

Jan. 24, 1956

H. C. LEECH
LAMP SHADES

2,732,489

Filed Dec. 5, 1950

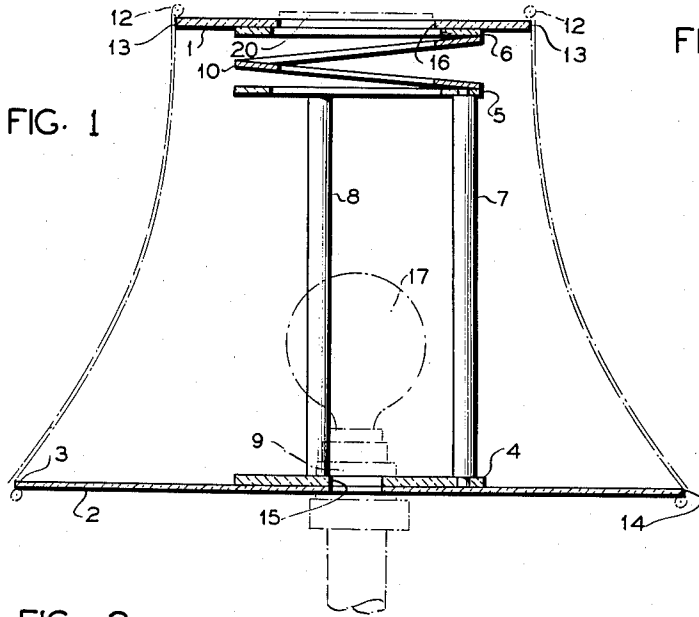


FIG. 1

FIG. 5

FIG. 6

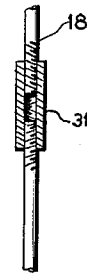
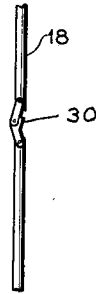


FIG. 2

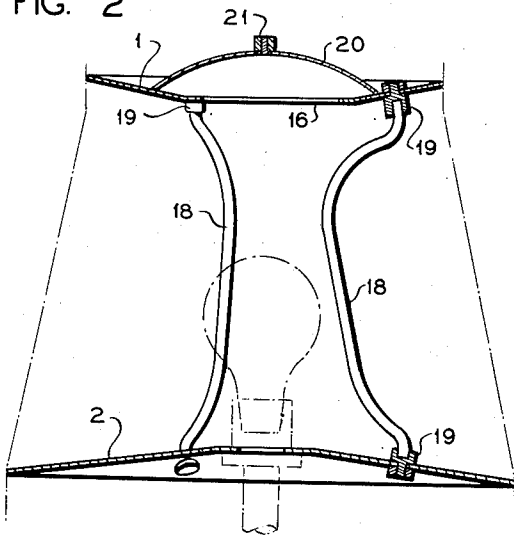


FIG. 3

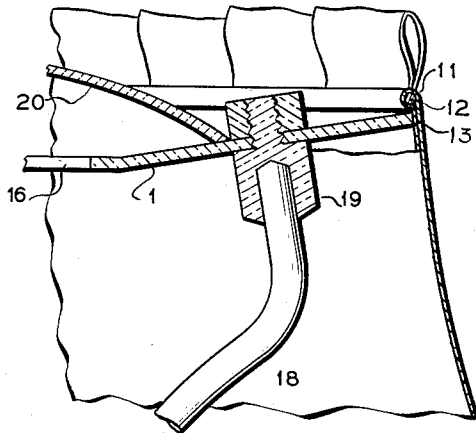


FIG. 4

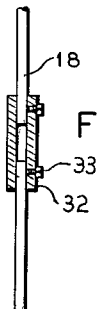
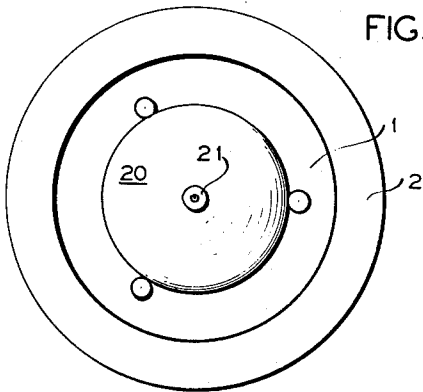


FIG. 7

INVENTOR
HAROLD C. LEECH

BY *Wenderoth, Lind & Parack*
ATTORNEYS

1

2,732,489

LAMPSHADES

Harold C. Leech, Brighton Beach, Durban,
Union of South Africa

Application December 5, 1950, Serial No. 199,209

Claims priority, application Union of South Africa
December 31, 1949

7 Claims. (Cl. 240—108)

This invention relates to the manufacture of lampshades, and more particularly of the type commonly used with electric light bulbs and consisting of a suitably shaped canopy of textile fabric or other such material with support means connecting it suitably about the lamp.

The usual practice in the making of this type of shade is that a wire frame is constructed to the required general shape of the shade; the wire frame is then wrapped with strip material, such as linen, silk or the like, and then a lining is stitched on to the frame and the shade proper is attached. This method provides a shade which, whilst decorative, is not easy to manufacture cheaply; it is decidedly clumsy to handle, and it is generally very inconvenient, if not impossible, to remove the outer cover or canopy as, for example, for purposes of cleaning.

According to the invention, in lampshade manufacture the canopy or cover is not framed in the ordinary way but is maintained in shape by a resilient separation of upper and lower regions of the canopy by members engaging them respectively, and of shapes appropriate to, or such as will define, the required external shape of the shade.

More particularly said members are of plate or like form and they are spaced suitably by resilient means applying tension to the canopy or cover between its upper and lower engagement regions with said members.

Other features of the invention will appear from the following description and the appended claims.

Referring to the accompanying drawings:

Figure 1 is a vertical sectional view of a construction of lampshade in use on a table or pedestal lamp; this view although showing a specific construction being primarily intended to illustrate the principle underlying the invention in any of its possible applications, e. g. to lampshades of any kinds including if desired constructions devised for pendant support;

Figure 2 is a vertical section of a preferred construction of lampshade;

Figure 3 is a fragmental cross section to a larger scale of the upper parts of the construction shown in Figure 2; also illustrating the preferred mode of engagement between the canopy and one of the plate or like members aforesaid;

Figure 4 is a plan of the upper parts of the same preferred construction;

Figure 5 is a fragmentary view of a strut element showing articulated hinge means;

Figure 6 is a fragmentary view of a strut element showing parts connected by a threaded union; and

Figure 7 is a fragmentary view of a strut element showing a member into which the ends of the strut parts are inserted and held by set screws.

In Figure 1, a lampshade according to the present invention may comprise upper and lower members 1 and 2 respectively in the form of glass or plastic plates or the like having inherent resiliency. One of these,

2

2, intended to constitute the base of the shade, may be cut, moulded or otherwise formed to a circle, annulus or to any other desired shape, e. g. hexagonal, octagonal, triangular or scalloped on the outer edge 3.

The other member, 1, intended to form the top, may be of a similar shape and construction to the first or base and it may, if desired, be of a lesser area. These two plates or the like are held apart by a distance piece of cage form which may be made up from metal strips or wires, or, if desired, from preferably transparent plastic material. In this distance piece there may be incorporated a spring, springs or the like, designed to provide compensating tension on the material or fabric of the canopy when such materials may be affected, as by humidity changes.

A simple construction of distance piece may as shown consist of three annuli 4, 5 and 6 arranged on a common axis, two (4 and 5) being connected as a cage of any length less than the required height of the shade canopy where the same is supported, by means of a number say three, of rods as 7, 8 or the like and the lower one of these two annuli being adapted to be screwed or otherwise fixed concentrically to the upper side of the lower or base plate 2 about the central hole for the lampholder 9. The third annulus 6, is connected to the other (5) of the first two by a coiled spring 10 of strip or other form whereby it thrusts upwardly against the underside of the upper plate 1 or the like.

At or in the vicinity of the top and bottom edges of the canopy there will be provided a beading of any convenient kind having a degree of elasticity enabling it to fit about the periphery of the respective plates and transmit the tension to the fabric between such beading. Conveniently, for such beading there may be sewn or provided (as most clearly shown in Figure 3) a hem 11 in which a cord 12 may be threaded and tied so as to bring the hems of the canopy into smaller compasses than the outside edges 13, 14 of the top and bottom plates or the like, or any convenient type of elastic material may be threaded into such hems to produce the same effect.

It will be appreciated that it is a simple matter to assemble the top and bottom plates or the like and the distance piece between them. The top and bottom hems of the canopy are pulled over or otherwise attached in a very simple way to the top and bottom plates, thus making a complete lampshade with the canopy fabric held under tension.

A hole 15 is provided in the bottom plate 2, of such dimensions as to enable the plate and its associated parts to be attached to any usual type of electric batten holder fitting or American screw light fitting. A hole 16 is also provided in the top plate 1 for the admission of a hand for inserting or removing the usual type of electric light bulb 17.

Referring now to Figures 2, 3 and 4, the preferred construction comprises inwardly dished plates 1 and 2, and a springy distance piece arrangement comprising curvilinear elements 18 providing resilient struts the ends of which fit into sockets formed, as for example in the manner clearly shown in Figure 3, in the two plates, so that the whole assembly has a resilient bellows character for the tensioning of the canopy fabric when fitted in place.

In this preferred construction, the two members 1 and 2 as also the sockets 19 are made from the plastic known as "Perspex," or other such material, and the struts may be of a suitable metal wire or rod or the like bent to sinuous shapes of the kinds shown.

A lampshade of such construction provides an effective seal against the entry of flying insects, and if desired a finely reticulated gauze or like disc or cap may

be fitted as 20 into or over the top hole to complete the protection, and generally to exclude foreign matter whilst preferably, however, admitting air circulation, e. g. by a central vent 21.

Elimination of spars and the like or their shadows showing through the canopy or cover, obtainable by pitching the elements 17 or 18 preferably well to the inside of the plate peripheries 13 and 14, or at least bringing the intermediate parts of these elements as shown, close to the bulb 17, both enhances the artistic appearance of the lampshade and also makes for greater lighting efficiency. The canopy or cover may be easily removed and replaced, as for cleaning purposes and a canopy may be readily exchanged for another of the same fundamental size affording a means of changing a decorative scheme and/or lighting effect at small cost.

Furthermore, the entire structure may be readily collapsed and packed in a flat condition, to be assembled in a matter of moments when required.

The foregoing feature of collapsibility also minimizes risk of damage to delicate fabrics in transit, lampshades of the ordinary construction being notoriously fragile.

Top and bottom plates may be dished to any angle or section, e. g. steeper dishing adding to peripheral strength, and or providing a simple means if desired of concealing impedimenta detracting from appearance of the whole, e. g. the adaptor, switch and the like.

Strut elements constituting the resilient distance piece in the foregoing constructions may be modified to include means for tensioning the material of the canopy. As shown in Figure 5, such means may be articulated hinge means in the form of a toggle 30 between parts of the strut element 18 in Figure 2. Figure 6 shows a union element 31 having a bore therethrough which is threaded in one direction at one end and in the opposite direction at the other end. The ends of the parts of strut element 18 are threaded so that on turning the union element 31, the parts of the strut element 18 are moved closer together or are moved apart. Alternatively, the ends of the parts of strut element 18 can be slidable in a clamping device in the form of a sleeve 32, as shown in Figure 7. Set screws 33 are provided to fix the strut parts within the sleeve 32 and thus determine the length of the strut element.

A wide variety of colour lighting effects is obtainable by suitable choice of the colouring of the plastic, glass or like base and top obtained as by incorporating suitable dyes. Also, where shades are employed above the eye level, and intensity of lighting is of prime importance, high power lamps may be employed, whilst it is possible to eliminate glare and "after images" by means of base and top members constructed for diffusion of light passing through them, by such means protection of the eyesight or concealed lighting effects being obtainable with as little as 10% loss in lighting efficiency.

"Day light" lighting effects are readily obtainable by the employment of, for example, a blue coloured cover or canopy with a grey-blue opaque plastic or white reflector top member.

What I claim is:

1. A lampshade comprising a deformable tubular canopy tensionable to a desired form, upper and lower marginal elastic beads on said canopy, a support for holding said canopy radially and axially to said form in tautened condition, said support comprising an an-

nulus having a greater perimeter than the perimeter of said upper canopy bead and adapted to engage said upper canopy bead throughout its entire length upwardly thereunder, a second annulus having a greater perimeter than the said lower canopy bead and adapted to engage said lower canopy bead throughout its entire length downwardly thereover, and spring means inserted between said two annuli to urge them into upward and downward engagement with their respective canopy beads, said spring means disposed adjacent the center of the space enclosed by said canopy.

2. A lampshade as claimed in claim 1, wherein said spring means comprises a cage structure incorporating a compression spring element between annular parts outwardly engageable with the said annuli.

3. A lampshade as claimed in claim 1, wherein said spring means comprise resilient strut elements, sockets on said annuli and staid strut elements having their ends inserted in said sockets.

4. A lampshade as claimed in claim 1, wherein one of said annuli is of plate form and is centrally perforated for insertion therein of a lampholder and attachment thereto, and the other of said annuli is also of plate form and centrally perforated to provide access to the shade interior for fitting a lamp bulb, the perforation of the last said annulus being provided with a cover.

5. A lampshade as claimed in claim 1, wherein said spring means comprise strut elements and hinge means for providing a toggle action for tensioning the material of the canopy.

6. A lampshade as claimed in claim 1, wherein said spring means comprise resilient strut elements formed in lengths and connected by left- and right-hand threaded union elements by which the extremities of the connected lengths may be separated for straining the canopy material resiliently and for adjustment to canopies of different lengths.

7. A lampshade comprising a deformable tubular canopy tensionable to a desired form, upper and lower marginal elastic beads on said canopy, a support for holding said canopy radially and axially to said form in tautened condition, said support comprising a resilient annulus having a greater perimeter than the perimeter of said upper canopy bead and adapted to engage said upper canopy bead continuously thereunder, a second resilient annulus having a greater perimeter than the said lower canopy bead and adapted to engage said lower canopy bead continuously downwardly thereover and spring means inserted between said two annuli to urge them into upward and downward engagement with their respective canopy beads, said spring means disposed adjacent the center of the space enclosed by said canopy.

References Cited in the file of this patent

UNITED STATES PATENTS

1,576,626	Burlin	Mar. 16, 1926
1,727,859	Caldwell	Sept. 10, 1929
1,776,101	Brady	Sept. 16, 1930
2,037,941	Stadler	Apr. 21, 1936
2,224,950	Burke	Dec. 17, 1940
2,230,186	Johns et al.	Jan. 28, 1941
2,593,272	Cohon	Apr. 15, 1952

FOREIGN PATENTS

2,634	Great Britain	Feb. 19, 1887
206,080	Great Britain	Nov. 1, 1923