Nov. 11, 1952 W. A. FOSTER 2,617,918

FLUORESCENT LAMP SHADE STRUCTURE

Filed Oct. 18, 1948

Fig. 1.

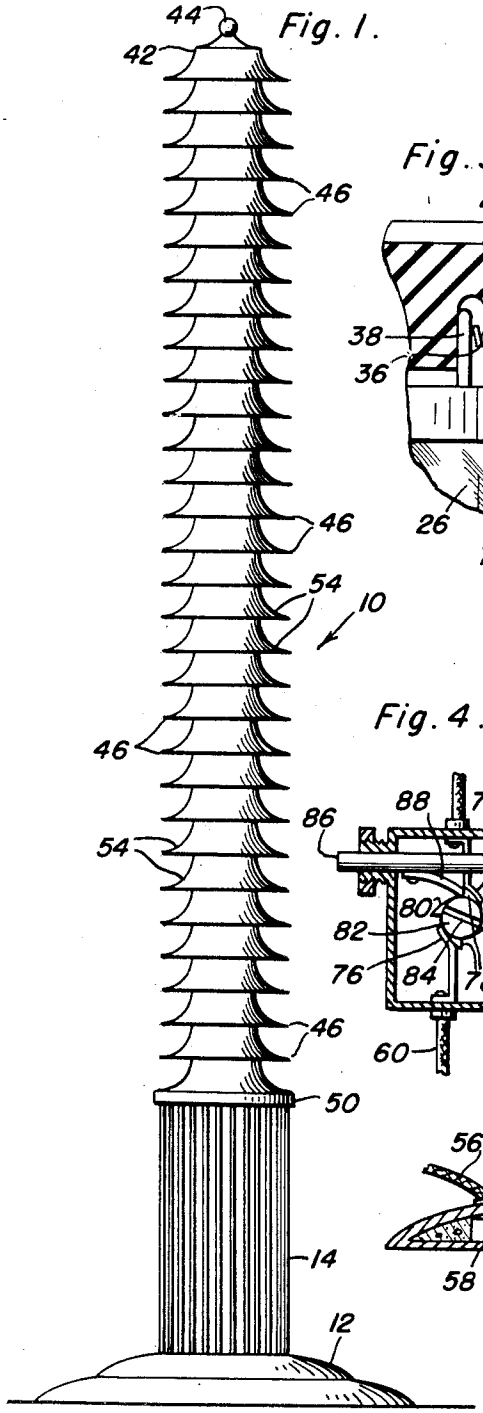


Fig. 2.

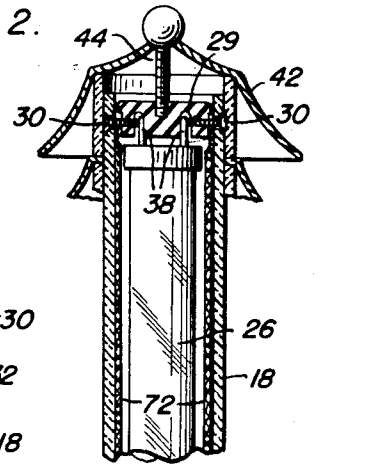


Fig. 3.

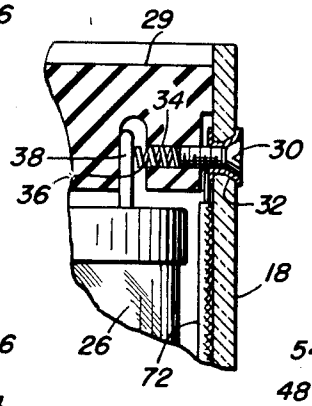
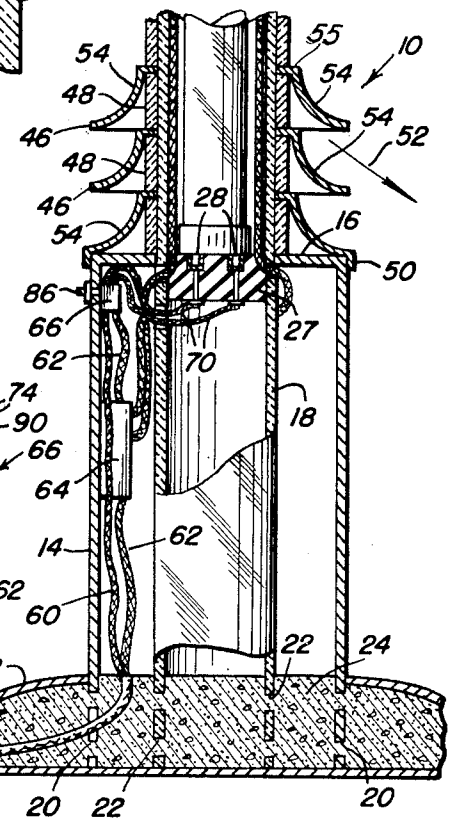


Fig. 4.



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FLUORESCENT LAMP SHADE STRUCTURE

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1 Claim. (Cl. 240—51.11)

1

This invention relates to new and useful improvements and structural refinements in lamps, more specifically, fluorescent lamp fixtures, and the principal object of the invention is to facilitate what may be referred to as indirect distribution of light from fluorescent tubes.

This object is achieved by the provision of the instant lamp wherein a set of substantially frusto-conical shields are nested in a column on a fluorescent lamp tube, matters being so arranged that the light rays emanating from the tube are deflected and reflected by the shields in such manner as to result in indirect distribution of light.

Important advantages of the invention reside in its simplicity of construction, in its highly pleasing appearance, and in its adaptability to economical manufacture.

With the above more important objects and features in view and such other objects and features as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a side elevational view of the invention;

Figure 2 is a vertical cross sectional view thereof;

Figure 3 is a fragmentary cross sectional detail of the upper lamp socket, and;

Figure 4 is a cross sectional view of a switch used in the invention.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawing in detail, the invention consists of a fluorescent lamp designated generally by the reference character **10**, the same embodying in its construction a hollow, substantially disc-shaped base **12** provided with an upwardly extending, tubular pedestal **14**. The upper end of this pedestal is closed by means of a wall **16**, and a tubular sleeve **18** of transparent material extends upwardly from the base **12** through the pedestal **14**, projecting through the upper end wall **16** of the pedestal, as is best shown in Figure 2.

It is to be noted that the lower end portions of the pedestal **14** and the sleeve **18** are formed with a plurality of apertures **20**, **22**, respectively, and suitable ballast such as concrete, or the like, indicated at **24**, is poured into the base **12** and through the openings **20**, **22** into the lower portion of the pedestal **14** and sleeve **18**, respectively,

2

whereby the base, the pedestal and the sleeve are firmly secured together and are sufficiently balanced so as to retain the entire lamp in a stabilized upright position.

A conventional fluorescent lamp tube **26** is removably positioned in the sleeve **18**, an intermediate portion of the sleeve being provided with a lamp socket **27** to accommodate the lower electrode terminals **28** of the tube **26**, substantially as shown. Similarly, a socket **29** is removably retained in the upper end portion of the sleeve **18** by a plurality of screws **30**, these screws extending through and being in electrical contact with eyelets **32** secured in apertures in the sleeve **18**. The screws **30** extend into suitable bores **34** formed in the socket **29** and engage compression springs **36** which, in turn, are in electrical contact with the upper electrode terminals **38** of the lamp tube **26**.

A substantially frusto-conical cap **42** is removably seated at the upper end of the sleeve **18** and is attached or anchored to the lamp socket **29** by means of a ball-headed screw **44**, substantially as shown. As will be readily apparent, by simply removing the screw **44** and the cap **42**, and thereafter removing the screws **30**, the socket **29** may be removed from the sleeve **18**, so as to facilitate replacement of the tube **26**.

A set of substantially frusto-conical, hollow shields **46** formed from opaque material are provided therein with transparent tubular spacers **48**, matters being so arranged that the spacers are slidably receivable on the sleeve **18** between inturned flanges **55** of the shields, whereby the several shields **46** may be nested in the vertically superimposed relation, forming what may be referred to as a column which extends from the pedestal **14** upwardly to the cap **42**.

The lowermost of the shields **46** in the column is provided with a downturned flange **50** which is receivable on the upper end portion of the pedestal **14**, and it is to be noted that when the fluorescent tube **26** is energized, the light rays emanating therefrom will be deflected downwardly by the shields **48** as indicated by the arrow **52** in Figure 2. As a result, the light rays will not be permitted to travel in horizontal or upwardly inclined planes, so that the lamp will provide what may be referred to as indirect lighting. Moreover, it is to be also observed that the shields **46** are provided with concave upper surfaces **54** which will function as reflectors for the light rays, and equalized diffusion of light from the lamp will thus be facilitated.

The fluorescent tube **26** is energized by elec-

tric current delivered to the lamp through the medium of an attachment cord 56, the same passing into a coupling block 58 provided in the base 12 and being electrically connected by suitable conductors 60, 62 to a fluorescent lamp ballast 64 and to a switch 66 provided in the pedestal 14.

The ballast 64 and the switch 66 are, in turn, electrically connected by suitable conductors 70, 72 to the fluorescent tube sockets 28, 29, respectively, the conductors 72 extending upwardly through the sleeve 18 at the sides of the tube 26, as shown in Figure 2, and being connected at their upper ends to the eyelets 32.

It may be explained at this point that the switch 66 included in the invention is of a special construction, eliminating the use of the usual "starter" employed with fluorescent tubes.

In other words, the high-voltage circuit of the tube is embodied in the electrical structure of the ballast 64, and is completed in the switch 66 by means of a normally open, momentary contact switch unit 74, as shown in Figure 4. The main operating circuit of the fluorescent tube is provided in the switch 66 with a pair of contact members 76 which are engageable with pairs of coacting contacts 78, 80 provided on a rotatable member 82 of the switch. The pair of contacts 76 are electrically insulated while the pairs of contacts 80 are electrically connected as at 84, and rotation of the member 82 is effected by means of a reciprocable actuating plunger 86 with which the switch 66 is provided. The plunger 86 is equipped with a pawl 88 engageable with the contacts 78, 80, matters being so arranged that when the plunger 86 is depressed, the switch unit 74 will be momentarily closed while at the same time, the member 82 is rotated so that the electrically coupled contacts 80 establish electrical connection between the contacts 76 of the main operating circuit of the fluorescent tube. The closing of the switch unit 74 will, of course, set up a high potential difference between the electrodes of the fluorescent tube, and as soon as arc bridging the electrodes is created, the plunger 86 may be released and the switch unit 74 automatically permitted to become open.

However, upon opening of the switch unit 74, the member 82 will remain in a position where the contacts 80 electrically connect the contacts 76, so that the main operating circuit of the lamp will remain closed and the fluorescent tube will continue to be energized.

However, when the plunger 86 is again depressed, the electrically isolated contacts 78 of the member 82 will be brought in engagement with the contacts 76 of the main operating circuit, and a supply of current to the fluorescent tube will be discontinued, so that energization of the fluorescent tube will cease.

It should, of course, be understood that the pawl 88 of the plunger 86 coacts with the contacts 78, 80 of the member 82 in a "ratchet-like" manner. That is to say, reciprocation of the plunger 86 causes uni-directional rotation of the member 82, as indicated by the arrow 90.

It is believed that the advantages and use of the invention will be clearly apparent from the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having described the invention, what is claimed as new is:

In a lamp shade structure, the combination of a base, a transparent tubular sleeve extending upwardly from said base, a column of substantially frusto-conical shields of opaque material positioned in spaced relation on said sleeve, an inturned flange provided at the upper edge of each shield and engaging the sleeve, a plurality of transparent tubular spacers positioned on said sleeve in abutment with the flanges of the respective shields, the lowermost shield in the column abutting said base, the uppermost of said spacers projecting beyond the upper end of said sleeve, a block secured in the upper end portion of the sleeve, a cap at the upper end of the sleeve in abutment with the uppermost spacer, a fastening element securing said cap to said block, and a fluorescent tube mounted in said sleeve.

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