

Nov. 21, 1944.

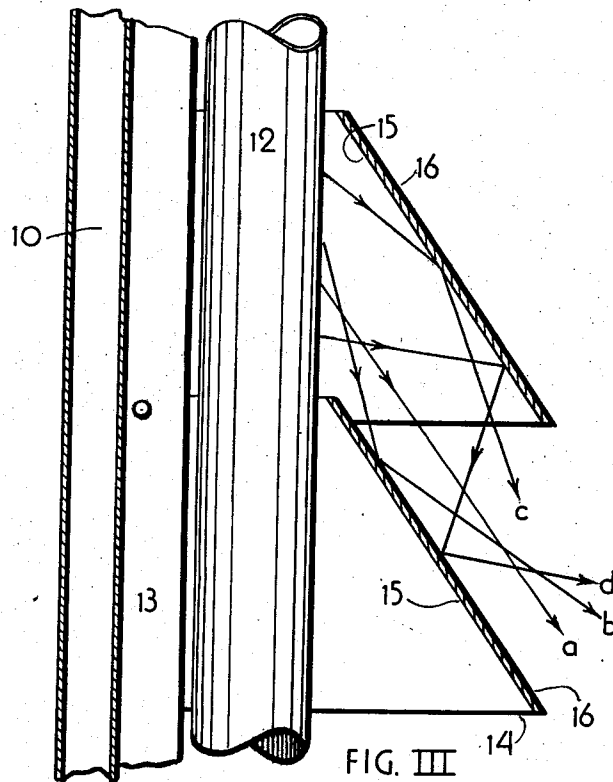
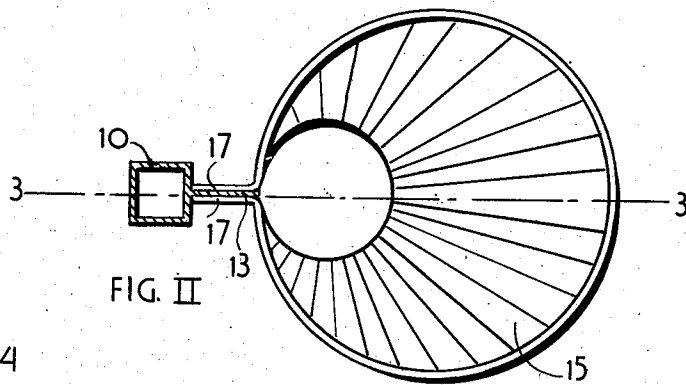
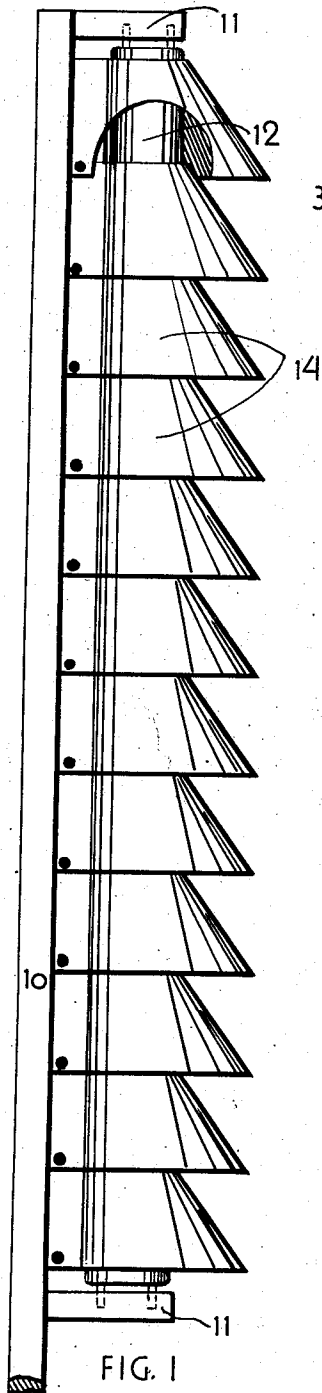
E. R. WEYER

2,363,374

LAMP SHADE

Filed Sept. 9, 1943

2 Sheets-Sheet 1



Inventor: *E. R. Weyer*

per:

Donald S. Norfolk

Nov. 21, 1944.

E. R. WEYER

2,363,374

LAMP SHADE

Filed Sept. 9, 1943

2 Sheets-Sheet 2

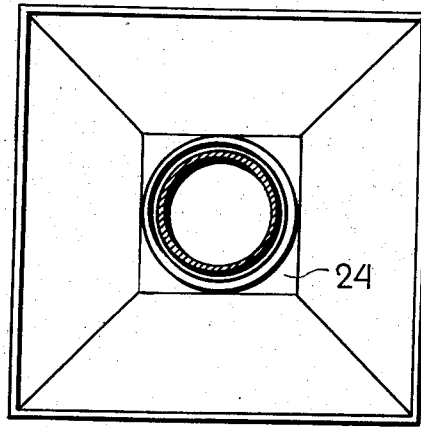
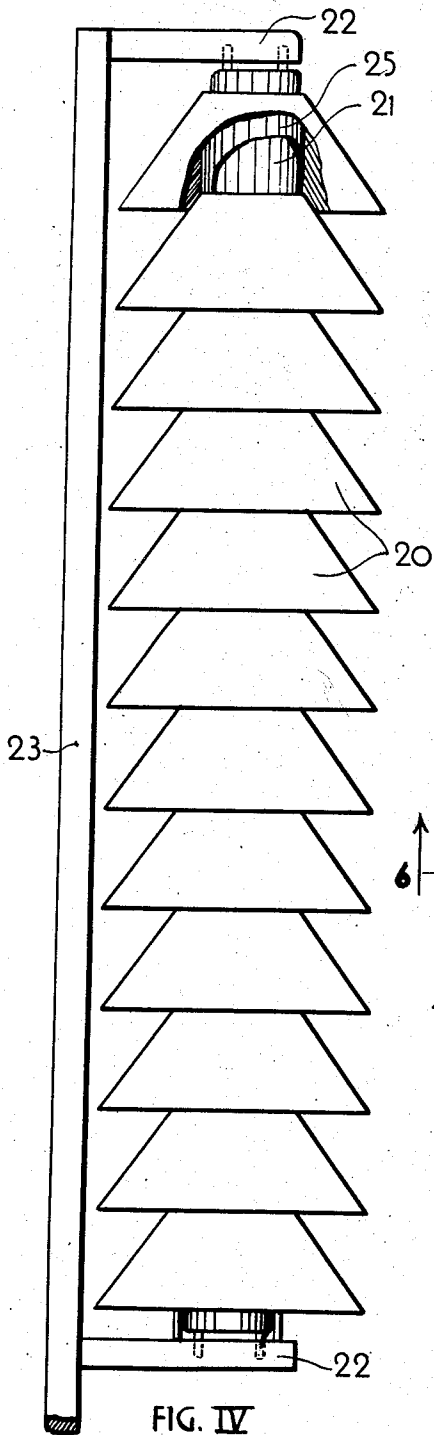


FIG. VI

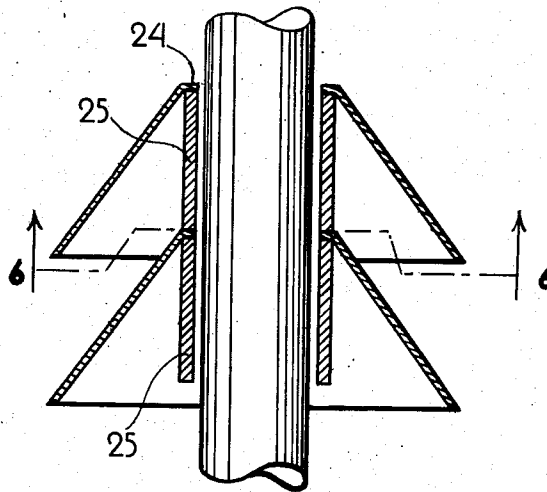


FIG. V

Inventor: *E. R. Weyer*

per: *Arnold S. Warfield*

UNITED STATES PATENT OFFICE

2,363,374

LAMP SHADE

Elliott R. Weyer, New York, N. Y.

Application September 9, 1943, Serial No. 501,601

1 Claim. (Cl. 240-108)

The invention relates to a lamp shade or reflector arrangement for a tubular light source of the fluorescent, "lumaline" or similar types.

A tubular light source of this character is usually equipped with a reflector having its reflecting surface parallel with the axis of the source. Such a reflector or shade element places distinct limitations upon the design of lamps particularly of the portable type, such as floor lamps or table lamps and, while these lamps are excellent in many applications, aesthetically they leave much to be desired. For this reason, their acceptance has not been as general as the efficiency of these lamps would otherwise warrant. Furthermore, the horizontal overhang of the lamp shades usually employed with tubular light sources when horizontally arranged introduces a space requirement factor so objectionable in many instances as to deny their use even in the face of the acknowledged superiority of the tubular type of light source from the standpoint of illumination.

A lamp shade constructed in accordance with the instant invention quite obviates the disadvantages just mentioned and opens up a broad field for the display of the lamp designer's talents. In the improved construction, the tubular light source is vertically disposed. The shade arrangement comprises a plurality of similar shade elements arranged in spaced relation along the tubular light source preferably with a portion of each shade element, say, near its lower edge, extending beyond so as to overlap a portion of the underlying adjacent shade element near its upper edge, the preferred arrangement being such that the tubular light source is hidden from an observer whose line of vision is at an angle of 90° to the long axis of the light source. The shade elements preferably have their inner and their outer surfaces correspondingly sloped with respect to the long axis of the light source, the inner surfaces of the shade elements serving to intercept substantially all radiation from the light source directed toward it at an angle of 90° with respect to the light source axis. Assuming that the slope of the shade elements is downwardly and outwardly as regards the vertical axis of the light source, some of the light reflected from the inner surface of each shade element (except the lowermost one) will be directed downwardly and, together with light emitted from the source and which passes uninterrupted between adjacent shade elements, will illuminate a floor area in the vicinity of the lamp base, whereas other light both di-

rect and reflected will impinge upon the outer surface of the underlying adjacent shade element from where it is reflected. In other words, the improved lamp shade arrangement provides an area of direct and singly reflected illumination below the lamp and an area of indirect illumination at levels higher up, the degree and character of indirect illumination depending upon the treatment given the outer surfaces of the shade elements.

A better understanding of the invention may be had from the following description read in connection with the accompanying drawings wherein:

Fig. 1 is an elevational view of one embodiment of the improved lamp shade arrangement;

Fig. 2 is a bottom view of one of the reflector elements, showing the manner of its connection with a supporting standard shown in cross-section;

Fig. 3 is a partial vertical sectional view on line 3-3 of Fig. 2, but with the tubular lamp source in place;

Fig. 4 is an elevational view of another embodiment of the improved lamp shade arrangement;

Fig. 5 is a partial vertical sectional view through a plurality of shade elements; and

Fig. 6 is a horizontal sectional view on line 6-6 of Fig. 5.

In the embodiment of the invention illustrated in Figs. 1, 2 and 3, there is provided a standard 10, vertically arranged and supporting a pair of sockets 11 spaced along the standard, to accommodate a tubular light source 12 mounted between them. The standard 10 may be either the upper portion of a floor lamp or a wall type bracket and for convenience may be of tubular construction for housing feed wires (not shown) leading to the sockets.

The standard may be formed with a vertical fin 13 to which there is attached a series of lamp shade elements or devices 14 arranged preferably in even-spaced relation along the fin. In the form of the invention illustrated, the shade elements 14 are frusto-conical in shape, made of sheet metal and having their upper edges circular and their lower edges likewise circular but of larger diameter. The diameter of each shade element 14 at the top is somewhat larger than the tubular light source and from the top, the shade element flares outwardly and downwardly so as to present inner and outer surfaces 15 and 16 functioning in a manner hereinafter described.

In the embodiment shown, the shade elements 14 terminate laterally each in a pair of flanges 17 arranged to engage the opposite faces of the fin 13 to which they may be secured as by riveting or spot welding.

While the shade elements 14 may be spaced along the tubular light source in a manner permitting direct visibility of some light when the source is viewed at an angle of 90° with respect to its longitudinal axis, it is preferred that each shade element at the bottom overlap for a short distance the underlying lamp shade at the top, in which case there is no direct visibility of light emanating from the source at the 90° angle (see Figs. 1 and 3). In other words, the longitudinal spacing between the shade devices 14 is less than the projection on the longitudinal axis of the light source 12 of any line formed by the intersection of the shade device with a plane containing said longitudinal axis of the light source.

In the preferred embodiment of the invention, an inner surface 15 of each shade element has high reflectivity, whereas the outer surface 16 has a reflectivity which may be varied depending upon the specific treatment desired.

In accordance with the foregoing arrangement, some light, indicated by the arrow *a*, emanating from an area of the light source 12 between two adjacent shade elements 14 will be effective to illuminate the underlying floor area directly. Other light from that area indicated by the arrow *b* will be reflected from the outer surface of the shade immediately below, whereas still other light indicated by the arrow *c* will impinge directly upon the inner reflecting surface 15 of the shade element encompassing that area and be reflected from that surface directly floorward or as indicated by the arrow *d*, to the outer surface 16 of the underlying shade and from such outer surface downwardly, outwardly and upwardly to provide a source of secondary illumination in regions not served by direct radiation.

If desired, the outer reflecting surface 16 of each of the shade elements 14 may have applied to it a colored composition for selectively reflecting certain wave lengths of light which are pleasing to the eye and in such cases it is preferred that the total light secondarily reflected be not excessive. In addition to controlling the degree of illumination by varying the characteristics of the reflecting surfaces, further control of the illumination may be obtained by varying the slope, shape and spacing of the reflector or shade elements 14.

In the embodiment of the invention illustrated in Figs. 4, 5 and 6, lamp shades 20 are provided which are frusto-pyramidal in shape. As in the arrangement previously discussed, the shade or reflector elements encircle or enclose a tubular light source 21 vertically supported between a pair of sockets 22 secured to a vertical standard 23. However, a different method of sup-

porting the individual shade elements is employed. The shade elements are each provided at the top with inwardly extending flanges 24 which engage between cylindrical spacer elements 25 encircling the light source and which are arranged end to end therealong. The spacer elements may be made of any suitable transparent or translucent material such as glass or methyl methacrylate and their length preferably is such as to provide for some overlap of the underlying shade elements by the overlying shade elements in the manner and for the purpose mentioned in connection with the embodiment previously described.

An arrangement of spacing collars of transparent material and similar to that just alluded to is particularly suitable for use in connection with a light source comprising a gang of tubular light elements in parallel relation. The spacing collars may be arranged to encircle the gang of light elements as a unit although it will be understood that such a gang of light elements likewise may be employed with the lamp shade arrangement first described.

Although the light is essentially directed downwardly for floor or table illumination in the illustrated embodiments of the invention, obviously some or all of the shade elements may be reversed end for end where ceiling illumination is desired. Then too, hemispherical or paraboloidal or indeed any suitable shape or pattern of reflector may be employed and plastic or other composition instead of metal may serve as the material of which the reflectors are made.

The invention has been illustrated merely in preferred form and many modifications thereof may be made without departing from its spirit. The invention, therefore, is to be limited only by the prior art and the scope of the appended claim.

I claim:

A lamp shade or reflector arrangement for a vertical tubular light source comprising a plurality of shade devices encircling the light source, and each shade device having its peripheral edge at one end substantially smaller than at the other end with an intermediate shade portion sloping at other than a right angle with respect to the axis of the light source, said shade devices being provided with vertically disposed and laterally extending flanges for securing said shade devices to a support in longitudinally spaced relation along the light source so that each adjacent pair of shade devices cooperates with a different portion of the light source in a manner to limit the direct illumination from said portions of the source to a given zone, each of said pairs of shade devices presenting opposed reflecting surfaces so located relatively to each other that a portion of the light reflected from one of said surfaces impinges upon and is reflected from the other of said surfaces.

ELLIOTT R. WEYER.