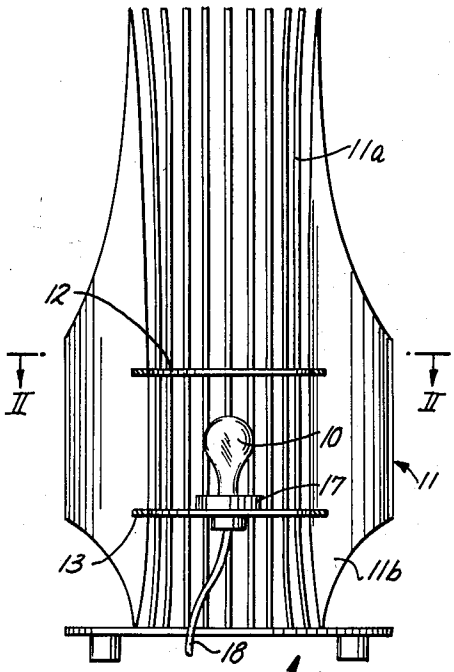
Dec. 24, 1963 I. HOFMAN 3,115,310

LAMP

Filed Dec. 19, 1961 2 Sheets-Sheet 1

FIG. 1



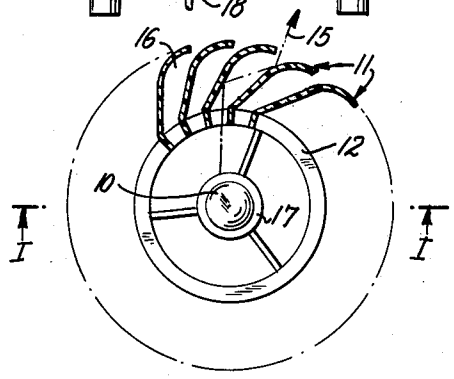
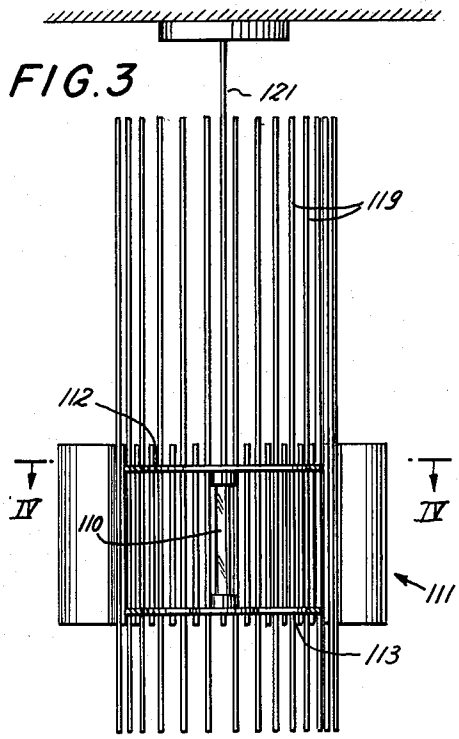


FIG. 2

FIG. 3



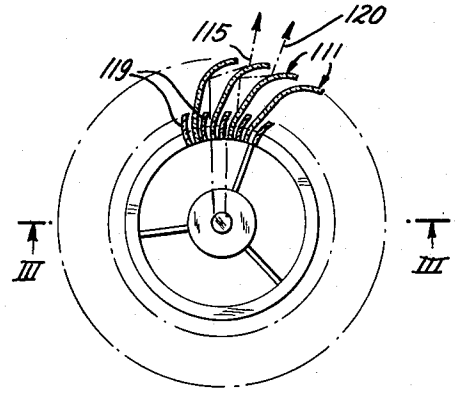


FIG. 4

INVENTOR.
ILSE HOFMAN

BY

Michael S. Striker
ATTORNEY

Dec. 24, 1963 I. HOFMAN 3,115,310

LAMP

Filed Dec. 19, 1961 2 Sheets-Sheet 2

FIG. 5

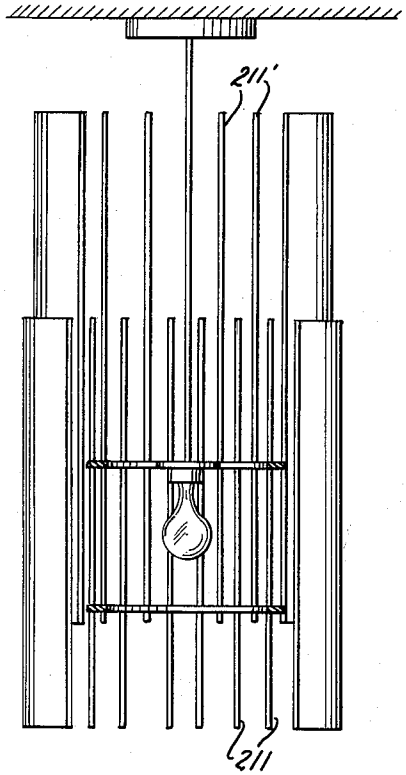


FIG. 6

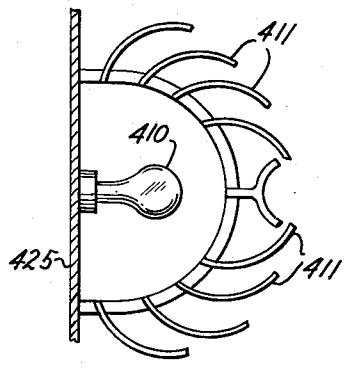
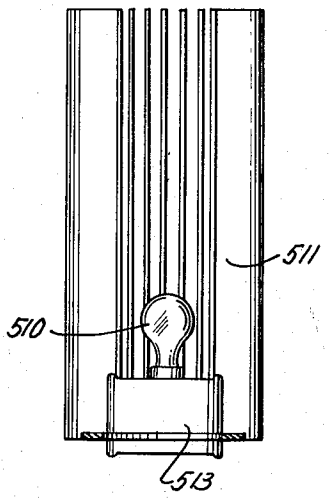


FIG. 7



INVENTOR.
ILSE HOFMAN

BY

Michael S. Striker
ATTORNEY

United States Patent Office 3,115,310 Patented Dec. 24, 1963

3,115,310

LAMP

Ilse Hofman, 142—25 Pershing Crescent, Briarwood, Long Island, N.Y.

Filed Dec. 19, 1961, Ser. No. 160,434
8 Claims. (Cl. 240—78)

The present invention relates to lighting equipment in general, and more particularly to table lamps, floor lamps, ceiling fixtures, wall brackets, chandeliers, luminous ceilings, luminous room dividers, luminous architectural columns and the like.

An important object of the invention is to provide a lamp which, in addition to its purely utilitarian purpose, is capable of producing novel and eye-pleasing illuminating effects.

Another object of the invention is to provide a lamp of the just outlined characteristics which is especially suited for indirect indoor and/or outdoor illumination and in which simplicity of design is combined with eye-pleasing appearance.

A further object of the invention is to provide a lamp for the above described character which may be readily taken apart to permit convenient exchange, replacement or cleaning of its components, which may be manufactured in any desired size and/or shape, which may utilize any conventional light source, and which may produce any desired number of uni- or multicolored illuminating effects.

A concomitant object of the instant invention is to provide a lamp whose shade may constitute the sole means by which the lamp is supported on the floor, on a table or the like.

With the above objects in view, the invention resides in the provision of a lamp which comprises a single or a composite light source and a plurality of adjacent reflecting elements or louvers for at least partially screening the source and for effecting multiple reflection of light rays emanating from the source. The reflecting elements are of substantially concavo-convex cross section and each pair of adjacent reflecting elements defines an indirect path for light rays so that a light ray impinging against one (i.e. the overlapping) element is reflected onto and is rereflected on the adjacent (overlapped) element before emerging from the respective path.

Certain other features of the invention reside in the provision of longitudinally staggered reflecting elements which may but need not form a complete tubular shade about the light source, in the provision of extensions on some or all reflecting elements so that these extensions may serve as supporting legs for the lamp, in the provision of circularly arranged fins which may alternate with the reflecting elements and which may bring about additional reflection of certain light rays, and in the provision of a shade which consists of concentric reflecting elements.

The novel features which are considered as characteristic of the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following detailed description of certain specific embodiments with reference to the accompanying drawings, in which:

FIG. 1 is a central vertical section through a lamp which embodies one form of my invention, the section of FIG. 1 being taken along the line I—I of FIG. 2 as seen in the direction of arrows;

FIG. 2 is a transverse section as seen in the direction of arrows from the line II—II of FIG. 1;

FIG. 3 is a central vertical section through a modified lamp which assumes the form of a ceiling fixture, the

section of FIG. 3 being taken along the line III—III of FIG. 4 as seen in the direction of arrows;

FIG. 4 is a transverse section as seen in the direction of arrows from the line IV—IV of FIG. 3;

FIG. 5 is a side elevational view of a ceiling fixture in which the louvers are alternately staggered in the longitudinal direction thereof;

FIG. 6 is a schematic top plan view of a wall bracket whose louvers are disposed in two oppositely inclined groups; and

FIG. 7 is a side elevational view of a table lamp wherein the louvers are connected to a single supporting element.

Referring now in greater detail to the illustrated embodiments, and first to FIGS. 1 and 2, there is shown a table lamp which includes a light source **10** surrounded by a substantially cylindrical shade consisting of elongated light reflecting elements or louvers **11** of concavo-convex cross section. The inner portions of these louvers are preferably removably secured to a pair of vertically spaced supporting annuli **12**, **13**, and the outer portions of the louvers are outwardly spaced from the annuli so that the adjacent louvers partially overlap each other and that the adjacent louvers define between themselves arcuate (i.e. indirect) paths **16** for the light rays **15**. As shown in FIG. 2, a light ray **15** emanating from the source **10** impinges against and is reflected by the concave side of an overlapping louver **11** onto the convex side of the adjacent overlapped louver where it is rereflected before emerging from the respective path **16**.

The light source **10** may assume the form of an incandescent bulb and its socket **17** is mounted on the lower annulus **13**. A cable **18** connects the socket **17** with a suitable outlet, not shown.

FIG. 1 shows that each louver **11** comprises an upwardly projecting comparatively long extension **11***a* and a downwardly projecting comparatively short extension **11***b*, the lower extensions serving as the legs of the lamp and the upper extensions serving a purely decorative purpose. The louvers may be made of opaque or translucent vitreous or plastic material, but it is equally possible to make the louvers of wood or metal, depending on the desired illuminating effect. The louvers may, but need not, be of the same color. It will be readily understood that the upper and/or the lower extensions **11***a*, **11***b* may be dispensed with so that the axial length of the shade formed by the louvers **11** may approximate the axial distance between the annuli **12**, **13**.

FIGS. 3 and 4 illustrate a modified lamp which assumes the form of a ceiling fixture and which comprises a light source in the form of a fluorescent tube **110** surrounded by a shade consisting of concavo-convex metallic (e.g. aluminum) light reflecting elements or louvers **111** having their inner portions preferably removably secured to a pair of spaced supporting annuli **112**, **113**. In the embodiment of FIGS. 3 and 4, the louvers **111** alternate with elongated fins **119** of metal (e.g. aluminum) which replace the extensions **11***a*, **11***b* and which reflect certain light rays **120** so that these light rays are reflected more than twice before emerging from the shade. Certain other light rays **115** bypass the fins **119** and are reflected only twice on their way through the shade.

The upper annulus **112** is suspended on a tube or cord **121** which accommodates the conductors leading from the source **110** to a suitable outlet, not shown.

FIG. 5 shows a ceiling fixture in which the alternating louvers **211**, **211'** are axially staggered with respect to each other.

FIG. 6 shows a lamp in the form of a wall bracket wherein the louvers **411** are arranged in two oppositely inclined groups so as to partially screen the light source **410**. The unscreened side of the light source is adjacent to the wall **425**.

FIG. 7 shows a table lamp whose base 513 constitutes the sole supporting means for a group of louvers 511 which together form a tubular (preferably cylindrical) shade or screen about the light source 510. Of course, in each embodiment of my invention, the lamp may comprise a composite light source consisting of two or more equally or differently colored incandescent or fluorescent bulbs, mercury vapor or quartz light sources. The lamp may assume the form of a floor- or table lamp, chandelier, wall bracket, outdoor lighting fixture, architectural element (such as luminous ceilings, luminous room dividing screens, sculptural light murals) and many others.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can, by applying current knowledge, readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic and specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What is claimed as new and desired to be secured by Letters Patent is:

1. A lamp comprising, in combination, a source of light emanating light rays in radial directions; and a plurality of adjacent elongated reflecting elements for screening said source of light in predetermined screening directions, each of said adjacent elongated reflecting elements being at least partially of concavo-convex shape and having an inner side facing generally in the direction towards said source of light and an outer side facing generally in the opposite direction with each concave surface being positioned on said inner side of the respective elongated reflecting element and each convex surface being positioned on the outer side of said respective elongated reflecting element, said adjacent elongated reflecting elements forming a substantially tubular configuration with said elongated reflecting elements positioned at substantially equal radial distances from said source of light and being inclined in the same circumferential direction relative to said radial directions of said light rays with one longitudinal edge portion of each elongated reflecting element being closer to said source of light than the other longitudinal edge portion thereof and with said elongated reflecting elements forming paths for indirect passage of light rays therebetween but overlapping each other circumferentially of said source of light in said radial directions to an extent such that in said predetermined screening directions each of said light rays will impinge on the inner side of one of said elements and will then be reflected onto and re-reflected by the outer side of another one of said elements, whereby in said predetermined screening directions all of said light rays will be reflected at least twice before emerging from said paths between said elongated reflecting elements.

2. A lamp as set forth in claim 1, wherein said elongated reflecting elements are of a predetermined width in the region to be screened and conjointly form a shade of generally tubular configuration about said source of light, and wherein at least a number of said elongated reflecting elements are provided with longitudinal extensions of a reduced width permitting direct passage of light in areas outside of and adjacent to said screening region.

3. A lamp as set forth in claim 2, wherein said elongated reflecting elements and said extensions thereof are substantially vertically arranged and said extensions have lower end faces adapted to support said lamp.

4. A lamp comprising, in combination, a source of light emanating light rays in radial directions; supporting means at least partially surrounding said source of light; and a plurality of adjacent elongated reflecting elements for screening said source of light in predetermined screening directions, each of said adjacent elongated reflecting elements being at least partially of concavo-convex shape and having an inner side facing generally in the direction towards said source of light and an outer side facing generally in the opposite direction with each concave surface being positioned on said inner side of the respective elongated reflecting element and each convex surface being positioned on the outer side of said respective elongated reflecting element, said adjacent elongated reflecting elements forming a substantially tubular configuration with said elongated reflecting elements positioned at substantially equal radial distances from said source of light and being inclined in the same circumferential direction relative to said radial directions of said light rays with one longitudinal edge portion of each elongated reflecting element being secured to said supporting means and the other longitudinal edge portion being spaced from said supporting means outwardly relative to said source of light and with said elongated reflecting elements forming paths for indirect passage of light rays therebetween but overlapping each other circumferentially of said source of light in said radial directions to an extent such that in said predetermined screening directions each of said light rays will impinge on the inner side of one of said elements and will then be reflected onto and re-reflected by the outer side of another one of said elements, whereby in said predetermined screening directions all of said light rays will be reflected at least twice before emerging from said paths between said elongated reflecting elements.

5. A lamp as set forth in claim 4, wherein said elongated reflecting elements are of substantially equal length but are alternately staggered with respect to each other in the longitudinal direction thereof.

6. A lamp as set forth in claim 4, wherein said concave surface of each of said elongated reflecting elements is disposed so as to reflect light rays onto said convex surface of an adjacent one of said elements.

7. A lamp comprising, in combination, a source of light emanating light rays in radial directions; supporting means at least partially surrounding said source of light; a plurality of adjacent elongated reflecting elements for screening said source of light in predetermined screening directions, each of said adjacent elongated reflecting elements being at least partially of concavo-convex shape and having an inner side facing generally in the direction towards said source of light and an outer side facing generally in the opposite direction with each concave surface being positioned on said inner side of the respective elongated reflecting element and each convex surface being positioned on the outer side of said respective elongated reflecting element, said adjacent elongated reflecting elements forming a substantially tubular configuration with said elongated reflecting elements positioned at substantially equal radial distances from said source of light and being inclined in the same circumferential direction relative to said radial directions of said light rays with one longitudinal edge portion of each elongated reflecting element being secured to said supporting means and the other longitudinal edge portion being spaced from said supporting means outwardly relative to said source of light and with said elongated reflecting elements forming paths for indirect passage of light rays therebetween but overlapping each other circumferentially of said source of light in said radial directions to an extent such that in said predetermined screening directions each of said light rays will impinge on the inner side of one of said elements and will then be reflected onto and re-reflected by the outer side of another one of said elements; and a plurality of elongated fins interposed between said adjacent elongated reflecting elements and secured to said supporting means, said elongated fins extending through a fraction of the distance between the longitudinal edge portions of said adjacent elongated reflecting elements for additionally reflecting said rays of light, whereby in said predetermined screening directions all of said light rays will be reflected a plurality of times before emerging from said paths between said elongated reflecting elements.

8. A lamp as set forth in claim 7, wherein said elongated reflecting elements and said elongated fins are substantially vertically disposed in parallel relationship to each other, and wherein said elongated fins extend beyond said elongated reflecting elements in the longitudinal direction thereof and have lower end faces adapted to support said lamp.

References Cited in the file of this patent

UNITED STATES PATENTS

2,216,444	McCann	Oct. 1, 1940
2,551,710	Slaughter	May 8, 1951
2,758,198	Kronhaus	Aug. 7, 1956

FOREIGN PATENTS

860,619	Great Britain	Feb. 8, 1961