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(71) Applicant: **KUROI GARASU KOUGYO CO. LTD.**
27, Yawatacho Nishishichijyo Shimogyo-ku
Kyoto-shi Kyoto 600(JP)

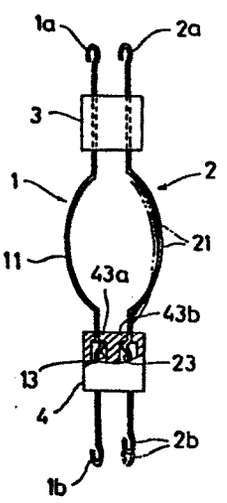
(72) Inventor: **Kitamura, Masaharu**
8-21 Tsurunosato
Ohtsu-shi Shiga(JP)

(74) Representative: **Beresford, Keith Denis Lewis et al,**
R.G.C. Jenkins & Co. 12-15, Fetter Lane
London EC4A 1PL(GB)

(54) Lighting fixture hanging unit.

(57) A unit for hanging lighting fixtures in which a pair of conductive wires having a hook at both ends are held by an insulating support with a space in-between, being characterized in that an elastic and expandable bent portion is formed in the middle of the conductive wires and that the conductive wires are slidably supported by the insulating support.

FIG. 3



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Title of the Invention

Lighting fixture hanging unit.

Background of the Invention

(a) Field of the invention:

This contrivance relates to a unit for hanging lighting fixture (called the unit in the following text) to support lighting fixtures and also as the electrical wiring.

(b) Prior art:

As shown in Fig. 4, unit A of this kind is made of a pair of conducting wires (1) (2) fixed to the upper and lower insulating supports (3) (4) with spacing between the wires and of the hooks (1a, 1b, 2a, 2b) formed at both ends of the wires (1) (2).

To compose a decorative lighting fixture by using this kind of unit, the upper hooks (1a, 2a) of the wires (1, 2) are hung from the fittings (5, 6) projected from the ceiling as shown in Fig. 5 for example, and the upper hooks (1a, 2a) of the wires (1, 2) of another unit A are hung from the lower hooks (1b, 2b) of the first unit, then the required number of units A are suspended in the same manner in order.

The wires (7, 8) of the lighting fixture B such as the lamp are hooked from the specified points of the pair of wires (1, 2) of each unit A.

With lighting fixture of this kind, the hooks (5, 6), the wires (1, 2) of the unit A, and the wires (7, 8) of the lighting fixture are electrically connected, and there is no need to perform connection of the lighting fixture B or support and the electrical wiring separately at the time of installation. As an advantage, the work for connection or support can complete the electrical wiring work at the same time.

In many cases, however, length of the pair of wires (1, 2) of unit A is different, the length (L2) of one wire (2) may somewhat shorter than the length (L1) of the other wire (1) as shown in Fig. 4 for example.

In such a case, malcontact between the wires (1, 2) of each unit A, A tends to happen when two or more units are suspended as shown in Fig. 5.

With unit A of conventional type, however, the wires (1, 2) are fixed to the supports (3, 4), and the difference in the length of the wires is not absorbed, which causes said malcontact frequently.

Summary of the Invention

It is therefore an object of this invention to provide an unit having a function to absorb difference in the length of a pair of wires, thereby overcoming the above-discussed disadvantage of the prior art.

In order to accomplish the foregoing object, the unit by this invention is provided with an elastic and expandable bent in the middle of the wires and the wires are held by the supports so as to slide freely.

By this composition, difference in the length of the wires due to dispersion of the pair of wire, can be absorbed effectively because the wires are expanded at the bend by the weight of another unit suspended from the unit making the shorter wire to the equal length as the longer wire.

Accordingly, possibility of said malcontact is eliminated.

Other objects and advantages of this invention will become apparent in the course of following description together with the accompanying drawings.

Brief Description of the Drawings

In this drawings forming a part of this application, and in which like parts are designated reference numerals

throughout the same,

Fig. 1 is a perspective view of a unit by an embodiment of the invention;

Fig. 2 is an assembly and exploded view showing the essential parts of the wires and the support;

Fig. 3 is a front view of a unit by another embodiment;

Fig. 4 is a front view of a conventional unit, and

Fig. 5 is a front view showing an example of lighting fixture.

Description of the Preferred Embodiment

Referring now to the accompanying drawings an embodiment of this invention is described in detail hereinafter.

By the unit A shown in Fig. 1 for example, a pair of conductive wires (1, 2) are held at two places by the insulating supports (3, 4) with spacing between the wires. These supports (3, 4) are made of a pair of split members (synthetic resin molds for example) (31, 41) combined together as shown in the drawing, for example.

The split members (41) of the lower support (4) has an L-groove (42) to accept the wires as shown in Fig. 2. The groove width at the horizontal part (42a) of this L-groove (42) is set larger than the outside diameter of the wire housed in the L-groove (42), the wire (2) for

example, so that the wire (2) housed in the L-groove (42) can slide up and down within certain range.

The other wire (1) is also held by the support (4) so as to slide freely.

The pair of wires (1, 2) are also held by the upper support (3) so as to slide freely.

The upper support (3) is provided with a stopper (not illustrated) to prevent dropping of the wires (1, 2).

The pair of wires (1, 2) are bent in the middle as is evident from Fig. 1, and the bent parts are positioned symetrically. The wires (1, 2) are also provided with a dent (12, 22) onto which the lighting fixture is hooked. (See Fig. 5.)

By said unit A, the bent parts (11, 21) can expand freely against elasticity of the wires (1, 2), and expansion of the wires (1, 2) is allowed by slide displacement of the wires (1, 2) in the L-groove (42) provided on the support (4).

Even if the pair of wires (1, 2) differ in length, the shorter wire is expanded to the same length as the longer wire by the weight of another unit suspended from the hooks (1b, 2b) of the wires (1, 2).

Accordingly, the linked units in suspended condition are free from any malcontact between the wires.

Fig. 3 shows another embodiment. In this embodiment, the bents (11, 21) of the wires (1, 2) are formed in arc shape. The lower support (4) forms the fitting parts (43a, 43b) to the projected bends (13, 23) made on the wires (1, 2). With such a unit A and even if the wire (2) is shorter than the wire (1), the bent (21) of the wire (2) is expanded to the same length as the wire (1), as shown by an imaginery line in the drawing, when another unit is suspended from the hooks (ab, 2b) of the wires (1, 2) and the hook (2b) is set at the same height as the hood (1b). No malcontact, therefore, is caused.

The bents of the wires can be in ⌋-shape as illustrated, or in arc shape or any other shape. When shaped to arc-form, however, expansion of the bents against elasticity of the wires is better.

It is further understood by those skilled in the art that the foregoing description is á preferred embodiment of the disclosed device and that various changes and modifications may be made in the invention without departing from the spirit and scope thereof.

CLAIMS:

1. A unit for hanging lighting fixtures (B) with a pair of conducting wires (1,2) having hooks (1b,2b) at their ends, said wires (1,2) being held apart by an insulating support (4), characterised in that at least one of said wires has a resiliently expansible portion (11,21) permitting relative movement of the wires so that, in use, the hooks (1b,2b) may be arranged at the same level.

2. A unit according to claim 1 characterised in that each wire (1,2) has a said resiliently expansible portion (11,21).

3. A unit according to claim 1 or 2, characterised in that the or each said expansible portion (11,21) is at one side of said insulating support (4) and said hooks (1b, 2b) at the opposite side thereof, at least one of said wires being movable relative to said support (4).

4. A unit according to claim 3, wherein said support (4) is provided with an L-shaped slot (42a) permitting said movement of said at least one wire (2).

5. A unit according to any preceding claim, wherein said resiliently expansible portion (11,21) is arcuate.

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FIG. 1

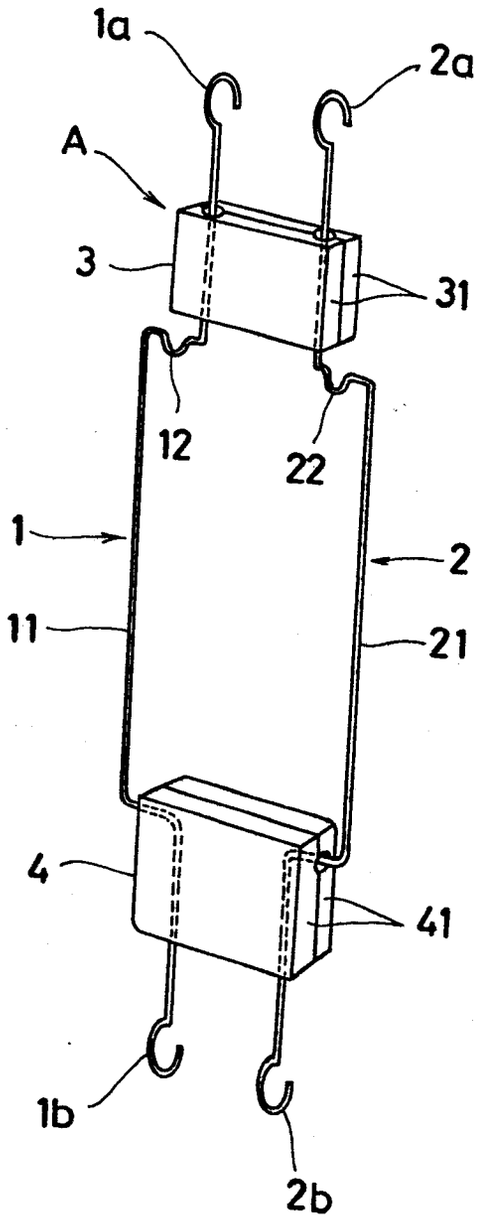

FIG. 2

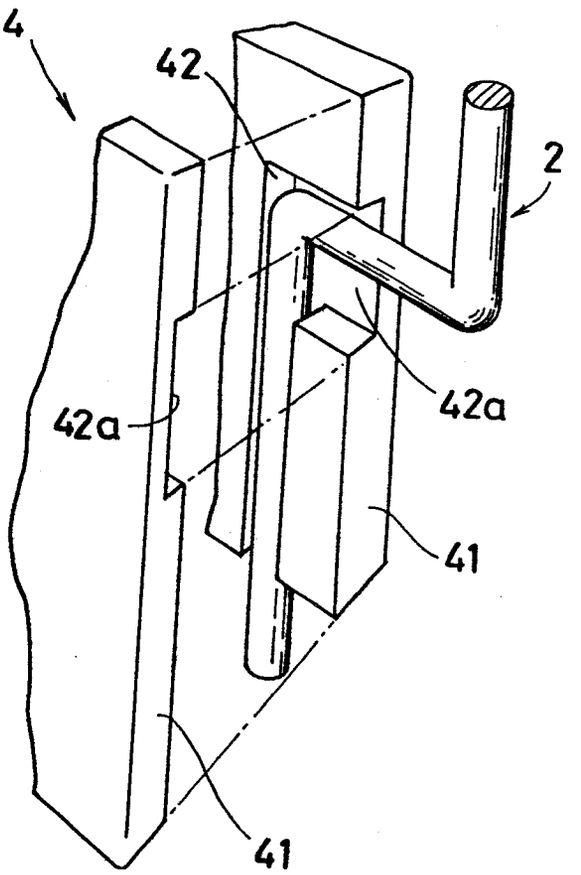

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FIG. 3

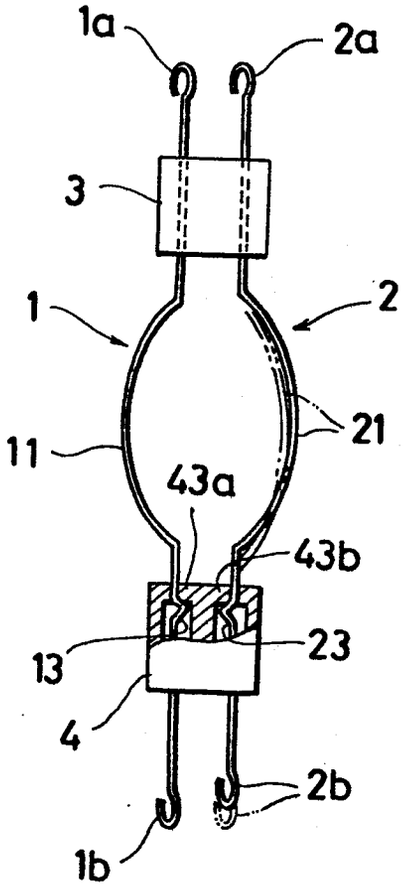

FIG. 4

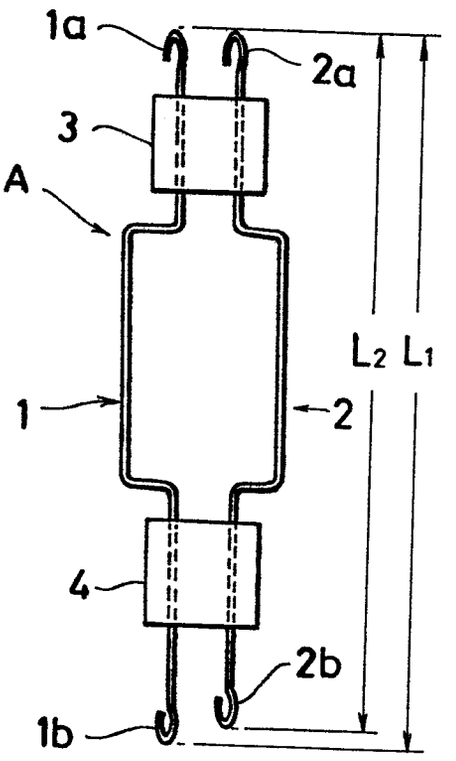

FIG. 5