



(12) **United States Patent**  
**Wegner**

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(54) **REFLECTOR HAVING INFLECTION POINT AND LED FIXTURE INCLUDING SUCH REFLECTOR**

(75) Inventor: **Scott David Wegner**, Peachtree City, GA (US)

(73) Assignee: **Cooper Technologies Company**, Houston, TX (US)

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 62 days.

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(51) **Int. Cl.**  
**F21V 7/09** (2006.01)  
**F21V 7/20** (2006.01)

(52) **U.S. Cl.** ..... **362/296.05**; 362/304; 362/347; 362/350

(58) **Field of Classification Search** ..... 362/296.01, 362/304, 310, 296.05-296.09, 347, 348, 362/350, 364-366  
See application file for complete search history.

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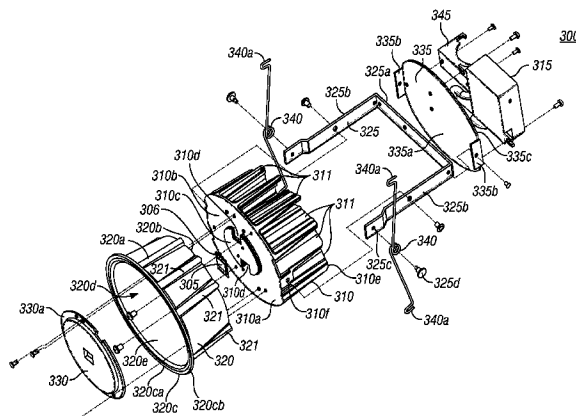
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*Primary Examiner* — Ismael Negron  
(74) *Attorney, Agent, or Firm* — King & Spalding, LLP

(57) **ABSTRACT**

A recessed light fixture includes an LED light source and a reflector extending 360 degrees around a center line of light output from the light source. A cross-sectional geometry of the reflector includes a bell-shaped curve with two radii of curvature that join together at an inflection point. One of the radii defines a top portion of the curve, which is disposed above the inflection point and reflects light in a concentrated manner to achieve desired light at higher angles. The other radii defines a bottom portion of the curve, which is disposed below the inflection point and is more diverging than the top portion.

**16 Claims, 12 Drawing Sheets**  
**(1 of 12 Drawing Sheet(s) Filed in Color)**



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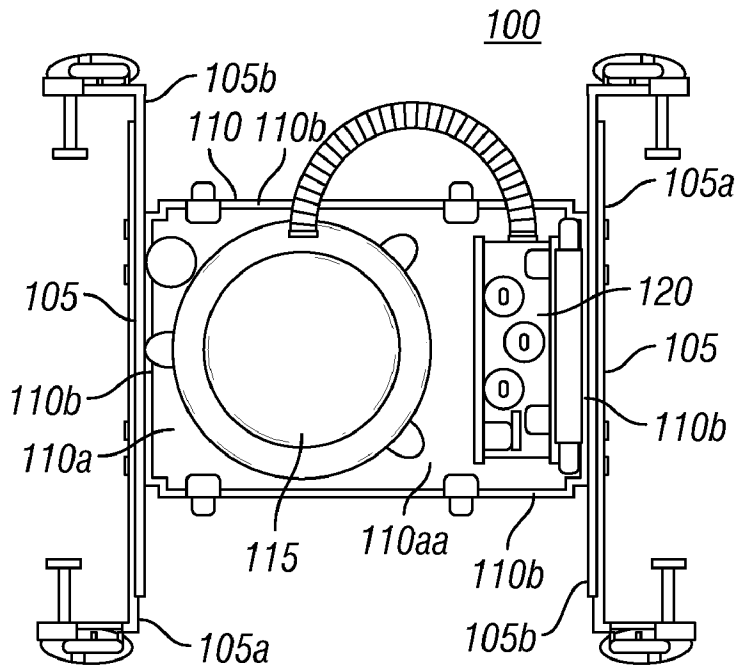


FIG. 1

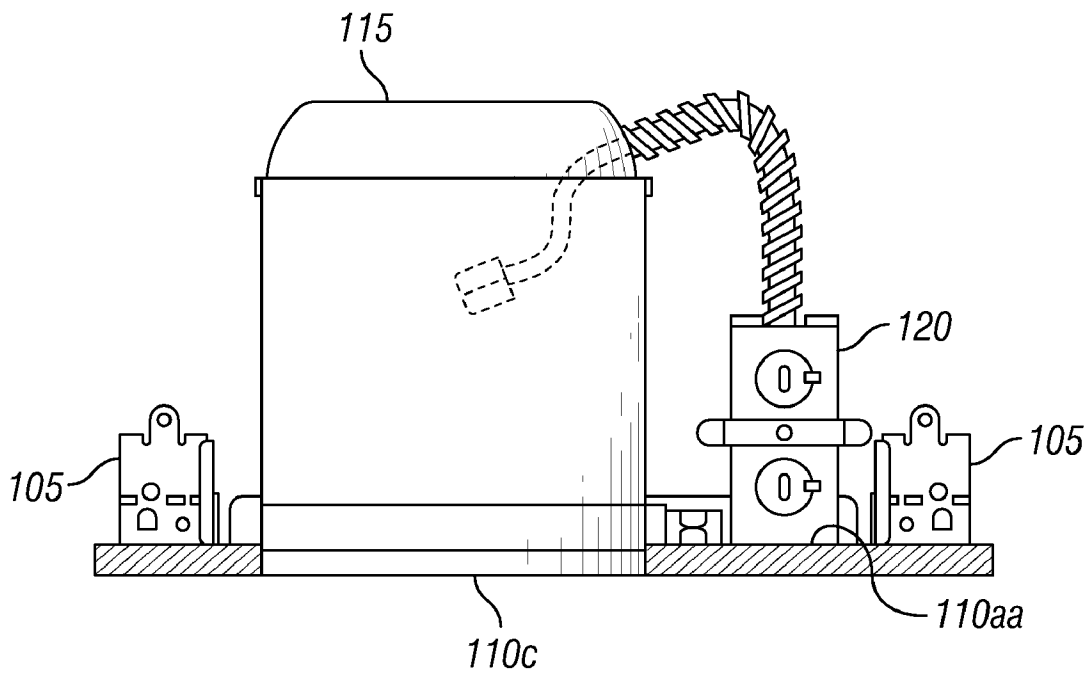


FIG. 2

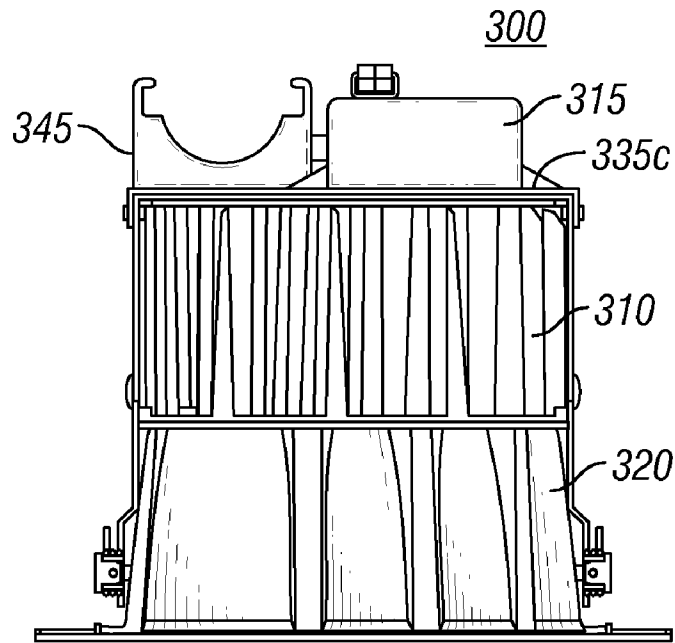


FIG. 3

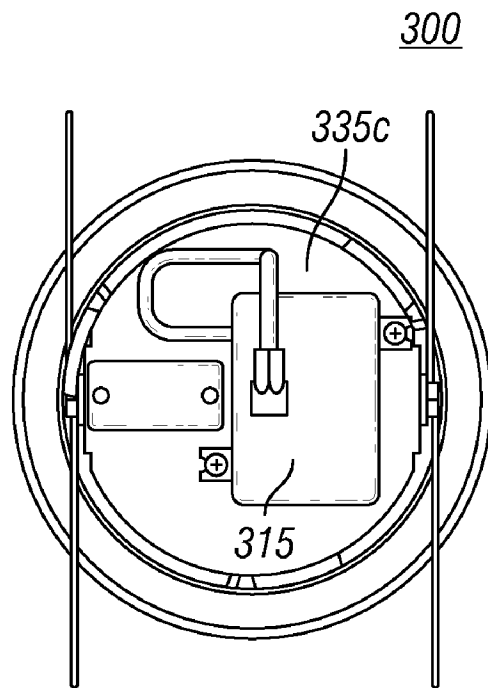


FIG. 4

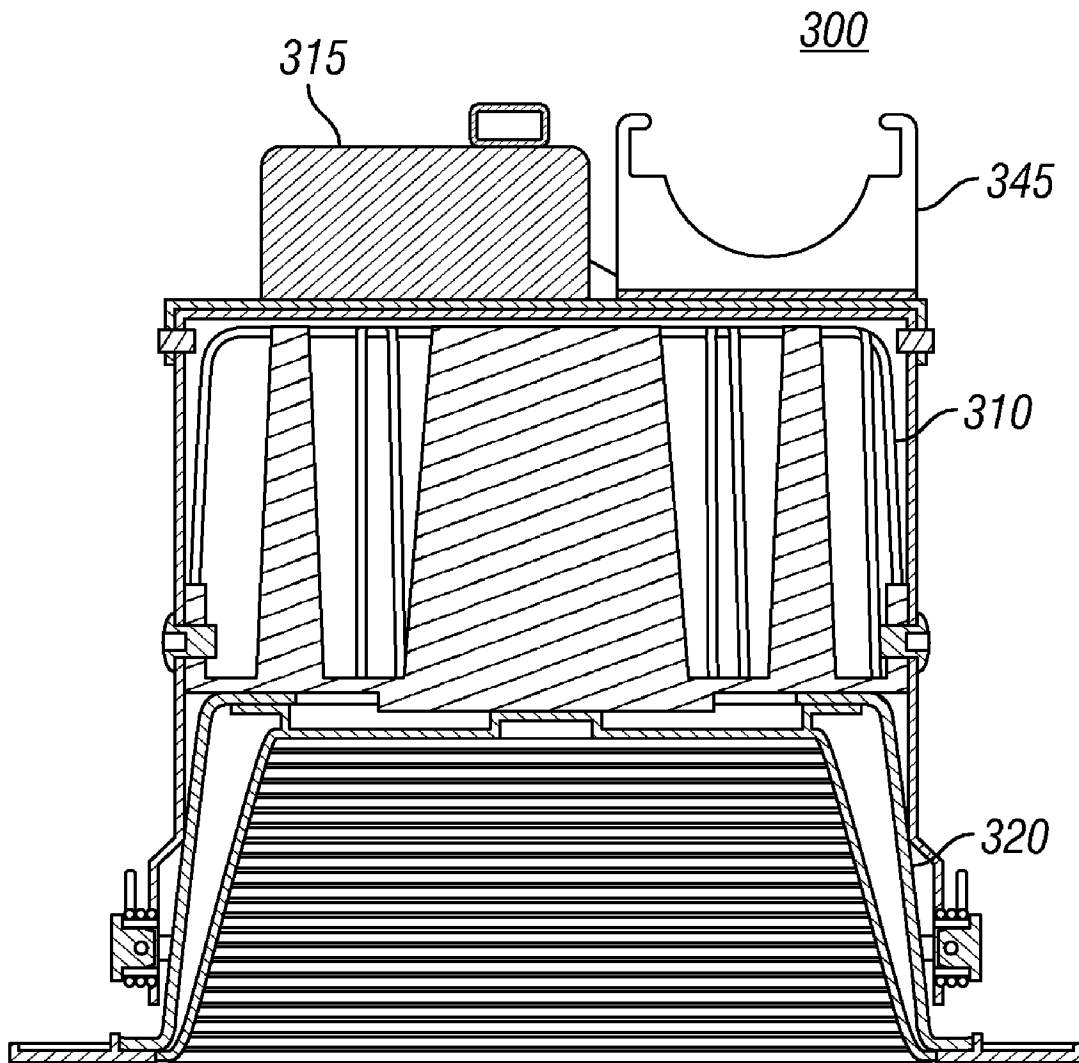


FIG. 5

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