Aug. 25, 1942. C. E. SWANSON 2,293,924

FLUORESCENT TABLE LAMP CONSTRUCTION

Filed Sept. 8, 1941 2 Sheets-Sheet 1

Fig. 1.

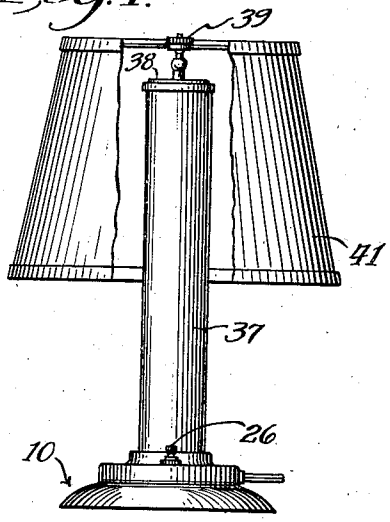


Fig. 2.

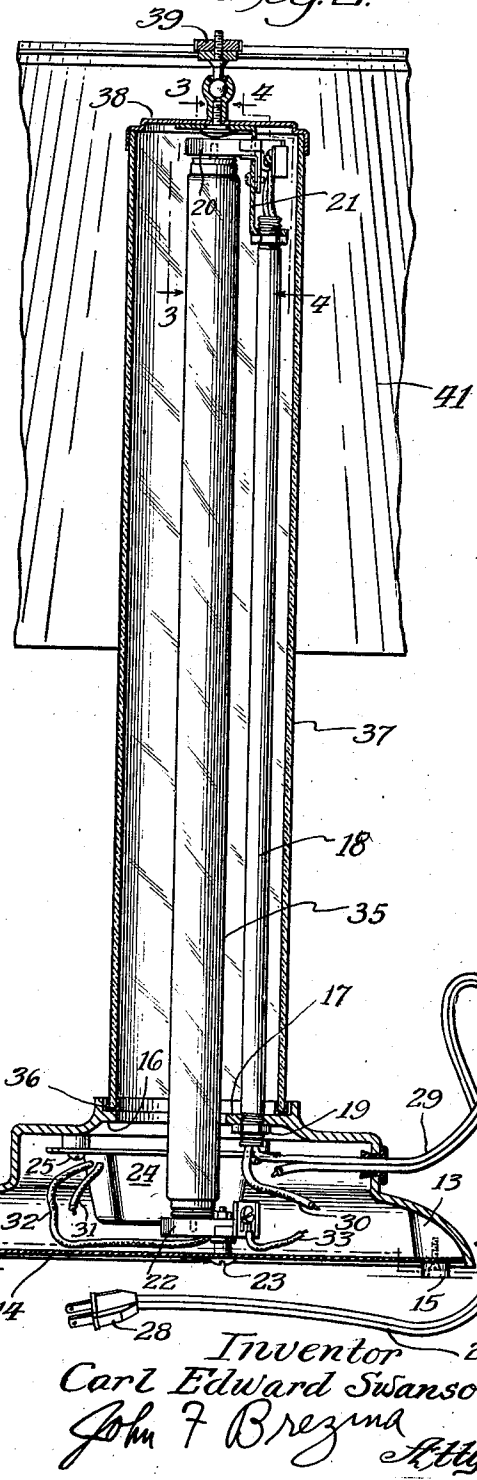


Fig. 3.

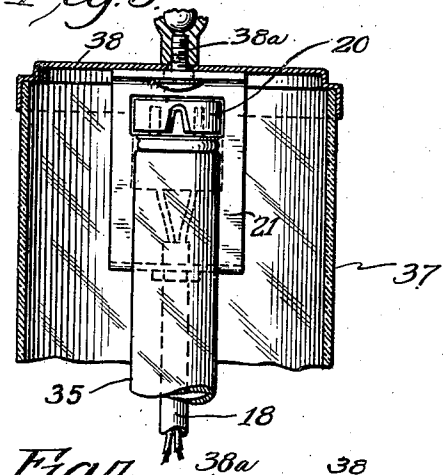
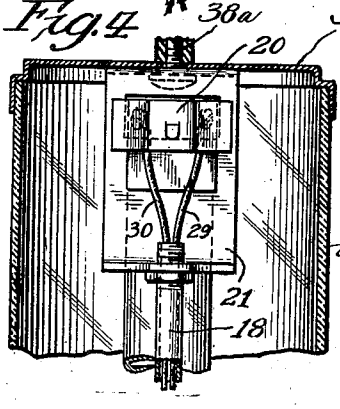


Fig. 4.



Inventor
Carl Edward Swanson
By John F Brezina
Atty.

Aug. 25, 1942. C. E. SWANSON 2,293,924

FLUORESCENT TABLE LAMP CONSTRUCTION

Filed Sept. 8, 1941 2 Sheets-Sheet 2

Fig. 5.

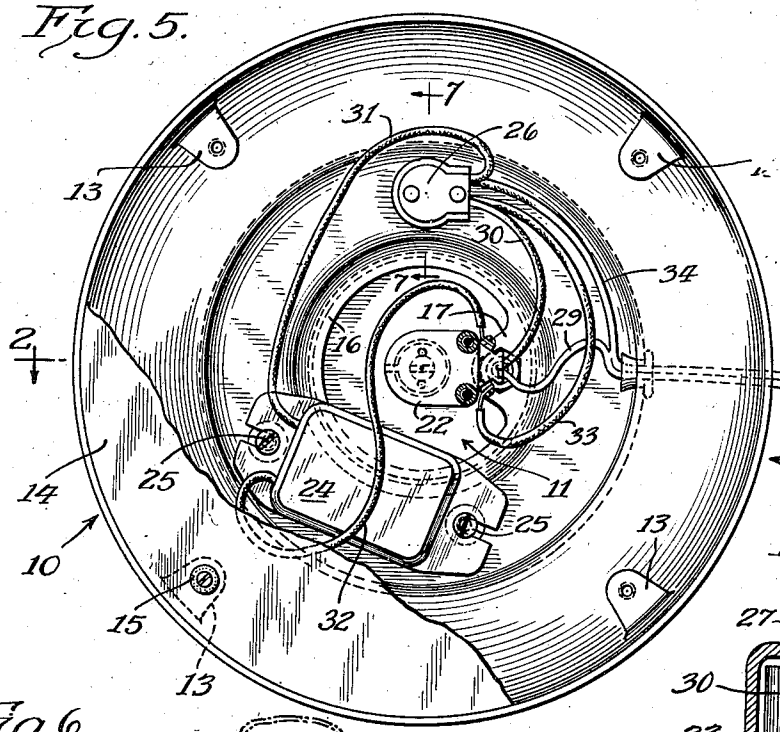


Fig. 7.

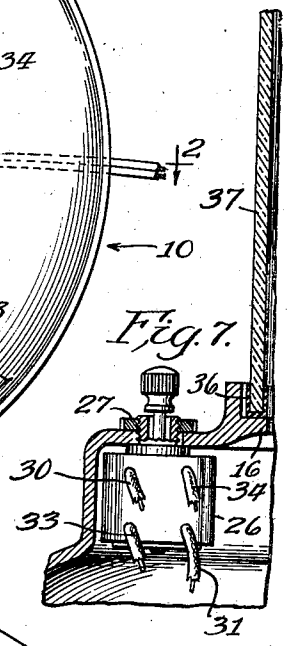
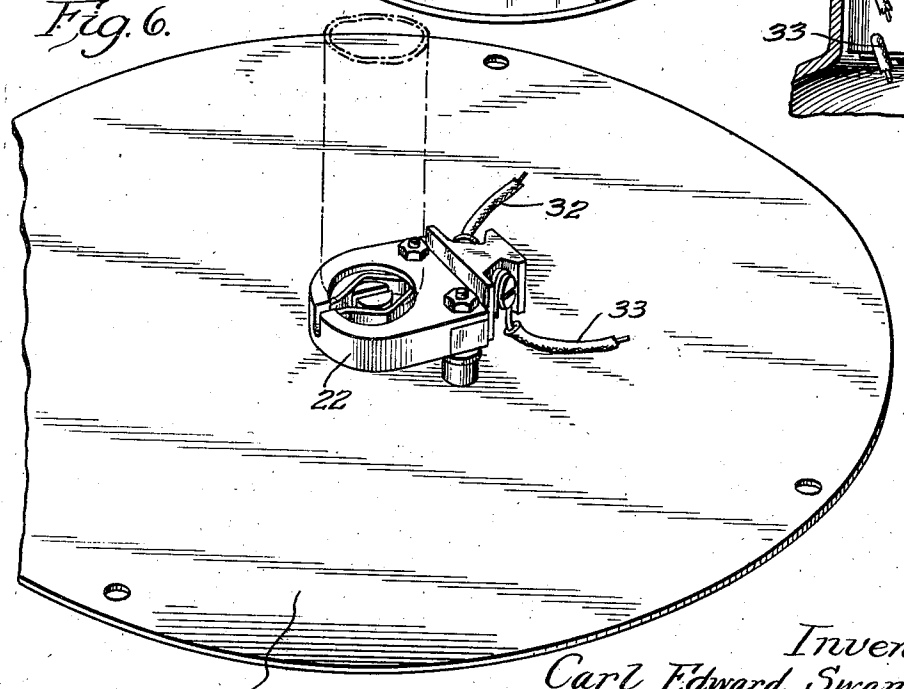


Fig. 6.



Inventor
Carl Edward Swanson
By John F. Brezina
Atty.

Patented Aug. 25, 1942

2,293,924

UNITED STATES PATENT OFFICE

2,293,924

FLUORESCENT TABLE LAMP CONSTRUCTION

Carl Edward Swanson, Chicago, Ill.

Application September 8, 1941, Serial No. 409,937

2 Claims. (Cl. 240—81)

This invention is directed to a novel construction of table lamp which is so constructed as to utilize and adapt fluorescent lighting tubes or "bulbs" in such stand or table lamp structure.

More particularly the parts of my novel lamp are so novelly made and arranged not only to permit use of a fluorescent tube of standard size and length, but also to distribute the greatly increased light resulting from the use of the fluorescent principle in increased areas surrounding the lamp in an intensity and power to produce increased light throughout the room in which my novel unit is in use.

The use of the more satisfactory and far more economical fluorescent light has grown by leaps and bounds in recent years in industrial, store and display fields for well known reasons. The use of fluorescent lights has to some extent extended to household kitchens and to ceiling fixtures in rooms where the mounting of the necessarily long and cumbersome fixtures (of length sufficient to receive the relatively long convention tubes) has not presented an objection because of the available space at or near the ceilings. On the other hand, no one to my knowledge has made or built a table lamp or table top unit of a size or shape or arrangement which would not be cumbersome and so bulky as to make it definitely impossible of public acceptance. This problem, created by the necessity of making a relatively long unit to receive a relatively long horizontal fluorescent tube, has not been solved, it being generally known that housewives do not consider any lighting fixtures which would take up a relatively large part of the table area because of their disproportionate bulk, unshapeliness and length.

It is an important object of my invention to provide a novel lamp construction which is so made as to permit mounting in vertical position of standard sizes and types of fluorescent light tubes or globes and without producing a unit of unwieldly, cumbersome size.

It is a further object of my invention to provide a lamp structure which is adapted for mounting standard sizes of fluorescent light globes in vertical position from points within a substantially hollow shell or base to points above said base so as to produce a commercially practicable and desirable unit which has a high degree of light efficiency.

It is a further object of my invention to produce a novel lamp construction in a novel manner, fluorescent light globes positionable vertically and which includes mounting sockets secured in the lower area of the shell-like base and at a point above the center portion of said base, and which also has an optional light-diffusing and light-transparent removable and replaceable cylinder, and including means whereby such cylinder is removably mounted with respect to said base.

A further object is to provide a structure in which a fluorescent light emanates from a vertically mounted globe or tube whose lower portion is mounted within the general area of a suitable novel base and whose upper portion is socket-mounted substantially above the center of the base so as to produce the more desirable, non-glaring, and cooling grades of light rays from greater light bulb surfaces.

Other and further important objects of my invention will be apparent from the description and appended claims.

My invention, in a preferred form, is illustrated in the accompanying drawings, reference being made thereto in the following description.

On the drawings:

Fig. 1 is a side elevation of my lamp unit showing portion of an optional shade broken away.

Fig. 2 is an enlarged vertical cross sectional view thereof showing only a fragment of an optional shade, and taken on line 2—2 of Fig. 5.

Fig. 3 is an enlarged vertical cross section of a fragment of the upper portion of my unit and taken on line 3—3 of Fig. 2.

Fig. 4 is an enlarged cross sectional view of an upper fragment of my unit and taken on line 4—4 of Fig. 2.

Fig. 5 is an enlarged bottom view looking into the base of my unit showing a fragment of a cover plate.

Fig. 6 is an enlarged perspective view with the bottom plate removed from the base and showing a socket mounted thereon.

Fig. 7 is an enlarged vertical cross section of a fragment of a base and showing the control switch mounted therein and taken on line 7—7 of Fig. 5.

My unit, aside from embodying novel structural characteristics and combinations thereof, solves the aforementioned problem as will be more fully set forth.

Referring to the drawings, numeral 10 designates a base unit composed of a hollow shell or casing and which may be of either metal, plastic or other suitable material. Said base 10 may be of various shapes and sizes, though preferably having its walls extending or converging inwardly to form an upper opening 11 of sub-

stantial size and smaller than the lower portions of the base.

The lower portion of the base is preferably made open or with a large opening, the preferred form of the illustration showing this opening as extending entirely from one side wall or edge to the other. The side wall of the base 10 is provided with two or more spaced internally threaded bosses 13. A metal bottom or cover plate 14 is removably mounted as illustrated to close the lower opening of base 10, and it is held in such closed position by suitable screws which pass through studs 15 and through suitably spaced apertures in the said bottom plate and which threadedly engage the threaded apertures in bosses 13.

Said base 10 is provided at its upper portion and adjacent and below its upper annular extremity with an inwardly and horizontally extending flange element 16 which is preferably formed integral with said base. Said flange 16 is preferably provided with an integral apertured and internally threaded ear or extension 17 as shown in cross section in Fig. 2. Said flange 16 forms a substantially right-angled shoulder with the uppermost flange-like extremity of the base 10 as illustrated in Fig. 2.

A metal tube or conduit pipe 18, which is threaded at both ends as shown in Fig. 2, is threaded into the threaded aperture of ear 17 and locked thereon by a lock-nut 19 to thereby hold said pipe substantially vertically. A socket 20 of the type adapted to receive one contact end of a fluorescent tube, is connected to the upper end of pipe 18, preferably by means of a suitable bracket 21 which bracket has one bent end apertured and threadedly engaged on the upper threaded end of pipe 18 as shown in Fig. 2. One of said sockets of the type utilized is shown in enlarged form in perspective in Fig. 6, the same being provided with yieldable opposed metal stud contacting elements which engage the stud contact ends of a fluorescent tube. Said sockets have their said stud-contact elements provided with suitable terminal connections to which circuit wires are connected as illustrated and also provided with suitable metal bolts. In the case of the upper socket 20 one end of the socket is connected by a suitable bolt to bracket 21 as illustrated in Fig. 2.

The lower socket 22 is mounted within the lower portion of the base 10, in opposed relation to upper socket 20 and centrally with respect to the base and its upper opening. Said socket 22 may be secured by any suitable fastening elements, as for example, by a bolt 23 which passes into and thru bottom plate 14. Said socket is preferably mounted a short space above the bottom plate 14 to provide a space for the passage of circuit wires.

Mounted within the base 10, and as illustrated in Figs. 2 and 5, is a suitable transformer 24 of suitable capacity to reduce the voltage of the usually prevailing electric current to a degree permissible for use with fluorescent tubes. Said transformer 24 has its enclosing flanged casing secured by suitable screws 25 to the base 10 and preferably to the upper parts of the base as illustrated in Figs. 2 and 5.

Numeral 26 designates a conventional form of control switch whose central threaded nipple portion extends thru a suitably located aperture in the wall of base 10, as illustrated in Fig. 7, and which is mounted on said base by a suitable lock-nut 27. The knurled handle and connecting stem is connected to the switch contact element within the body of the switch, said handle being exposed for convenient manual operation as shown.

The circuit wire connections, which are illustrated particularly in Fig. 5, are as follows: One circuit wire 29 leads from the conventional plug 28 and extends thru pipe 18 and is connected to one terminal of the upper socket 20. Circuit wire 30 is connected to the other terminal of the upper socket 20 and extends thru pipe 18 to control switch 26. Circuit wire 31 connects the control switch 26 and transformer 24 as shown in Fig. 5. A circuit wire 32 leads from the other terminal of the transformer 24 to the bottom socket 22.

A circuit wire 33 leads from the bottom socket 22 to the control switch 26. A wire 34 leads between and connects the control switch 26 to the plug, as illustrated in Fig. 5. This forms a continuous circuit which is manually broken or closed thru operation of switch 26.

A standard length straight fluorescent tube 35 having the usual end contact studs is adapted to be removably and replaceably mounted in the opposed upper and lower sockets 20 and 22. This tube, when the circuit is closed and connected to an electricity source, illuminates the tube to produce a highly satisfactory and economical light of density far exceeding that attainable with incandescent lights of substantially greater watt power, and the vertical positioning of the tube as described results in an even distribution of light for substantial distances from the structure. I desire to point out that what I have described in the foregoing constitutes a highly satisfactory lamp structure and lighting unit which because of its novel construction permits utilization of a single standard form of straight fluorescent tube, and further the said structure is a highly satisfactory lamp in itself without the optional and dispensable diffusing element or shade which I have also illustrated and which I will describe as an optional addition.

As illustrated, a channel-like ring or collar 36 of U-shaped cross section is so mounted that one end of a light diffusing element 37 of any desirable shape, may be rested or seated therein. Said ring may or may not be secured to the end of said diffusing element, and in normal use it is mounted upon the annular shoulder formed at the upper end of base 10. I have illustrated the optional shape of the preferably frosted glass cylinder as rounded or cylindrical. I desire it to be understood that optional light diffusing elements made of materials other than glass may be satisfactorily utilized.

Said diffusing element 37 is of a length slightly longer than the length of the usual fluorescent tube. Said diffusing element 37, illustrated in the form of a cylinder, preferably has mounted on its upper end a flanged metal cap or cover 38 which preferably has a suitable bolt or equivalent threaded element extending upwardly therefrom. Said bolt 38a has releasably mounted thereon an adjustable swivel nut or nut element 39 which is adapted to releasably retain the metal traversing frame portion of a suitable shade 41, said shape being partially illustrated in Figs. 1 and 2 in one of a number of positions to which it may be adjusted through action of said swivel nut. I desire to emphasize that said shade, said cover 38 and said light diffusing element are unnecessary and dispensable elements to satisfactory operation of the structure. There may be optional

application of decorative effects upon the diffusing element in one of several conventional ways, for example by decalcomania of artistic pictures and designs.

I am aware that many changes may be made in the embodiment of the invention herein specifically described without departing from or sacrificing any of the advantages of the invention or any features thereof, and nothing herein shall be construed as limitations upon the invention or structural embodiment as to the said invention.

I claim as my invention:

1. In a lamp construction for fluorescent lighting, a hollow base unit having a reduced upper opening, a bottom opening and an inwardly extending integral flange provided with an apertured ear portion, a conductor wire housing pipe having its lower end threaded in the aperture of said ear and being disposed vertically through the upper opening in the base, a bottom plate removably mounted on said base, an electric socket connected to the upper end of said pipe, a second electric socket mounted on said bottom plate and disposed in the lower portion of the base unit and in opposed relation to the first mentioned electric socket, a vertically disposed fluorescent tube having its ends received in the respective electric sockets, circuit wires connecting said sockets and forming a circuit and a plug-in connection, a control switch in said circuit mounted in said base unit, a vertically extending light diffusing cylinder mounted at its lower end in the upper part of said base and resting on the aforesaid flange, said cylinder encircling the vertically extending fluorescent tube and the conductor wire housing pipe, the upper end of the cylinder extending above the upper end of the fluorescent tube, a cover shield on the upper end of said cylinder, and a jointed swivel shade-mounting member secured to said cover shield.

2. A fluorescent lighting fixture comprising a hollow base open at its top and bottom, an inwardly extending apertured element connected to the base and disposed adjacent the opening in the top thereof, a removable cover plate for the bottom opening of the base, a conductor wire housing pipe having its lower end secured in said apertured element and extending vertically through the top opening of the base, an angular bracket on the upper end of the pipe, an electric socket mounted on said bracket, a complementary electric socket arranged within the hollow base and connected to said cover plate, a fluorescent tube arranged vertically with its respective ends removably received in the respective electric sockets, a light diffusing member enclosing both the fluorescent tube and the conductor wire housing pipe having its lower end extending into the open upper end of the base, the upper end of said light diffusing member extending above the upper end of the fluorescent tube, a cover shield removably mounted on the upper end of the light diffusing member, and a shade supported by said cover shield.

CARL EDWARD SWANSON.