the lower end of said shade, said light diffusing members each being separately rotatable with respect to said vertical support and said light bulb to control the light from said light bulb, said ligh diffusing members each having a plurality of light diffusing sections and non-light diffusing sections, said light diffusing sections each having radial ribs and arcuate shaped ribs concentrically arranged and intersecting said radial ribs, said non-light diffusing sections each having radial ribs and arcuate shaped ribs concentrically arranged and intersecting said radial ribs but with a lesser number of arcuate shaped ribs than said light diffusing sections.

4. In combination, a floor or table lamp having a vertical support for supporting a light bulb, a shade supported on said vertical support and surrounding said light bulb, a light diffusing member horizontally supported below said light bulb and adjacent the lower end of said shade, said light diffusing member being horizontally rotatable with respect to said vertical support and said light bulb to control the light from said light bulb, said light diffusing member having a section with a network of intersecting ribs forming a light diffusing area and another section formed of a lesser number of ribs forming a non-light diffusing area so constructed and arranged that said light diffusing member may be rotated to effect either light diffusion or non-light diffusion.

5. In combination, a floor or table lamp having a vertical support for supporting a light bulb, a shade supported on said vertical support and surrounding said light bulb, a light diffusing member horizontally supported below said light bulb and adjacent the lower end of said shade, said light diffusing member being horizontally rotatable with respect to said vertical support and said light bulb to control the light from said light bulb, said light diffusing member having a section with a network of intersecting ribs forming a light diffusing area and another section formed of a lesser number of ribs forming a non-light diffusing area so constructed and arranged that said light diffusing member may be rotated to effect either light diffusion or non-light diffusion, and another light diffusing member supported above said light bulb and adjacent the upper end of said shade.

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