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(54) **Led light structure**

(57) A LED light structure contains a body (1) including a housing (10), a pad (12), and a cover (14); the housing (10) including a plurality of fins (102) arranged around a peripheral side thereof and a plurality of LED lights (2) mounted on a top end thereof, and between each two fins (102) being defined a recess; the pad including a number of fixing members (120) formed on one side surface thereof to engage with the recesses; the cover (14) used to cover the pad (12).

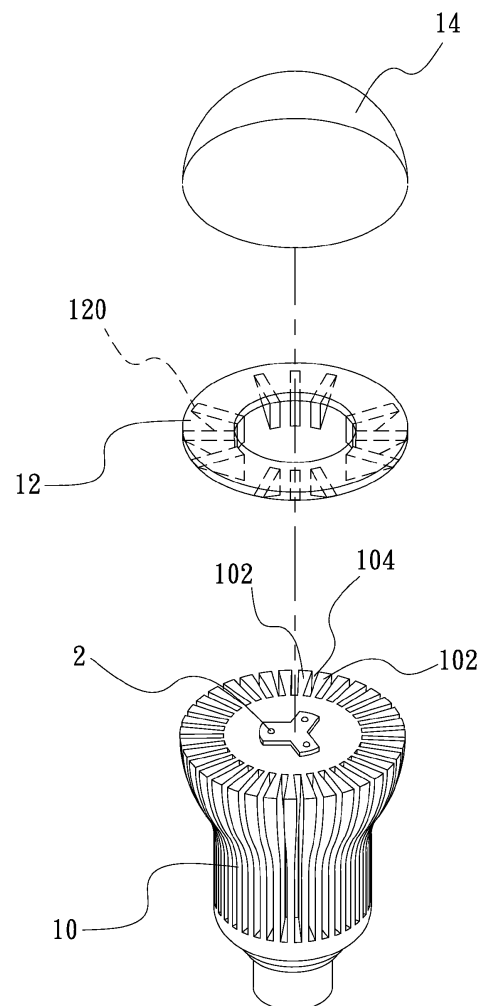


FIG. 2

Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a LED light, and more particularly to a LED light structure to connect related components quickly.

Description of the Prior Art

[0002] With technology development, illuminating tools with bright illumination and power saving function, such as light emitting diode (LED), are developed continuously. The light emitting diode is power saving, durable, heatproof, and environmental friendly, because its light is cold light source to obtain long-term service life, lower efficiency consumption, and non ultraviolet radiation. Therefore, LED illumination equipments are widely used.

[0003] However, conventional LED illumination equipments are connected by using adhesives or connecting elements at high cost and long time.

[0004] The present invention has arisen to mitigate and/or obviate the afore-described disadvantages.

SUMMARY OF THE INVENTION

[0005] The primary object of the present invention is to provide a LED light structure that a pad and a housing are connected together so that a pulling force on a body spreads equally, and the housing, the pad, and a cover are connected quickly.

[0006] Further object of the present invention is to provide a LED light structure that is connected without using an adhesive or connecting element to lower connecting time.

[0007] Another object of the present invention is to provide a LED light structure that is capable of decreasing related components to lower production cost.

[0008] A LED light structure in accordance with a preferred embodiment of the present invention comprises:

a body including a housing, a pad, and a cover;
the housing including a plurality of fins arranged around a peripheral side thereof and a plurality of LED lights mounted on a top end thereof, and between each two fins being defined a recess;
the pad including a number of fixing members formed on one side surface thereof to engage with the recesses;
the cover used to cover the pad.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009]

Fig. 1 is a perspective view showing the assembly of a LED light structure according to a preferred embodiment of the present invention;

Fig. 2 is a perspective view showing the exploded components of the LED light structure according to the preferred embodiment of the present invention; Fig. 3 is a side view showing the assembly of a housing and a pad of the LED light structure according to the preferred embodiment of the present invention; Fig. 4 is a side view showing the assembly of the housing, the pad, and a cover of the LED light structure according to the preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0010] The present invention will be clearer from the following description when viewed together with the accompanying drawings, which show, for purpose of illustrations only, the preferred embodiment in accordance with the present invention.

[0011] Referring to Figs. 1 and 2, a LED light structure in accordance with a preferred embodiment of the present invention comprises a body 1 including a housing 10, a pad 12, and a cover 14 (the cover 14 is transparent or opaque), wherein the housing 10 includes a plurality of fins 102 arranged around a peripheral side thereof and a plurality of LED lights 2 mounted on a top end thereof, and between each two fins 102 is defined a recess 104, the pad 12 includes a number of fixing members 120 formed on one side surface thereof and covered by the cover 14, the housing 10 also includes an electricity transmitting member 16 fixed on a bottom end thereof to transmit electricity to the LED lights 2 so that the LED lights 2 emit light.

[0012] As shown in Figs. 3 and 4, in assembly, the fixing members 120 of the pad 12 are pressed to engage with the recesses 104 respectively, and then the cover 14 is covered to the pad 12.

[0013] Thereafter, the pad 12 and the cover 14 are connected together by using ultrasonic method so that heat energy generates from rapid vibration and friction to melt the pad 12 and the cover 14, and then the pad 12 and the cover 14 are connected together by using 1-6 kilograms of air pressure and 0.3-0.6 seconds of solid connecting, hence the pad 12 and the cover 14 are connected together within a predetermined period to further couple with the housing 10.

[0014] Thereby, the pad 12 and the housing 10 are connected together so that a pulling force on the body 1 spreads equally, and the housing 10, the pad 12, and the cover 14 are connected quickly.

[0015] While we have shown and described various embodiments in accordance with the present invention, it is clear to those skilled in the art that further embodiments may be made without departing from the scope of the present invention.

Claims**1.** A LED light structure comprising:

a body (1) including a housing (10), a pad (12), 5
and a cover (14);
the housing (10) including a plurality of fins (102)
arranged around a peripheral side thereof and
a plurality of LED lights (2) mounted on a top
end thereof, and between each two fins being 10
defined a recess (104);
the pad (12) including a number of fixing mem-
bers (120) formed on one side surface thereof
to engage with the recesses (104);
the cover (14) used to cover the pad (12). 15

2. The LED light structure as claimed in claim 1 further
comprising an electricity transmitting member (16)
fixed on a bottom end of the housing (10). 20

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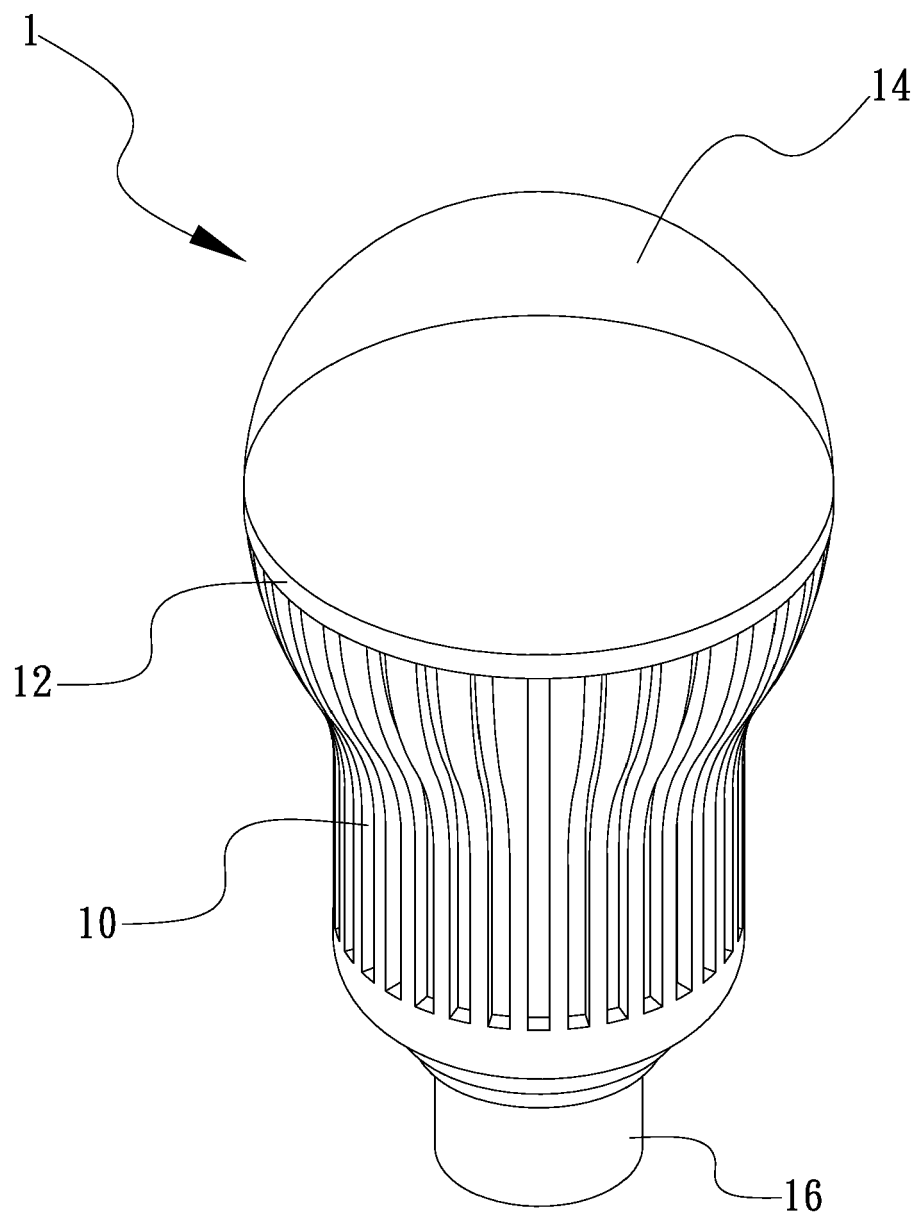


FIG. 1

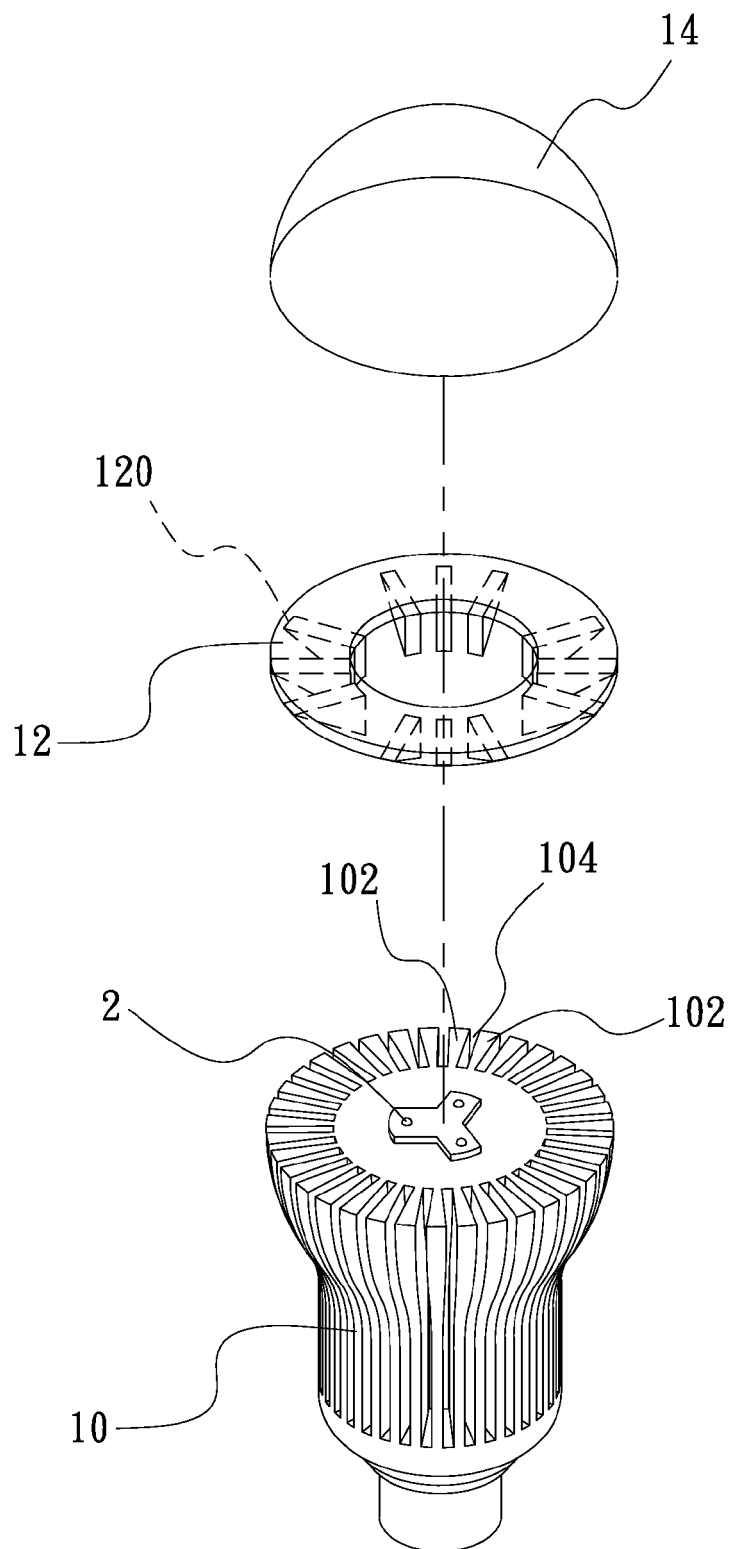


FIG. 2

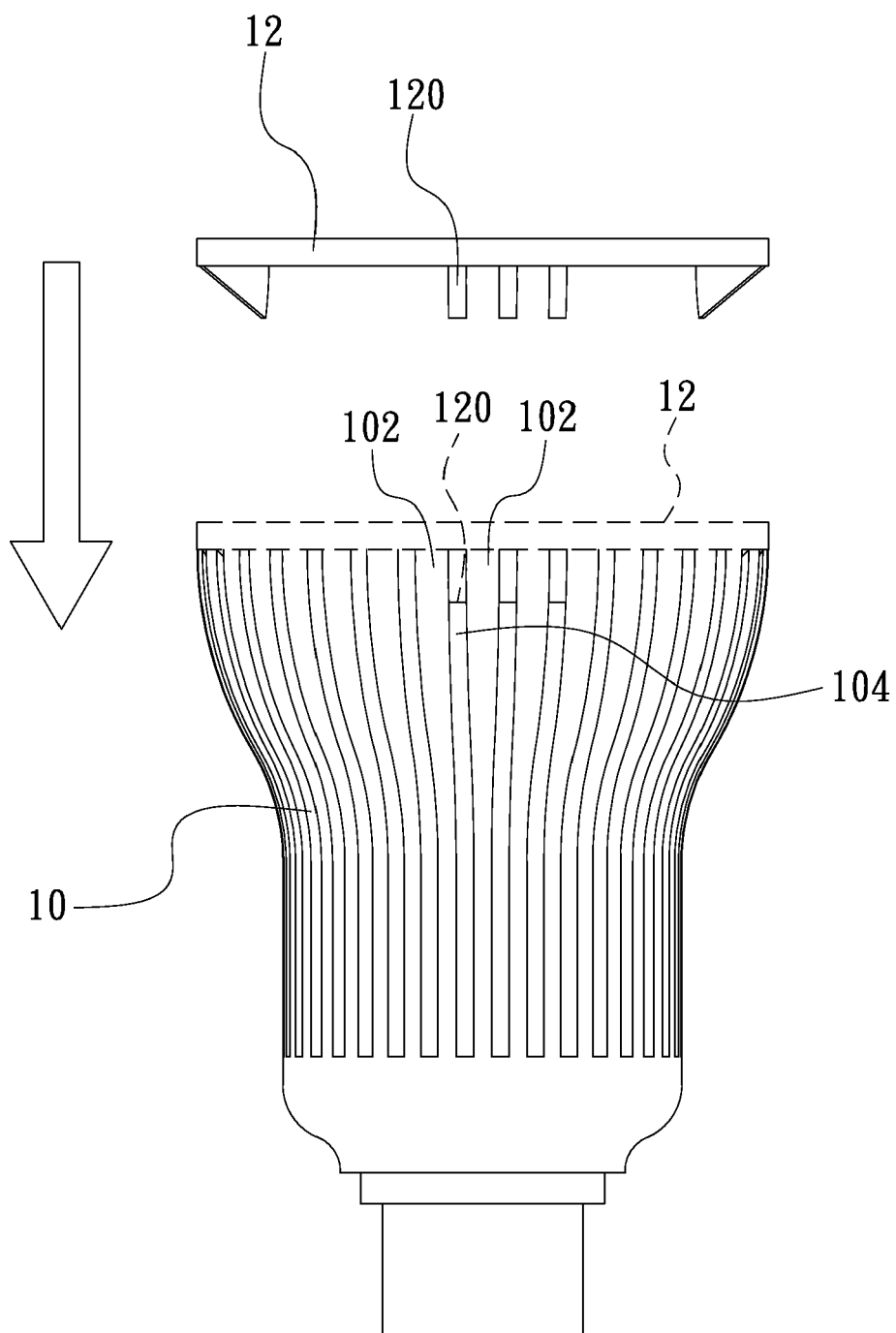


FIG. 3

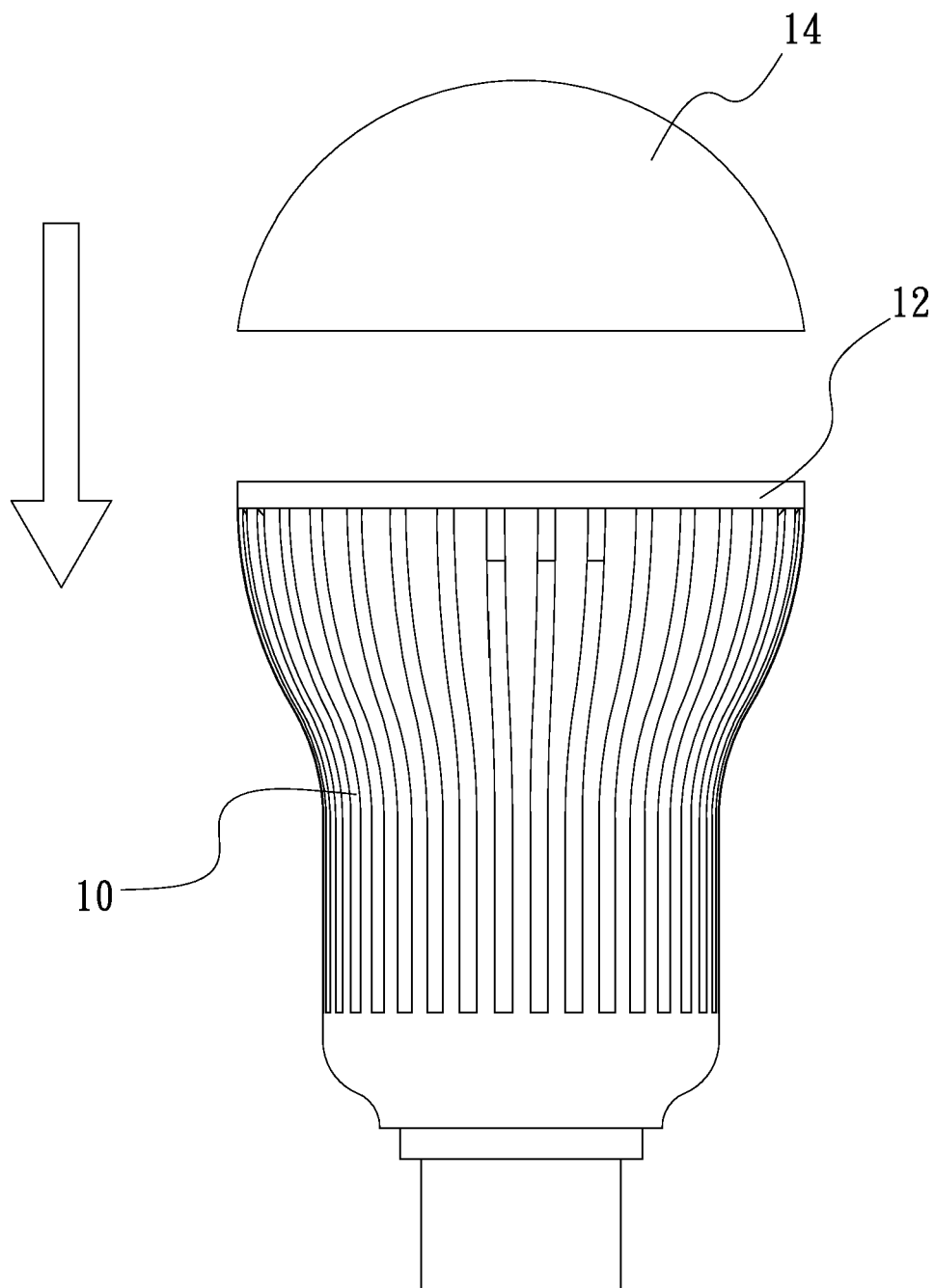


FIG. 4



EUROPEAN SEARCH REPORT

Application Number
EP 10 16 8230

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	----- DATABASE WPI Week 200937 Thomson Scientific, London, GB; AN 2009-J81561 XP002613872, & CN 201 242 058 Y (WANG W) 20 May 2009 (2009-05-20) * abstract *	1	ADD. F21Y101/02
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A	----- EP 2 175 196 A1 (HYUNDAI TELECOMM CO LTD [KR]) 14 April 2010 (2010-04-14) * the whole document *	1	
A	----- US 2010/073884 A1 (PELOZA KIRK B [US]) 25 March 2010 (2010-03-25) * the whole document *	1	
E	----- AU 2010 100 701 A4 (CHEN CHE-KAI) 29 July 2010 (2010-07-29) * the whole document *	1	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 13 December 2010	Examiner Cosnard, Denis
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 10 16 8230

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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