



(12) **United States Patent**
Smith et al.

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- (54) **LASER-DRIVEN LIGHT SOURCE**
- (75) Inventors: **Donald K. Smith**, Boston, MA (US);
William M. Holber, Winchester, MA (US); **Jeffrey A. Casey**, Winchester, MA (US)
- (73) Assignee: **Energetiq Technology, Inc.**, Woburn, MA (US)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 41 days.

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(63) **Related U.S. Application Data**
Continuation of application No. 12/166,918, filed on Jul. 2, 2008, now Pat. No. 7,989,786, which is a continuation-in-part of application No. 11/695,348, filed on Apr. 2, 2007, now Pat. No. 7,786,455, which is a continuation-in-part of application No. 11/395,523, filed on Mar. 31, 2006, now Pat. No. 7,435,982.

- (51) **Int. Cl.**
H01J 63/08 (2006.01)
H05H 1/24 (2006.01)
H05B 31/00 (2006.01)
- (52) **U.S. Cl.** **250/493.1; 250/504 R; 250/503.1; 250/365; 315/149; 315/111.21; 313/231.31**
- (58) **Field of Classification Search** **250/503.1, 250/504 R, 365, 493.1; 315/149, 111.21; 313/231.31**

See application file for complete search history.

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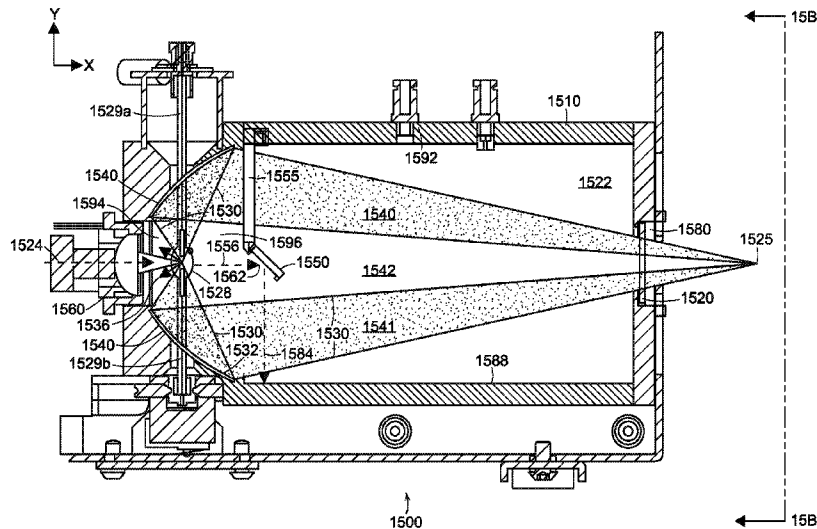
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Primary Examiner — Nikita Wells
(74) *Attorney, Agent, or Firm* — Proskauer Rose LLP

(57) **ABSTRACT**

An apparatus for producing light includes a chamber and an ignition source that ionizes a gas within the chamber. The apparatus also includes at least one laser that provides energy to the ionized gas within the chamber to produce a high brightness light. The laser can provide a substantially continuous amount of energy to the ionized gas to generate a substantially continuous high brightness light.

21 Claims, 17 Drawing Sheets



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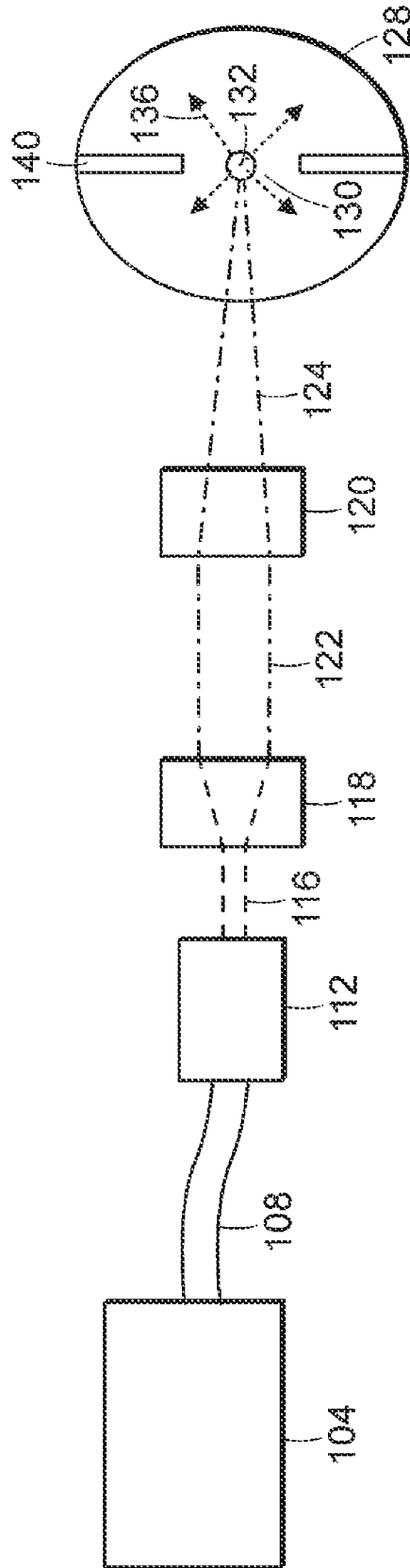


FIG. 1

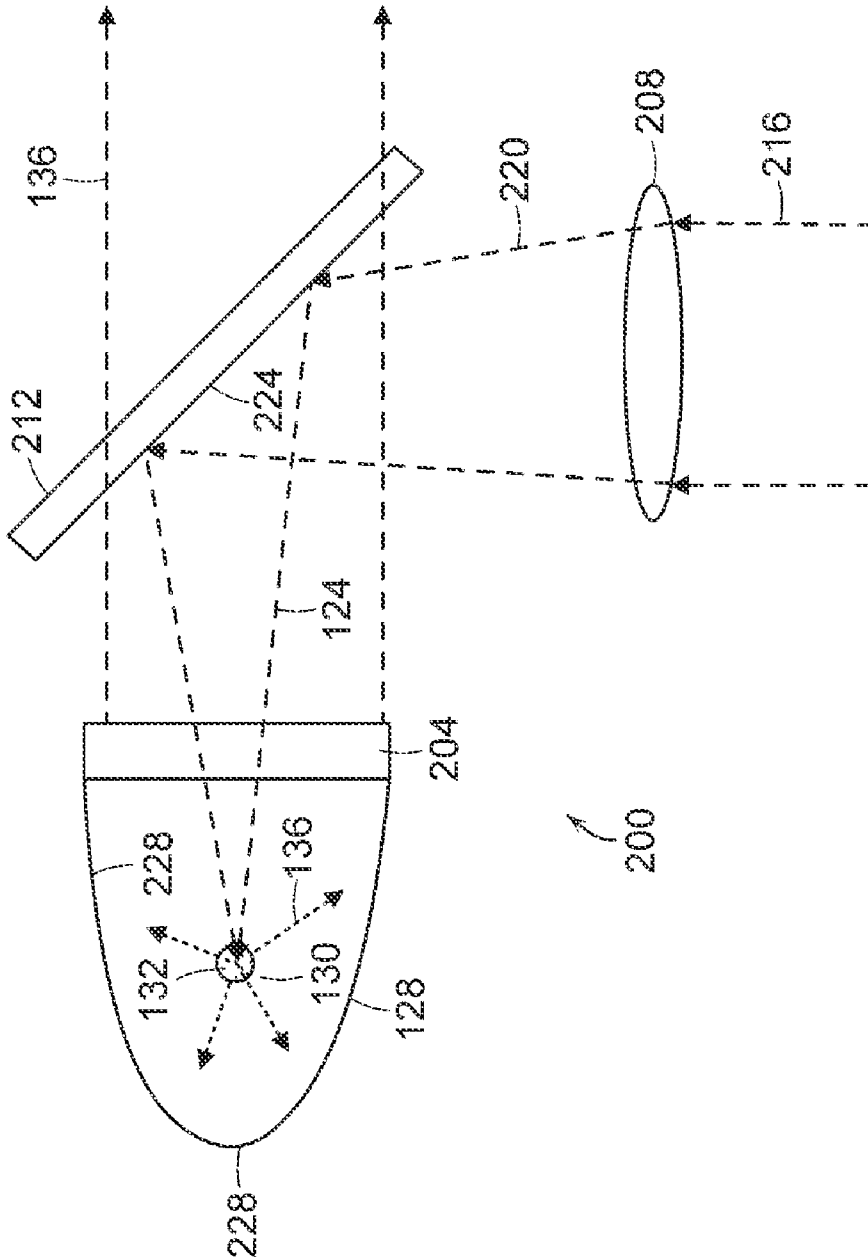


FIG. 2

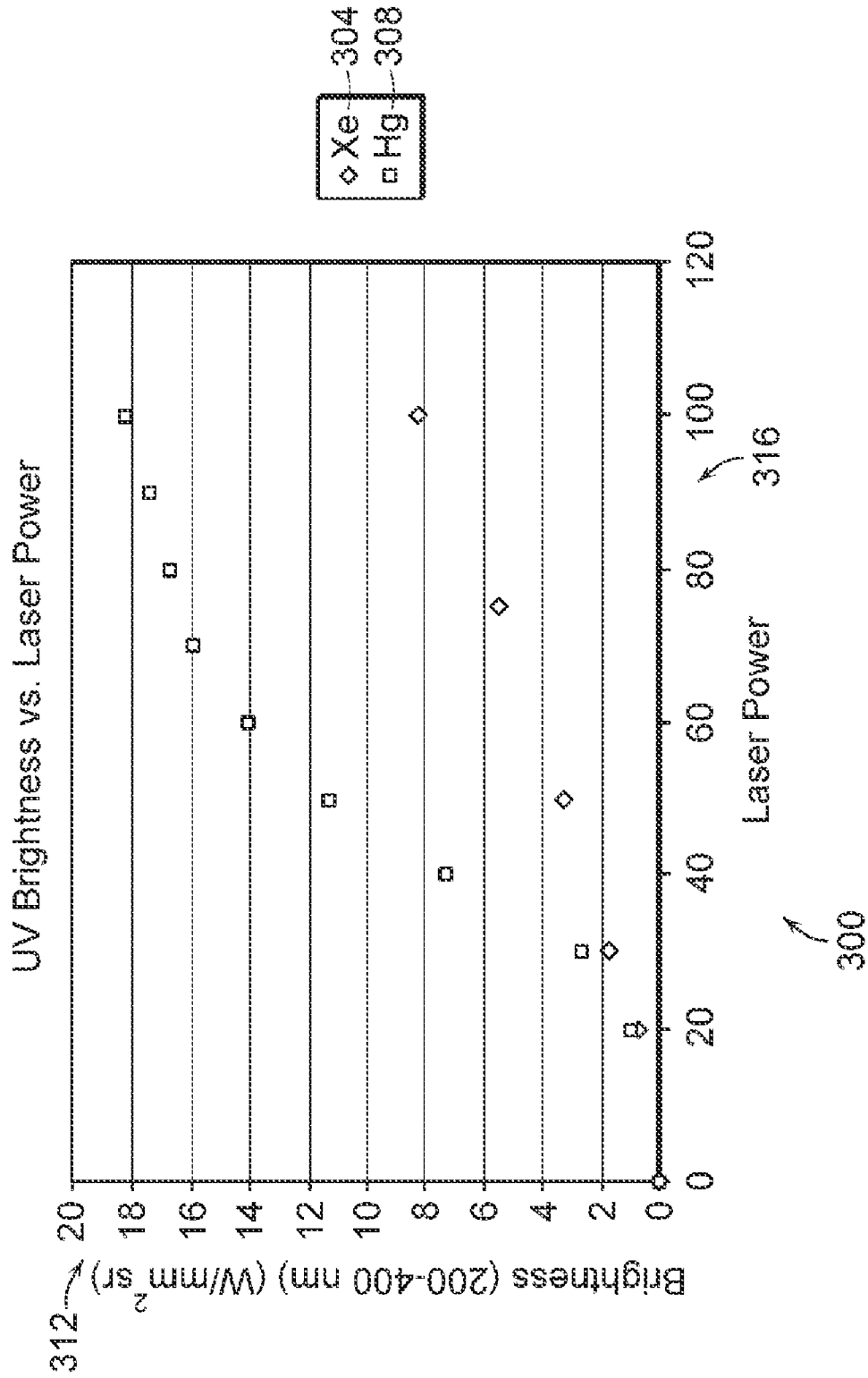


FIG. 3

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