June 6, 1961 J. ESKENAZI ET AL 2,987,694

LAMP SOCKET

Filed April 2, 1958

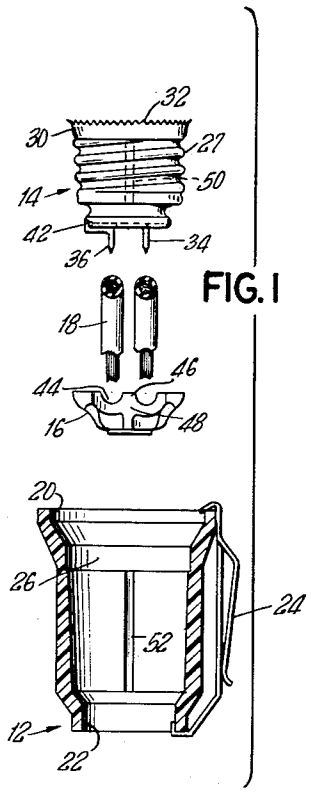


FIG. 1

FIG. 3

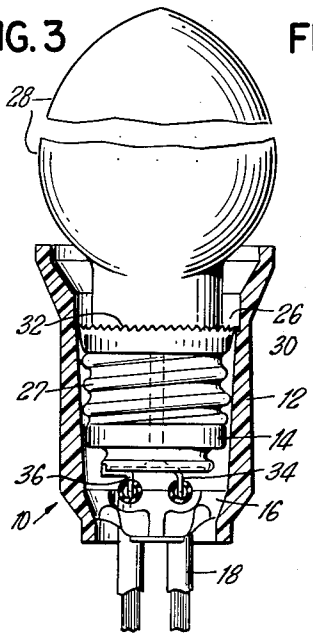


FIG. 4

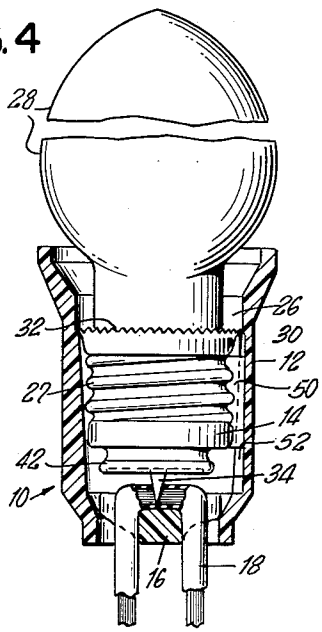


FIG. 5

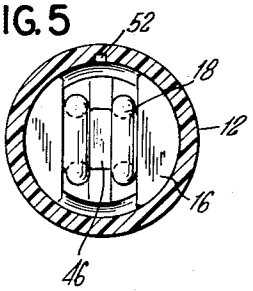
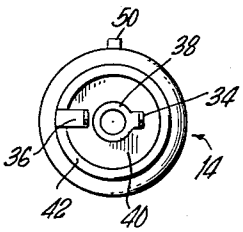


FIG. 6



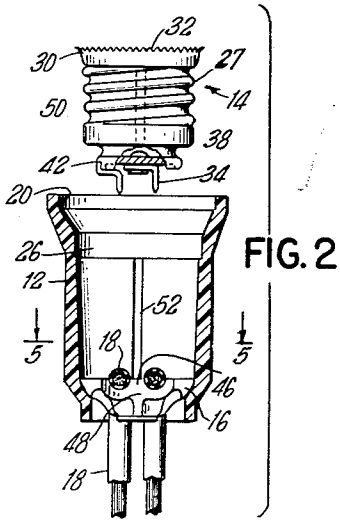


FIG. 2

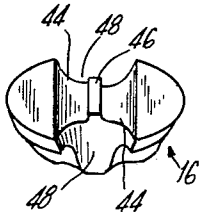


FIG. 7

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LAMP SOCKET

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This invention relates to lamp sockets and more particularly, to lamp sockets adapted to be mounted along the length of an elongate electrical conductor so that a plurality of electric lights, such as decorative Christmas tree lights, may be displayed along said conductor.

Lamp sockets of the above type are conventionally made in the following manner: looping a pair of cables, stripping a portion of the insulation from the looped ends of the cables to bare the underlying conductors, inserting the stripped cables within an insulative husk, soldering the bared portions of the conductors to a threaded conductive shell which is then force fitted into the husk, and finally, introducing hot pitch into the end of the husk from which the cable extends to hold the cable in place.

This operation has been found to be unduly expensive and cumbersome requiring an intricate soldering step with, of course, expensive solder and additionally, stripping and pitching steps, adding to the expense and the complexity of the operation. Moreover, sockets obtained thereby leave much to be desired.

It is therefore one of the primary objects of the present invention to provide a lamp socket and a method of making same which will decrease the cost of production and provide a superior product.

It is another important object of the present invention to eliminate the necessity of applying pitch to the sockets.

It is still a further object of the present invention to eliminate the soldering of connections and the stripping of insulation in manufacturing items of this class.

Briefly stated, the socket of the present invention comprises a tubular outer shell of insulative material; said socket including a unit consisting of a conductor support seated at one end of the outer shell and a single pair of continuous conductors mounted on said support; said conductors including an insulative covering therefor; said conductors being wrapped around said support to extend inwardly and outwardly of said shell through the cable support end thereof; said unit being drawable alone, as a single entity, by said conductors, into said shell through an end thereof; the seating for said support preventing the support from being withdrawn from said shell at the other end thereof; a conductive inner shell clamped within the outer shell; contact spikes depending from said inner shell; said spikes piercing the insulation of said conductors where looped about the support for establishing electrical contact between the inner shell and the conductors; said inner shell anchoring said conductors and support in the assemblage.

A fuller understanding of the invention and the manner in which its objectives and advantages may be realized will become apparent from the following detailed description thereof taken in connection with the accompanying drawing wherein:

FIG. 1 is an exploded view of the elements making up one embodiment of a lamp socket in accordance with the present invention;

FIG. 2 is an exploded view showing the assemblage prior to the insertion of the threaded inner shell;

FIG. 3 is a sectional view of the assembled lamp socket;

FIG. 4 is a sectional view of the lamp socket of FIG. 3 rotated 45 degrees;

FIG. 5 is a sectional view taken along line 5—5 of FIG. 2, in the direction of the arrows.

FIG. 6 is a plan view of the spiked end of the inner shell; and

FIG. 7 is a perspective view of the cable support.

In the following specification, for purpose of description only, our improved lamp socket is shown as employed as a Christmas tree lamp fixture. It is to be understood however, that the invention is not to be limited for such use only, as our sockets are adaptable for use with other types of lamps and for any other purpose to which such socket may be applied.

Referring now to the drawing and more particularly FIG. 1 thereof, a lamp socket in accordance with the present invention, designated generally by the numeral **10**, is shown consisting of an insulative outer shell or husk **12**, an inner shell made of conductive material **14**, disc-like cable support **16** and a pair of cables **18**.

Husk **12** comprises a tubular body open at either end thereof, molded of suitable insulating material such as Bakelite or other moldable plastic, and having a larger lamp receiving end **20** and a smaller end **22** which cable support **16** abuts. A longitudinally directed resilient clip is clamped to the husk so that the socket may be affixed to a tree branch or other suitable support. The clip is designated by numeral **24**. The diameter of the husk passage diminishes as it proceeds towards end **22**. A circular shoulder **26** is formed on the interior wall of the husk for reasons hereinafter appearing.

Inner shell **14** is made of resilient metal and is internally threaded as at **27** to receive the threaded plug of lamp **28**. The open end of shell **14** is flanged at **30**, its edge having a plurality of serrations **32** for reasons hereinafter appearing.

Depending from the closed end of shell **14** are contact spikes **34** and **36**, spike **34** extending from metallic eyelet **38** which is mounted centrally in insulated wall **40** which closes off one end of the shell. Spike **36** extends from the rolled edge **42** of the inner shell, as appears in the drawing. Spikes **34** and **36** are preferably formed as integral extensions of shell **14** and rivet **38**, respectively.

Disc-like cable support **16** is circular in shape and has two channels **44** formed in the large face thereof for purposes of retaining cable **18** in position. When positioned on the support, one section of cable will be reliably spaced from the other section by reason of spacer **46**. The remainder of support **16** tapers inwardly. The support is recessed at **48**.

The lamp socket is assembled as follows: Cable **18** is looped around support **16**, the individual sections of cable being positioned in channels **44**. The thusly supported cable is then inserted into husk **12**, the tapered portion of support **16** abutting the wall of the husk at end **22**. Shell **14** is then forced into the husk, the serrations **32** of flange **30** gripping shoulder **26** to limit the extension of the shell into the husk and rigidly maintain the assemblage.

When shell **14** is thrust into husk **12**, it abuts support **16**, the spikes **34** and **36** piercing the insulation of cable **18** to establish reliable electrical contact therewith. A rib **50** may be provided on shell **14** to fit into a keyway **52** formed in husk **12** to properly align the spikes with the cable. When properly inserted in the husk, the shell rigidly holds the assemblage together.

From the foregoing it may thus be seen that this new and improved lamp socket eliminates stripping, soldering and pitching from the manufacturing operation thereby simplifying and reducing the cost of manufacturing in a highly competitive field.

Although the invention has been described in detail with respect to one preferred embodiment thereof, it will be understood by those skilled in the art, after reading this specification, that various changes and modifica-

tions may be made without departing from the spirit of the invention and the scope of the appended claims.

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

1. A lamp socket fixture comprising a tubular outer shell of insulative material; said socket including a unit consisting of a conductor support seated at one end of the outer shell and a single pair of continuous conductors mounted on said support; said conductors including an insulative covering therefor; said conductors being wrapped around said support to extend inwardly and outwardly of said shell through the cable support end thereof; said unit being drawable alone, as a single entity, by said conductors, into said shell through an end thereof; the seating for said support preventing the support from being withdrawn from said shell at the other end thereof; a conductive inner shell clamped within the outer shell; contact spikes depending from said inner shell; said spikes piercing the insulation of said conductors where looped about the support for establishing electrical contact between the inner shell and the conductors; said inner shell anchoring said conductors and support in the assemblage.

2. A socket in accordance with claim 1 wherein the lamp receiving end of said inner shell is provided with an outwardly directed lip having a serrated edge, said lip clamping said inner shell within said outer shell when the inner shell is forcibly inserted therein.

3. A lamp socket fixture comprising a tubular outer shell of insulative material; said socket including a unit consisting of a conductor support seated at one end of the outer shell and a single pair of continuous conductors mounted on said support; said conductors including an insulative covering therefor; said conductors being looped around said support to extend inwardly and outwardly of said shell through the cable support end thereof; said support being positioned between the incoming and outgoing portions of the continuous conductors at the loop to space the same thereat; said unit being drawable along, as a single entity, by said conductors, into said shell through an end thereof; the seating for said support preventing the support from being withdrawn from said shell at the other end thereof; a conductive inner shell clamped within the outer shell; contact spikes depending from said inner shell; said spikes piercing the insulation of said conductors where looped about the support for establishing electrical contact between the inner shell and the conductors; said inner shell anchoring said conductors and support in the assemblage.

4. A socket in accordance with claim 3 wherein the support has spaced channels formed therein to accommodate said conductors.

5. A socket in accordance with claim 3 wherein the support has spaced channels formed therein to accommodate said conductors where they abut the support when reversing their direction and further, recesses formed therein to accommodate and limit the movement of the incoming and outgoing portions of the conductors where they abut the support.

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