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Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

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Chung et al.

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- (54) **LED ILLUMINATION DEVICE**
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- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 192 days.

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- (58) **Field of Classification Search**
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See application file for complete search history.

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(57) **ABSTRACT**

A LED illumination device includes a carrier structure, a suspension structure, and a light-emitting structure. The carrier structure includes a carrier body and a first heat-conducting body fixedly disposed inside the carrier body. The carrier body has an outer thread structure disposed on an outer perimeter surface. The first heat-conducting body has a bottom contacting surface exposed from a bottom side of the carrier body. The suspension structure includes a first suspension element detachably disposed on a top side of the carrier body. The light-emitting structure includes a circuit substrate and a light-emitting unit. The circuit substrate is detachably disposed on the bottom side of the carrier body to contact the bottom contacting surface of the first heat-conducting body, and the light-emitting unit is disposed on the circuit substrate. Therefore, heat generated by the light-emitting unit is guided to the first heat-conducting body through the circuit substrate.

10 Claims, 10 Drawing Sheets

