

[72]	Inventor	Merril Hermanson New York, N.Y.
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[73]	Assignee	Mr. Christmas, Incorporated New York, N.Y.

[56]

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Primary Examiner—Louis R. Prince

Assistant Examiner—William A. Henry, II

Attorney—Karl W. Flocks

[54] DECORATIVE LIGHT SETS
14 Claims, 9 Drawing Figs.

[52] **U.S. Cl.**..... **240/10 R**

[51] Int. Cl. A47g 33/08,

[50] **Field of Search**..... 240/10,
10.1, 10 C

ABSTRACT: A hinged extensible multilight fixture having linking arms pivotally connected at their opposite ends with each linking member having a sleeve for receiving a lamp therein mounted on a base. The opposite end of the linking member has an end portion adapted to connect with the sleeve of the next pivotally attached linking member and with connecting wires between the terminals attached at each sleeve.

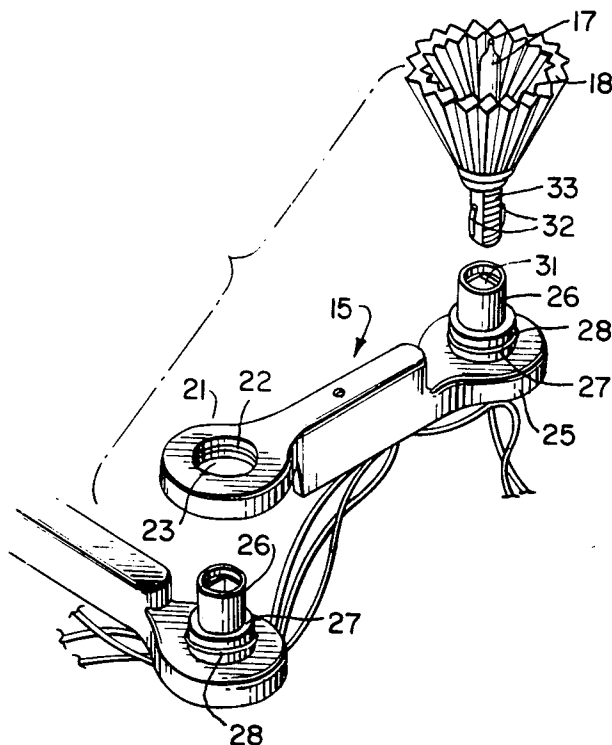


FIG. 1.

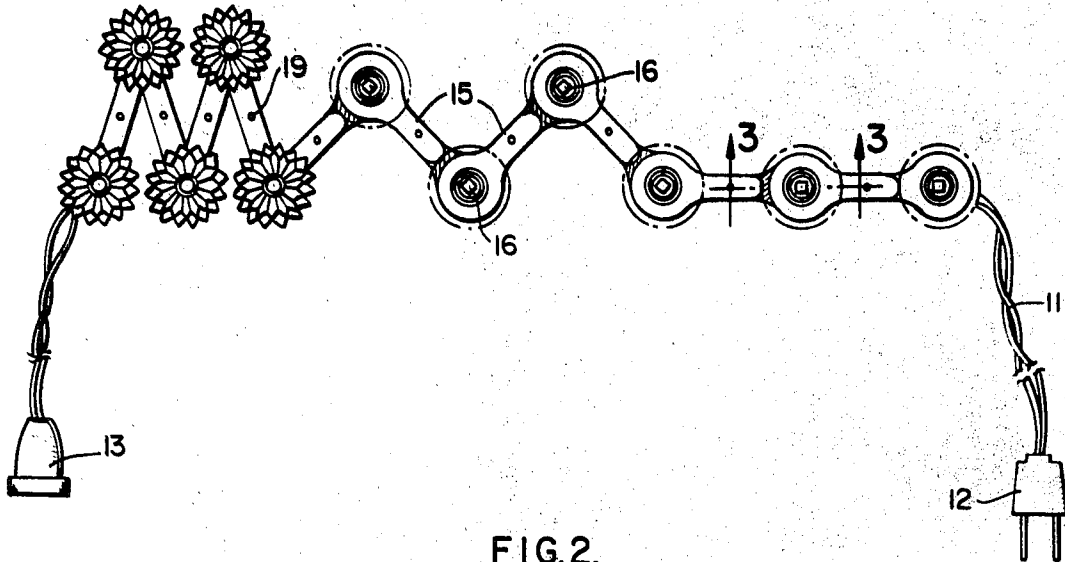


FIG. 2.

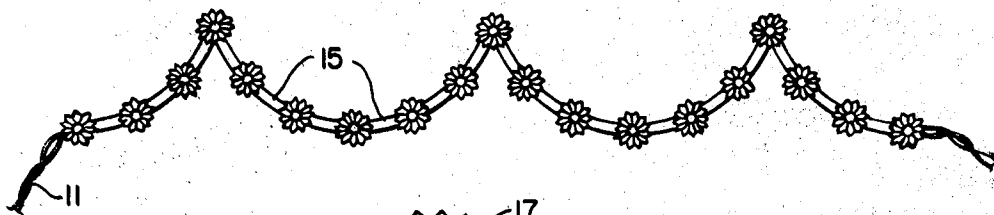


FIG. 5.

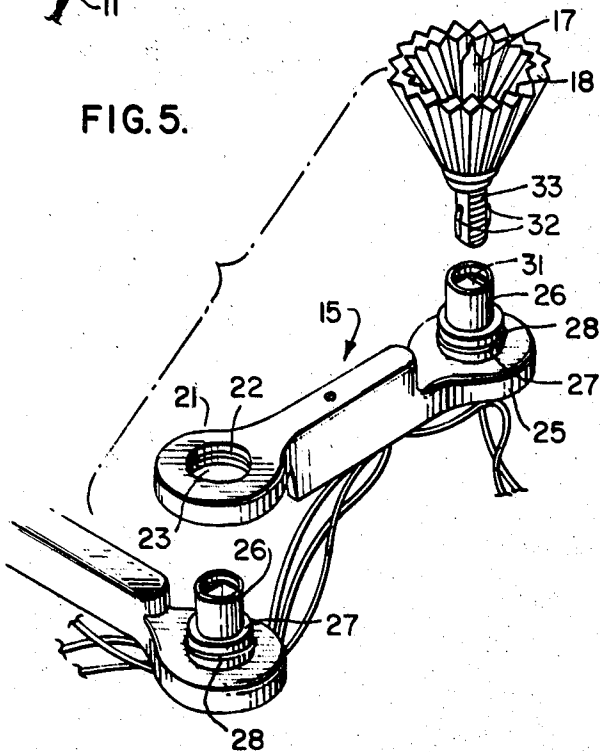


FIG. 3.

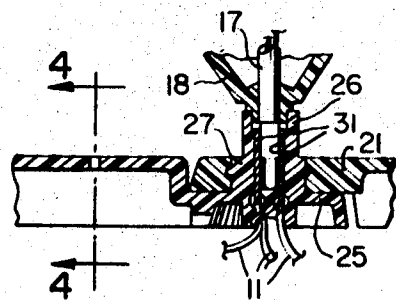
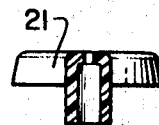


FIG. 4.



INVENTOR
MERRIL HERMANSON

BY KARL W Flocks
ATTORNEY

FIG. 6.

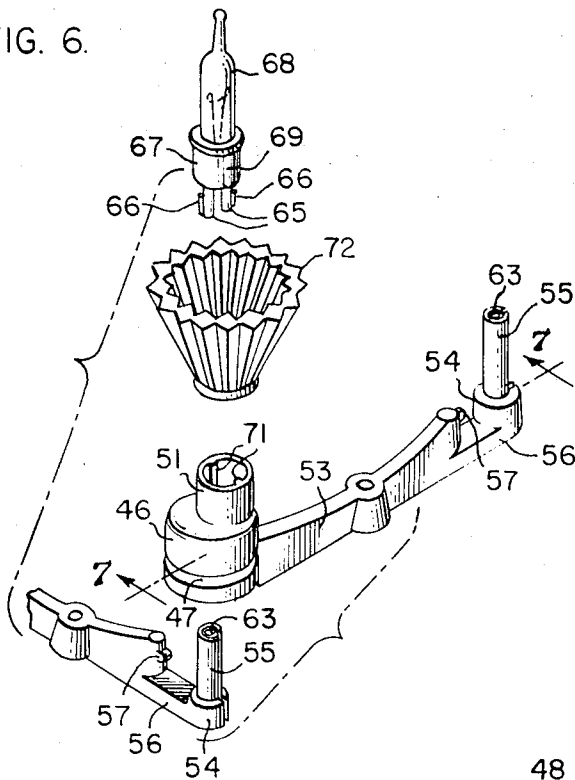


FIG. 7.

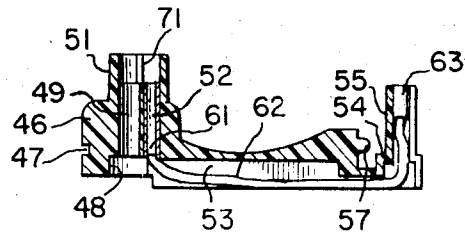


FIG. 8.

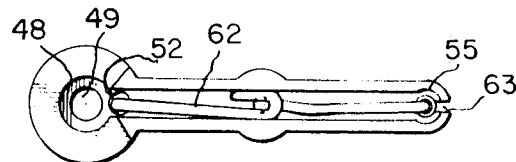
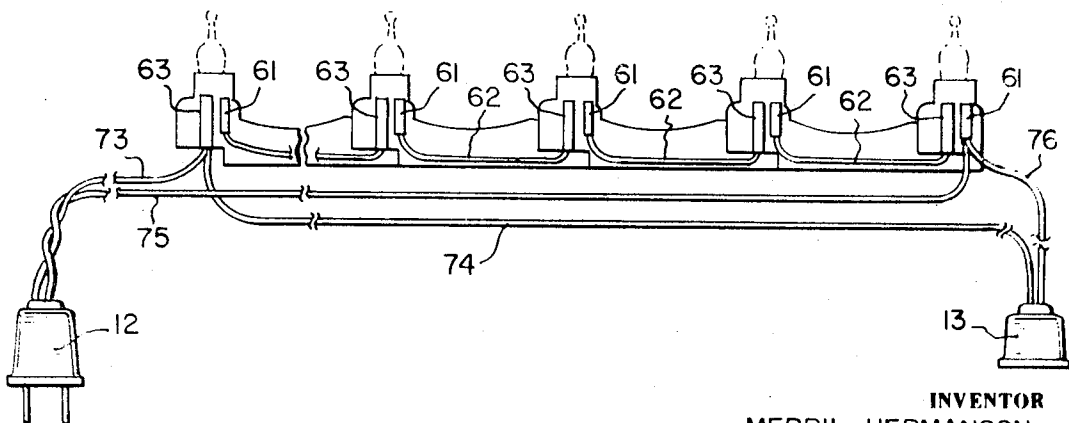


FIG. 9.



INVENTOR
MERRIL HERMANSON

BY

ATTORNEY

DECORATIVE LIGHT SETS

The present invention relates to display devices and more particularly to an improved decorative light set forming a hinged extensible multilight fixture.

An object of the present invention is to provide decorative lighting which may be easily adjusted to many various shapes to suit the taste of the user and at the same time will possess flexibility sufficient to fit even curved contours of the object upon which it is being displayed.

Such display devices in the prior art have shown properties of being extensible and collapsible mainly in order to decrease the storage space that is necessary since such lights may have only seasonable or periodic use in the home and in some businesses. The decorative lighting of the present invention, while possessing these qualities allowing easier storage, in addition has structure that allows a great variety of different decorative shapes to be formed with the lights, utilizing either one set, or connecting successive sets of the lights as needed.

Also because of the simplicity of construction and the fact that all linking members are identical, a single set of the decorative lights may use a variable number of linking members and therefore each set may easily be made to whatever size may be required or desired by the customer. With the use of a standardized length of sets additional sets can be easily connected as required.

Also because of the hollow construction of the linking members connecting wires may easily be included within the hollow portions therein when desired so as not to interfere with the decorative effect.

SUMMARY OF THE INVENTION

Accordingly, the present invention is directed to a decorative light set having pivotally connected linking members with each linking member having at one end thereof a sleeve into which is inserted a light bulb and with an ornamental background reflector associated therewith and interfitted means for pivotal connection to an opposite end of a similar linking member utilizing projection and groove construction.

Furthermore, the present invention is directed to a decorative light set having pivotally connected linking members with each linking member having at one end thereof a collar into which is fitted the end portion of the next adjacent linking member which is identical to the opposite end of the first linking member, having a sleeve with strip metal contact members therein for receiving the base and lead-in wires of an ornamental glass bulb, and a flange portion on the end of said sleeve resting on a base portion on the end of the linking member. A groove within the center opening in the collar receives a ringlike projection located on the flange for better holding and pivotability of the linking members in respect to each other.

In addition, the present invention is directed to a decorative light set having pivotally connected linking members with each linking member having at one end thereof a base with sleeve mounted eccentrically thereon and having a groove around the periphery of the base, and at the other end of the linking member having a projecting terminal member and a projection spaced radially from said projecting terminal member so as to allow insertion of said terminal member through a center passage through the base on an identical linking member to fit said spaced projection into the peripheral groove on the base.

BRIEF DESCRIPTION OF THE DRAWING

These as well as further advantages and objects will become apparent from the following description, reference being had to the accompanying drawing, wherein:

FIG. 1 illustrates one complete decorative light set unit of the present invention;

FIG. 2 in a smaller scale illustrates one of the many designs and shapes into which a light set of the present invention may be shaped, the illustrated light set having more parts than the one illustrated in FIG. 1;

FIG. 3 illustrates a sectioned view along lines 3—3 of FIG. 1;

FIG. 4 illustrates a sectioned view taken along lines 4—4 of FIG. 3;

FIG. 5 is a perspective view of a linking member of the present invention with the bulb to be inserted at one end and an end portion of an adjacent linking member shown thereon;

FIG. 6 is a perspective view of another embodiment of a linking member of the present invention with the bulb to be inserted and the ornamental reflector to be attached at one end and an end portion of an adjacent linking member also shown;

FIG. 7 is a sectioned view along line 7—7 of FIG. 6;

FIG. 8 is a bottom view of a linking member of the embodiment shown in FIG. 6; and

FIG. 9 is a wiring diagram which may be used conveniently with a set unit of linking members of this second embodiment.

DESCRIPTION OF PREFERRED EMBODIMENTS

Referring first to FIG. 1, there is shown therein a single decorative light set unit with connecting wires 11 passing therethrough and out of each end. On one end of connecting wires 11 there is attached plug 12 and on the other end a socket 13. Additional light sets may be attached by means of the plug and socket arrangements to whatever length is desired. Also the individual light sets may be made in whatever length required for a desired design as shown in FIG. 2.

Each light set includes a plurality of linking members 15 pivotally connected to each other at their ends. At the center of each pivotal connection there is an opening 16 for receiving a glass bulb 17 and ornamental background reflector 18. Hole 19 located in about the center of linking members 15 may be used for attachment purposes to the object which is being decorated.

The detailed construction of the linking members 15 and their attachment at their ends to each other is shown in more detail in the sectional views of FIGS. 3 and 4 and in the perspective view of FIG. 5. Therein is shown linking member 15 having one end formed in the shape of a collar 21 having a groove 22 around the rim of an opening therethrough, centered vertically. The top surface of collar 21 is substantially within the plane of the top surface of the remainder of linking member 15.

On the opposite end of linking member 15 is found a circular base 25 of complementary design to collar 21 having a sleeve 26 extending from the center of circular base 25. At the bottom of sleeve 26 next to the top surface of circular base 25 is a flange 27 around sleeve 26 but of much less diameter than circular base 25. Around the rim of flange 27 there extends a ringlike projection 28 which protrudes outwardly from the rim of flange 27 and is so spaced that when collar 21 from another linking member 15 is pressed down upon circular base 25 with sleeve 26 and flange 27 passing through opening 23 in the collar 21, the ringlike projection 28 extends into groove 22 thereby locking collar 21 and circular base 25 together for pivotal movement in relation to each other.

In order that the light set present its best appearance it is preferred that linking member 15 have its center portion and circular base 25 made of hollow construction so that connecting wires 11 may be for the most part contained therein.

In this embodiment sleeve 26 has rectangular opening 16 therethrough containing strip metal contacts 31 which are contacted by lead-in wires 32 which are bent upwardly against base 33. This base 33 may optionally be either a base of bulb 17 with the ornamental background reflector 18 fixed and held thereon in some convenient manner such as by washers, or as shown in the present case the base 33 and the ornamental background reflector 18 are an integral unit into which the glass bulb 17 is connected by means of passing lead-in wires 32 through openings in base 33, the lead-in wires 32 being of sufficient length to have their ends bent back along base 33 in a position to make contact with strip metal contacts 31 on opposite sides of the rectangular opening in sleeve 26. These strip metal contacts 31 are connected to connecting wires 11 so as to allow electrical contact to the filaments of glass bulb 17.

With the use of the structure described above and with sufficiently short linking members 15 pivotal at their ends, a great variety of shapes and designs may be formed. In addition, the material used for the light set may be of a plastic or similar substance having resiliency sufficient that if desired the unit may be bent in a direction substantially perpendicular to the direction in which it may be extended. Such bending or flexibility may be most apparent at the pivotal points since because of the locking construction at these points there is sufficient strength to hold the linking members 15 together while at the same time allowing offsetting of these members from each other to a slight degree. In addition, if the linking members 15 are made of a plastic having some flexibility to it, the linking members will have a tendency to allow some twist at the thinnest portions where collar 21 attaches to the main body of the linking member 15 and also at the point where circular base 25 connects to this main body. With a little twist allowable at each of these points along a string of linking members 15, a decorative light set may be substantially curved to fit close to a surface being decorated.

Another embodiment of the light set unit is shown in FIGS. 6, 7 and 8 wherein a variation in the form of linking members 15 is used.

The detailed construction of a second embodiment of linking members 15 shows these members to have one end with a base 46 having a peripheral groove 47 spaced from the bottom of base 46 and extending except where the center portion of the linking member interrupts the continuity of the groove 47. A depression 48 in the bottom of the base 46 is concentric with a passageway 49 passing substantially through the center of base 46. Mounted eccentrically on base 46 is a sleeve 51 positioned so that passageway 49 has its top opening within sleeve 51. Also positioned to open into sleeve 51 is passageway 52 located on the side of the base 46 closer to the center connecting portion 53 of the linking member.

In passageway 52 is a terminal 61 which is also shown in diagrammatic form in the wiring diagram of FIG. 9. A wire 62 extends from terminal 61 inside of hollow center connecting portion 53 to the opposite end of the linking member up through base 54 and projecting terminal member 55 concentrically mounted in relation to base 54. Member 55 has a diameter such as to enable it to be pressed into passageway 49 of another linking member and for additional connecting strength base 54 is pressed into depression 48 in base 46. Base 54 with member 55 is mounted on the end of hollow extension 56 spacing them from the part of the center portion 53 mounting a boss 57 thereon, so spaced as to ride in groove 47 when linking members are connected to each other, end to end. Rotation of over 180° is allowed by this construction between adjacent linking members. Connection between linking members is facilitated by the flexibility of the linking members through use of plastics and hollow construction.

Wire 62 having one end connected to terminal 61 passes through hollow center connecting portion 53 and extension 56, up through base 54 and into projecting terminal member 55 wherein is located terminal 63. Therefore when projecting terminal member 55 is inserted in passageway 49 connecting the linking members, there are then two terminals located at the base of sleeve 51 to receive pins 65 with lead-in wires 66 extending from the base 67 of light bulb 68. For proper and easier positioning of light bulb 68, the base 67 has grooves 69 therein to match and receive bosses 71 on the inner surface of sleeve 51. An ornamental background reflector 72 is made to fit around the sleeve 51.

Electrically the connection of a complete light set unit is shown in FIG. 9. The connection of wire 62 between terminals 61 and 63 in each linking member has been previously described. A plug 12 on one end and a socket 13 on the other end of a light set unit has also been shown in the unit of FIG. 1. Supplementing the above, wire 73 from plug 12 is connected to a terminal 63 at one end of the light set unit and through that terminal to socket 13 through wire 74 while wire 75 from plug 12 is connected to terminal 61 at the opposite end of the

light set unit and by that terminal through wire 76 to socket 13. In a single light set unit the bulbs are in series with each other while the light set units are in a parallel connection with each other. With this form of connecting linking members and wiring, the number of linking members which may be added to a unit is substantially limited by the lengths of wires 74 and 75 which determine the allowable distance between the ends of the light set unit after it has been formed into the desired ornamental configuration.

Also, it should be noted that while linking members may be easily added to the unit, especially in this second embodiment, these insertions are not usually made at the ends since the terminal 63 which connects wires 73 and 74 is merely a projecting terminal member 55 and possibly a portion of base 54 with two wires therefrom press fitted into a base 46 of a full linking member and is not as easily separated therefrom as other linking members are separated from each other. The other end of the light set unit is a complete base 46 and sleeve 51 with passageway 49 allowing it to be slipped easily over the adjacent projecting terminal member 55 of a complete linking member but with two wires 75 and 76 connected to its terminal 61 therein. Sufficient leverage is available if it is desired to connect additional linking members near this end between this partial linking member and the first complete linking member connected thereto.

Variations in material for forming the linking members and in the ornamental background reflectors and glass bulbs and their electrical connection including the electrical connecting of the bulbs in a parallel or series arrangement, may be made within the spirit and scope of the present invention.

What is claimed is:

1. A light set framework comprising a plurality of substantially identical linking members pivotally connected to each other at their end portions, and ornamental connecting means at the pivotal connections at said end portions, each of said linking members having at one end a collar having an opening therethrough, and at the other end, a base means and a flange centered on the pivotal point of said end portion, said flange adapted for fitting in the opening in said collar in a connecting one of said plurality of linking members.
2. The light set framework of claim 1, further characterized by the opening in said collar having a groove in the surface within the rim of the opening, said flange having a ringlike projection around the rim surface of said flange adapted for fitting in said groove in said collar on a connecting one of said plurality of linking members.
3. The light set framework of claim 1, further characterized by said ornamental connecting means including a sleeve centered on said flange on the side opposite from said base means and extending therefrom.
4. The light set framework of claim 3, further characterized by said sleeve having means to receive an ornamental light bulb means and electrical contact means to connect to said light bulb means, and connecting wires between said contact means of each of said sleeves of said linking members.
5. The light set framework of claim 4, further characterized by said linking members having a hollow center portion between said end portions and a hollow base means adapted for holding said connecting wires.
6. The light set framework of claim 1, further characterized by said linking members being of a resilient material.
7. The light set framework of claim 6, further characterized by said linking members being of a plastic material.

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8. The light set framework of claim 1, further characterized by

the thickness of said base means with said collar of a connecting one of said linking members resting thereon over said flange on said base means being substantially equal to the thickness of the center portion between said ends of said linking means.

9. A light set framework comprising

a plurality of substantially identical linking members pivotally connected to each other at their end portions, and ornamental connecting means at the pivotal connections at said end portions,

said ornamental connecting means including

a base member attached to one end of each of said linking members,

a sleeve mounted eccentrically on said base member and in conjunction with said base having means to receive an ornamental light bulb,

a projecting terminal member mounted on the opposite side of each of said linking members from said base member and adapted to fit through said base member and allow rotation in relation to said base member on an adjacently attached linking member.

10. The light set framework of claim 9, further characterized by

a boss mounted on each of said linking means spaced from said projecting terminal member,

each said base member having a groove around its periphery adapted to receive said boss therein from an adjacent connecting linking means whereby holding together and rotation between adjacent linking means is facilitated.

11. The light set framework of claim 9, further characterized by

each of said linking members having a terminal in said base opening into said sleeve electrically connected to a terminal in said projecting terminal member.

12. The light set framework of claim 9, further characterized by

each said base member having an axial opening therethrough centered in relation to said base member and opening into said sleeve, adapted to receive said projecting terminal member.

13. A light set framework comprising

a plurality of substantially identical linking members pivotally connected to each other at their end portions, and ornamental connecting means at the pivotal connections at said end portions,

each of said ornamental connecting means including an ornamental light bulb means having support pins supporting lead-in wires,

a terminal rotationally mounted in relation to one of said support pins and rotated upon pivotal movement of adjacent linking members.

14. A light set framework comprising

a plurality of substantially identical linking members pivotally connected to each other at their end portions, and ornamental connecting means at the pivotal connections at said end portions,

said ornamental connecting means including

a base member attached to one end of each of said linking members,

a sleeve mounted on said base with the axis of said sleeve positioned eccentrically of the pivotal axis of connected linking members, and in conjunction with said base having means to receive an ornamental light bulb.

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