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Andrews et al.

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(45) **Date of Patent:** **Oct. 9, 2007**

(54) **METHOD FOR PACKAGING A LIGHT EMITTING DEVICE BY ONE DISPENSE THEN CURE STEP FOLLOWED BY ANOTHER** 5,027,168 A 6/1991 Edmond 357/17
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(51) **Int. Cl.**
H01L 33/00 (2006.01)

(57) **ABSTRACT**

(52) **U.S. Cl.** **438/27; 257/E33.059**
(58) **Field of Classification Search** 438/26,
438/27, 29; 257/98, 100, E33.059
See application file for complete search history.

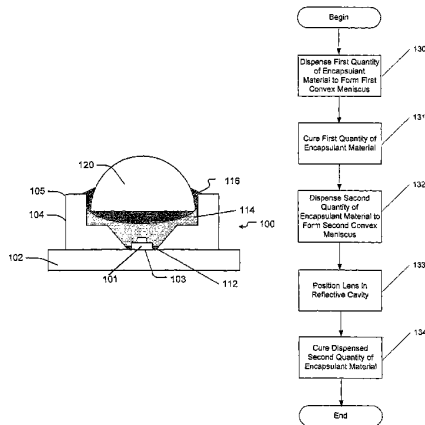
Methods of packaging a semiconductor light emitting device positioned in a reflective cavity are provided. A first quantity of encapsulant material is dispensed into the reflective cavity including the light emitting device therein and the first quantity of encapsulant in the reflective cavity is cured. A second quantity of encapsulant material is dispensed onto the cured first quantity of encapsulant material. A lens is positioned in the reflective cavity on the dispensed second quantity of encapsulant material. The dispensed second quantity of encapsulant material is cured to attach the lens in the reflective cavity.

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18 Claims, 10 Drawing Sheets



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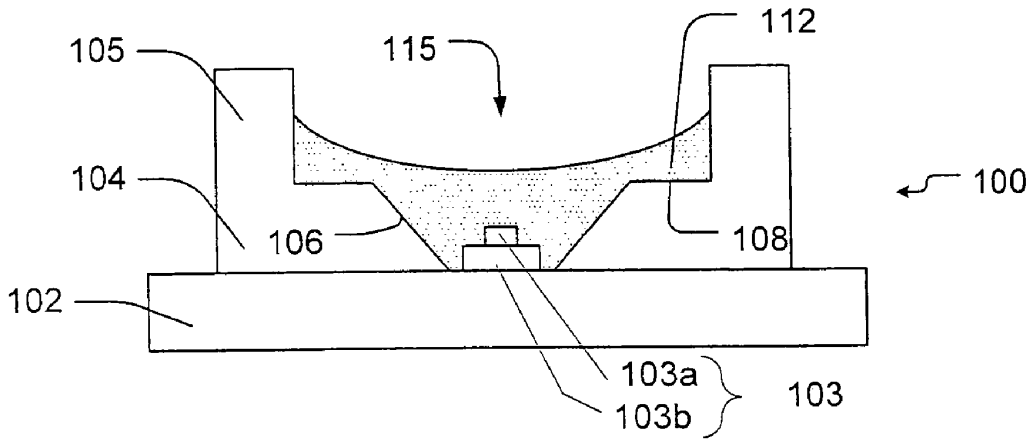


FIG. 1

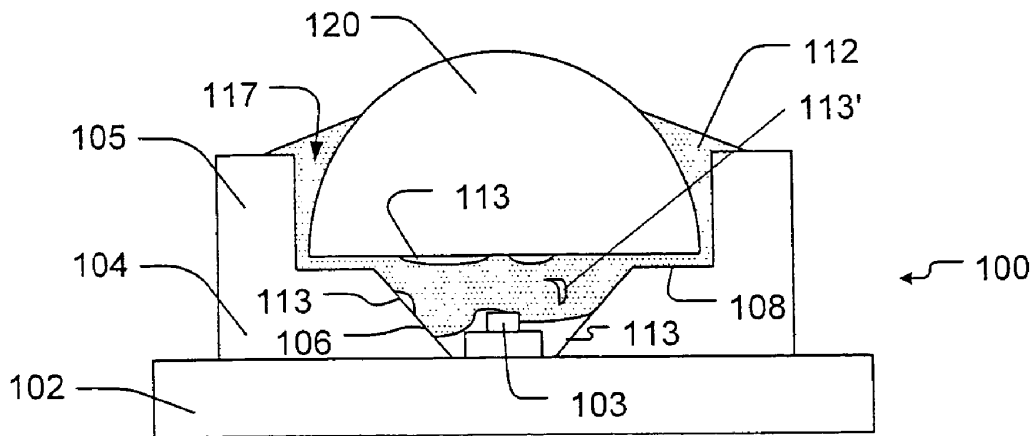


FIG. 2

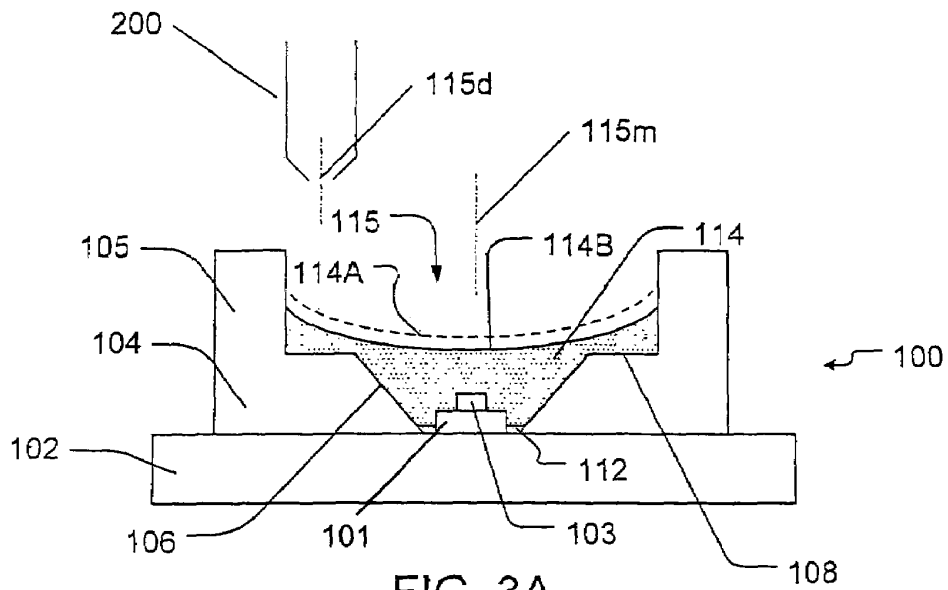


FIG. 3A

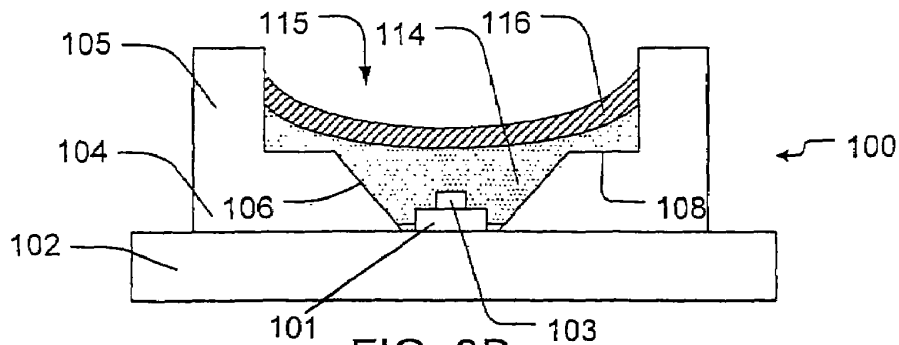


FIG. 3B

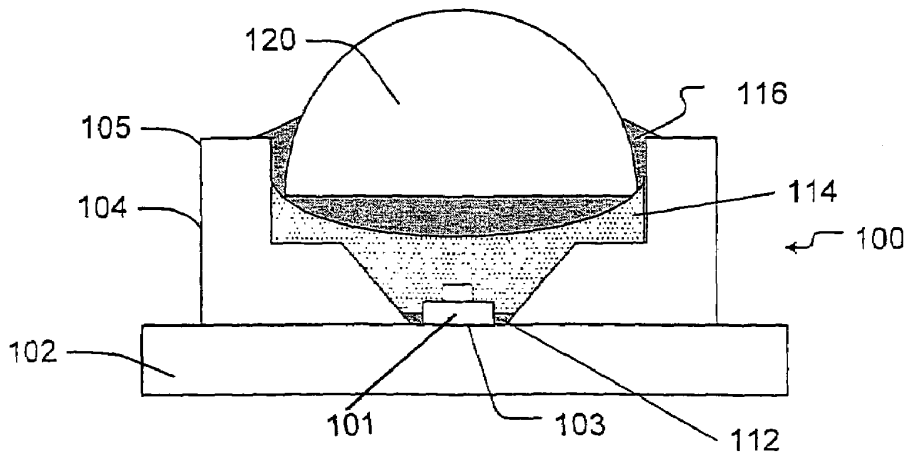


FIG. 3C

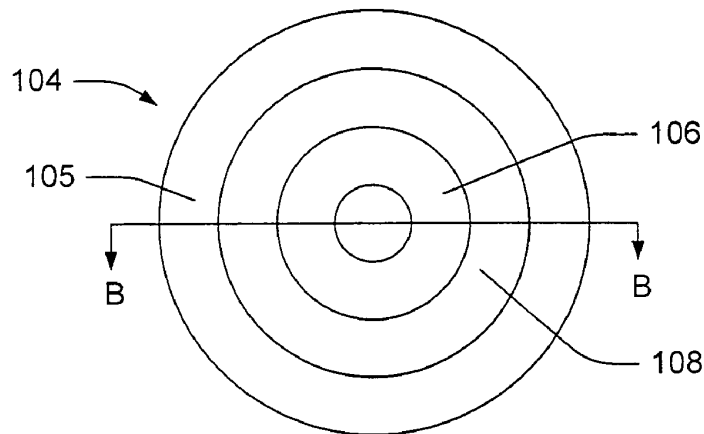


FIG. 4A

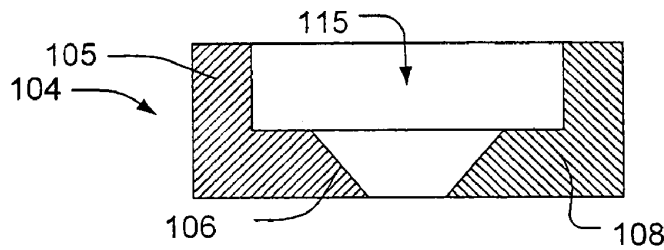


FIG. 4B

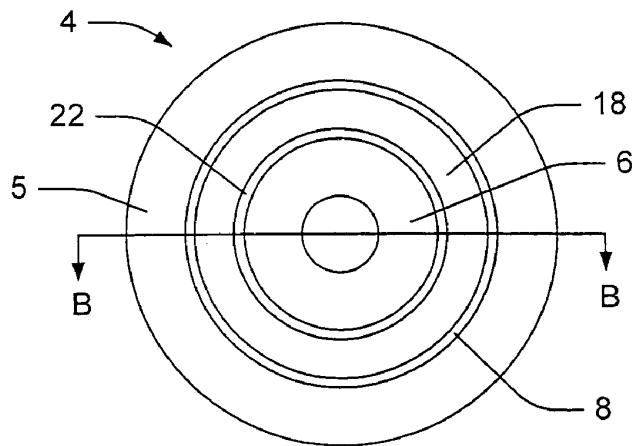


FIG. 5A

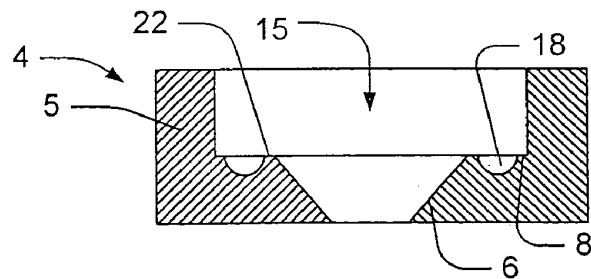


FIG. 5B

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