

[54] **LIGHTING FIXTURE UNIT**

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[*] Notice: The portion of the term of this
patent subsequent to Sept. 17,
1990, has been disclaimed.

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[51] Int. Cl. **F21p 1/02**

[58] Field of Search..... **240/10 R, 1 R, 52 R, 52.1,
240/7.1 R, 8.2**

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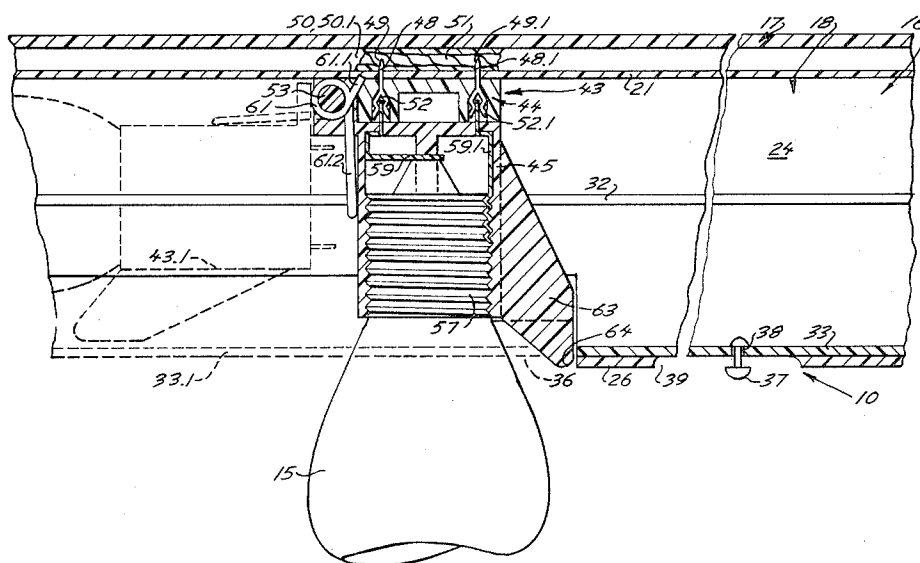
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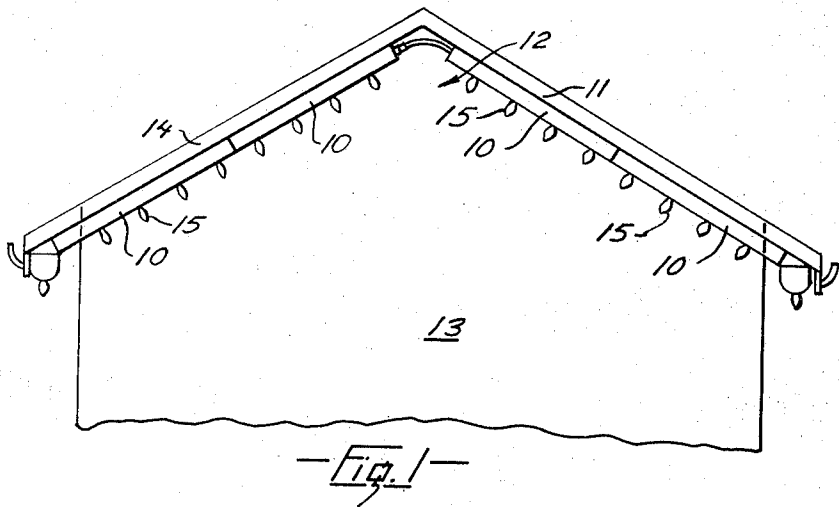
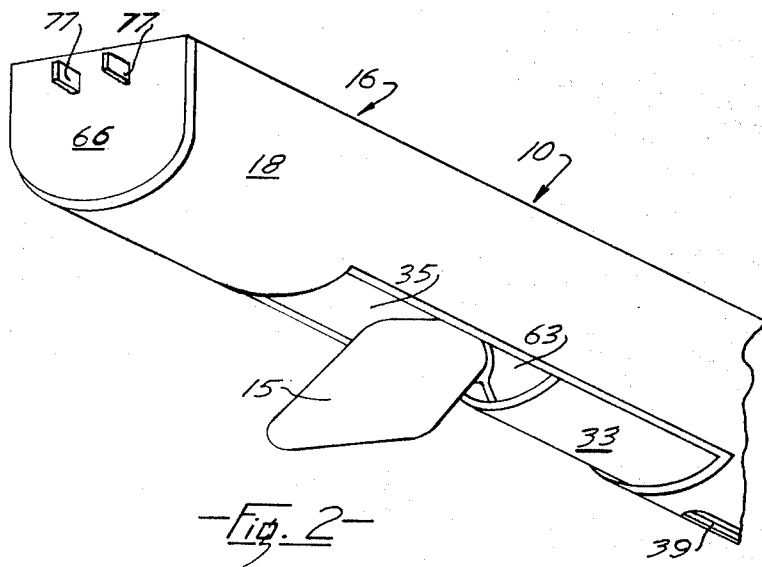
Primary Examiner—Richard L. Moses
Attorney, Agent, or Firm—Carver and Company

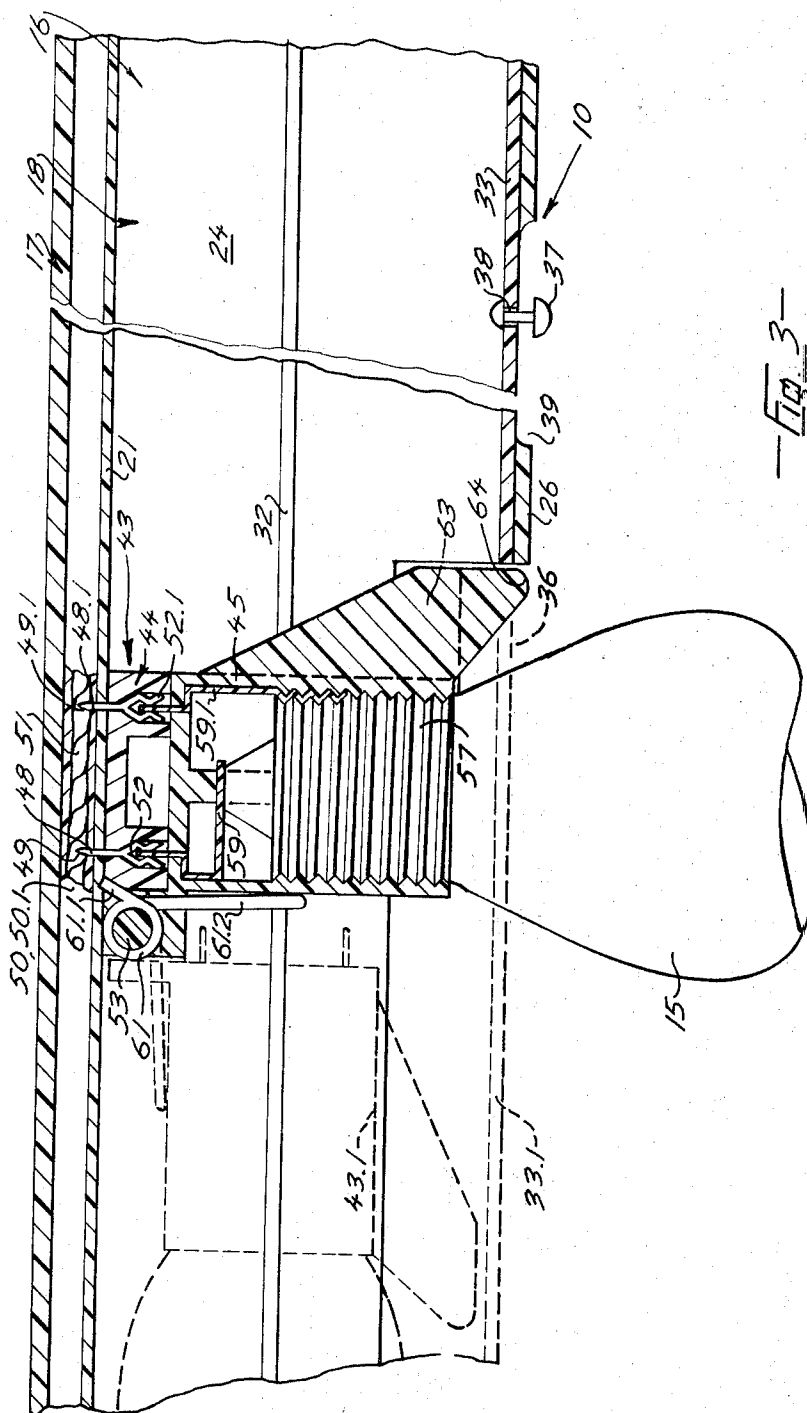
[57] **ABSTRACT**

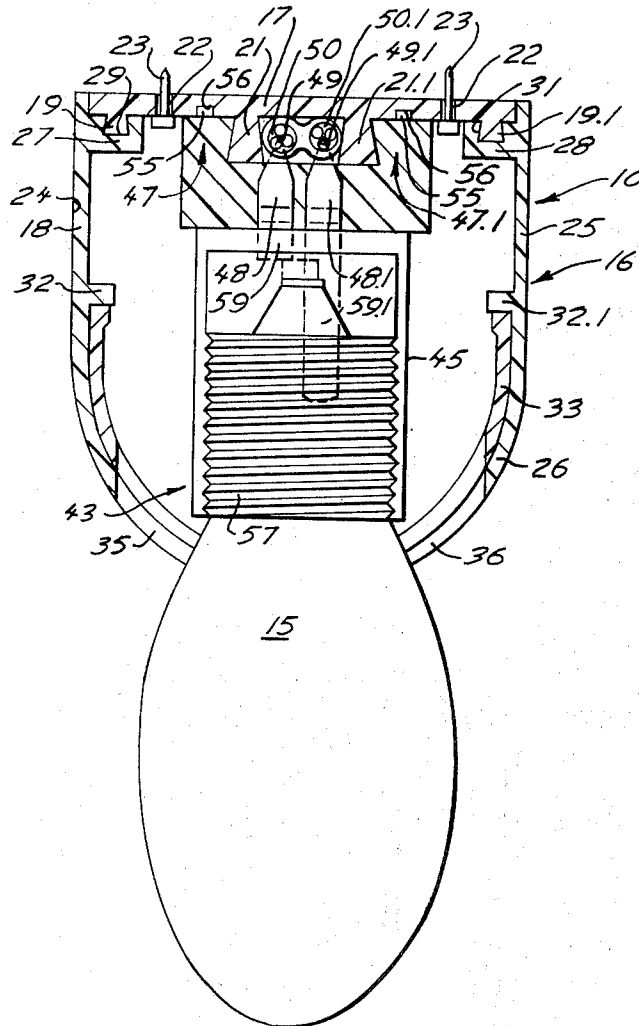
A lighting fixture unit having a housing adapted to be mounted on a building or similar structure, the housing having a wall having a plurality of longitudinally spaced apart openings, a sliding door mounted on the housing, the door having openings adapted to be positioned into and out of register with the housing openings and an electric light socket assembly adapted to receive an electric light bulb hingedly mounted in the housing at each housing opening for swinging the light bulbs from a hidden position within the housing to an exposed position extending out of the housing when the door is moved from a position covering the housing openings to a position in which each door opening registers with a housing opening.

5 Claims, 8 Drawing Figures

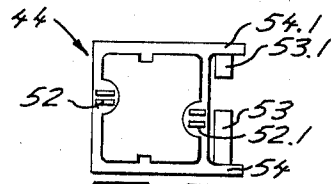




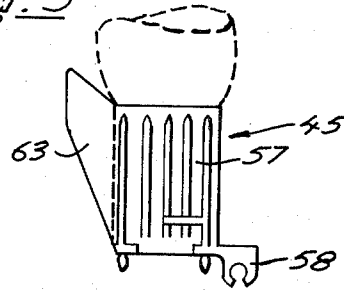




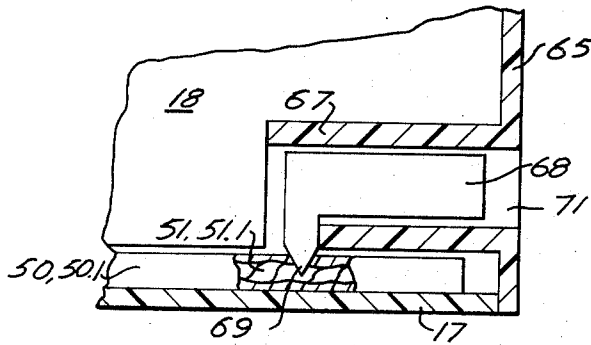
-Fig. 4-



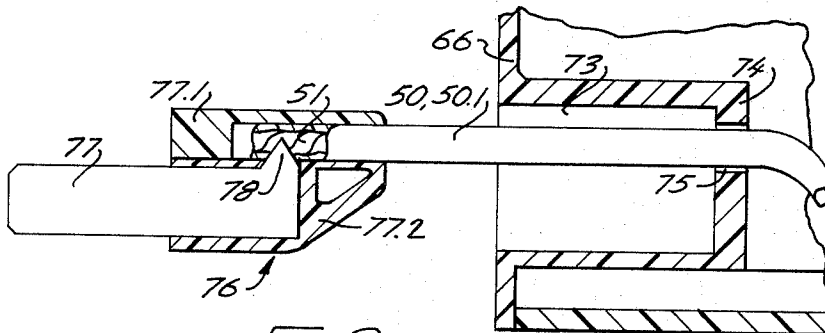
-Fig. 5-



-Fig. 6-



-Fig. 7-



-Fig. 8-

LIGHTING FIXTURE UNIT

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to lighting fixtures and in particular, but not restricted to, fixtures for mounting electric lights such as Christmas lights on buildings.

2. Prior Art

It has become common practice to decorate homes during the Christmas holiday season by attaching strings of light bulbs to achieve a decorative effect. The strings of light bulbs are usually secured beneath overhanging eaves and around gables, and are also positioned to outline architectural features of the homes.

The strings of light bulbs are usually secured in place by connectors such as staples, which results, due to repetitive installation and removal, in considerable marring of wooden surfaces. Long strings of light bulbs are difficult to install, consequently a householder is often inclined to leave the bulbs in place once they are secured. Although this avoids yearly installation and removal, the strings are exposed to weather for the full year resulting in their early deterioration and, furthermore, they add nothing to, and in fact detract from, the appearance of a house between Christmas seasons.

Present methods of securing strings of light bulbs as above mentioned, furthermore often result in a haphazard disposition of the light bulbs.

Christmas light bulb holders have heretofore been devised for attachment to houses for presenting strings of Christmas light bulbs in a regular manner and which afford the light bulbs some protection from rain, snow and the like. The light bulbs, however, are always exposed to view, consequently unless the householder is content to accept detract from the aesthetic qualities of his home the holders must be installed and removed each Christmas season.

SUMMARY OF THE INVENTION

The present invention provides a lighting fixture unit which is particularly adapted for permanently securing decorative lighting to houses and other structures and enables light bulbs to be moved between hidden and exposed positions. The present lighting fixture unit can be used for indoor lighting and can also be installed for outdoor lighting on holiday trailers and similar vehicles.

The lighting fixture unit of the present invention, furthermore, protects electric light bulbs and wiring from the elements and is relatively inexpensive and simple to install and operate.

The lighting fixture unit of the present invention includes a housing adapted to be mounted on a building or similar structure, a door mounted for slidable movement on the housing having openings which can be positioned into and out of register with the openings in one wall of the housing and electric light bulbs in the housing moveable between hidden and exposed position through the registered openings.

A detailed description following, related to drawings, gives exemplification of apparatus which, however, is capable of expression in means other than those particularly described and illustrated.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is an elevation of a portion of a gable ended house showing lighting fixture units in accordance with the invention, installed,

FIG. 2 is an enlarged portion of a lighting unit partially open,

FIG. 3 is a longitudinal section of a portion of the unit,

FIG. 4 is a transverse section of the unit,

FIG. 5 is a plan view of a base piece of a light socket assembly,

FIG. 6 is a side view of a socket of a light socket assembly,

FIG. 7 is an enlarged longitudinal sectional view of a portion of one end of the unit showing an electrical receptacle,

FIG. 8 is a view similar to FIG. 7 of an opposite end portion of the unit showing an electrical plug.

DETAILED DESCRIPTION

FIG. 1

FIG. 1 shows a plurality of lighting fixture units, severally 10, secured beneath an overhanging eave 11 at a gable end 12 of a house 13 to outline the roof 14 of the house. The units, each of which houses a string of electric light bulbs, severally 15, shown in exposed positions, are located in end to end relationship, the string of light bulbs in one unit being electrically connected to strings of light bulbs in adjacent units.

FIGS. 2, 3, 4, 5, and 6

Each lighting fixture unit 10 has a housing 16, see particularly FIG. 4, having a base section 17 and a cover section 18. Both sections are made of a suitable springy thermoplastic material for example polyvinylchlorate. The base section is generally flat having a pair of longitudinally extending ribs 19 and 19.1 of dovetailed cross-section at opposite side edges. A pair of transversely spaced ribs 21 and 21.1 also extend longitudinally of the base between the ribs 19 and 19.1. The base has holes, severally 22, through which screws 23 can be extended to secure the unit to the house.

The cover section 18 is generally U-shaped, FIG. 4, having side walls 24 and 25 and a curved front wall 26. Ribs 27 and 28 extend longitudinally along edges of the side walls 24 and 25 and have grooves 29 and 31 in which the ribs 19 and 19.1 of the base section have a snap fit. The side walls 24 and 25 also have a pair of longitudinally extending ribs 32 and 32.1 spaced between the ribs 27 and 28 and the front wall 26. A transversely curved sliding door 33 has a snap fit between the front wall 26 and the ribs 32 and 32.1.

The front wall 26 has a series of longitudinally extending spaced apart openings 35, FIGS. 2, 3, one being shown, and the door, similarly, is provided with longitudinally spaced openings 36, one being shown. Both openings are a little wider than a conventional electric light bulb 15 and where the unit is to be used for decorative Christmas lighting are spaced apart between 10 to 12 inches. The door has an operating handle 37, FIG. 3, which has a suitable snap fit through a hole 38 in the door and which projects through a longitudinally extending slot 39 in the front wall of the housing. The door can be slid longitudinally of the housing between a closed broken outline position 33.1, covering the housing openings and an open solid outline po-

sition 33, in which position the door openings register with the housing openings.

A light bulb socket assembly 43, FIGS. 3 and 4, is mounted in the housing adjacent each of the housing openings. The socket assembly has a base piece 44 on which a light socket 45, adapted to receive a light bulb, is hinged for swinging the light bulb between an exposed, solid outline position in which the bulb projects through the openings and a hidden position, broken outline 43.1, in which the bulb is within the housing 16.

The base piece 44 FIG. 4 has a pair of side pieces 47 and 47.1 which have a snap fit over the ribs 21 and 21.1. Contact elements 48 and 48.1, FIGS. 3 and 4, are mounted on the base piece and have piercing points 49 and 49.1 which are adapted to pierce through insulation of a pair of electric cables 50 and 50.1 which extend longitudinally of the housing base 17 between the ribs 21 and 21.1, the piercing points making electrical contact with wire sections 51 and 51.1 of the cables. The contact elements have bifurcated opposite ends 52 and 52.1, FIG. 3.

Transverse pintles 53 and 53.1, FIG. 5, extend inwards from opposite side flanges 54 and 54.1 of the base piece. Locating pins severally 55, FIG. 4, of the base piece extend into locating holes 56 of the housing base 17 for preventing longitudinal movement of the base piece when the latter is properly located at the housing opening.

The light socket 45, FIGS. 3 and 4, has a threaded socket portion 57 into which the light bulb 15 is screwed and has a pair of gripping elements severally 58, FIG. 6, one being shown, which have a snap rotatable fit on the pintles 53 and 53.1 of the base piece. Contact elements 59 and 59.1, FIGS. 3 and 4, extend through the socket portion and make contact with the contact elements 48 and 48.1, FIGS. 3 and 4, when the socket is positioned in the light exposed position, FIG. 3. Contact is broken when the socket member is swung to the light hidden position.

A helical spring 61, FIG. 3, mounted on the pintle 53 and having ends 61.1 and 61.2 bearing against the base piece 44 and the socket 45, respectively, normally urges the socket to swing from the light hidden to the light exposed position. The socket which is also made of a suitable thermoplastic has a laterally projecting lever arm 63 a tip 64 of which extends through the housing opening when the socket member is in the light exposed position.

FIGS. 2, 7, and 8

The cover section 18 is closed at one end by an end wall 65, FIGS. 2 and 7, and at an opposite end by an end wall 66, see FIG. 8. The end wall 65 has an inwardly projecting supporting structure 67 within which a pair of female contact elements 68, one being shown, are fastened, the female contact elements having piercing points 69 which, when the base section 17 is fitted to the cover section 18 pierce both wire portions 51 and 51.1 of the cables 50 and 50.1. Access to the female contacts is provided by way of openings 71 in the end wall 65.

The end wall 66, FIG. 8, has an outwardly opening and inwardly projecting socket 73 having an end wall 74 with an opening 75 through which the cables 50 and 50.1 extend the cables being secured to a plug 76 having prongs 77, one being shown. The plug 76 is made of two half sections 77.1 and 77.2 which, in a known

manner, can be snap fastened together and the prongs 77 have piercing points 78 which, pierce the electric cables and make electrical contact with the wire portions. The plug, which has a slidable fit in the socket 73, can be positioned within the socket 73 so that the prongs 77 alone project from the end wall 66 or the plug can be pulled out of the socket a few inches as shown in FIG. 8.

OPERATION

A plurality of lighting fixture units can be secured end to end on the housing or other structure with the prongs of the plug of each unit engaging the female electrical contacts of an adjacent unit so that the lights of all units are electrically connected. One of the units can then be electrically connected in suitable manner e.g. by an extension cord to a conventional electrical outlet. The plug can be pulled out of its socket to enable adjacent units which are not in alignment, e.g. at a gable of a house, to be electrically connected.

During the period when use of the lights are not required the sliding door is positioned so as to close the housing openings so that the bulbs are in their hidden positions. In this position contact between electrical contacts of the light sockets and the base pieces is broken so that none of the bulbs are energized. When use of lights is required the door is slid longitudinally of the housing to bring the door openings into register with the housing openings so that the bulbs, under the action of the coil springs, swing to their exposed positions. When the door is again moved to close the housing openings it engages the lever portions of the socket assemblies so as to return the bulbs to the de-energized hidden positions.

I claim:

1. A lighting fixture unit comprising:

- a. a housing having a series of longitudinally spaced apart openings in one wall,
- b. a sliding door mounted on said housing having a plurality of longitudinally spaced apart openings adapted to be positioned into and out of register with said housing openings,
- c. a base piece secured to a wall of said housing at each said housing opening,
- d. light socket assembly means pivotally mounted to each said base piece for receiving an electric light bulb and swinging the light bulb through one of said housing openings,
- e. means connected to said socket assembly means and positioned between said door and each said socket assembly means for permitting said socket assembly means to simultaneously swing the light bulbs to exposed positions extending outwards of said housing when said door is moved to position said door openings and said housing openings in register and causing said socket assembly means to simultaneously swing the light bulbs to concealed positions within said housing when said door openings and said housing openings are out of register, and
- f. first contact means on each said base piece for making electrical contact with an electric cable extending longitudinally within said housing,
- g. each said socket assembly means including second contact means for making electrical contact with said first contact means on the said base piece to which said each said socket assembly means is

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mounted when the light bulbs are in exposed positions and breaking contact with said last mentioned first contact means when the light bulbs are in concealed positions.

2. A lighting fixture unit as claimed in claim 1 and including a spring reacting against said base piece and said socket assembly means mounted at each said housing opening for swinging the light bulbs to exposed positions.

3. A lighting fixture as claimed in 1 in which said door is mounted inside said housing for longitudinal sliding movement, and which includes a handle connected to said door and extending through a slot in said housing for enabling said door to be moved longitudinally of said housing.

4. A lighting fixture unit as claimed in claim 1 and

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wherein said means connected to said socket assembly means includes a lever arm on each said socket means adapted to be engaged by said door when said door is moved to cover said housing openings for swinging the light bulbs to their hidden positions.

5. A lighting fixture unit as claimed in claim 1 including:

- a. a pronged plug at one end of said housing,
- b. an electrical receptacle at an opposite end of said housing having an electrical connection through each of said socket means to said plug so that light bulbs of a plurality of similar lighting fixtures units can be electrically interconnected when the units are arranged in end to end relationship.

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