

Notice of Allowability

Application No. 11/395,523	Applicant(s) SMITH, DONALD K.	
Examiner MEENAKSHI S. SAHU	Art Unit 2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- 1. This communication is responsive to 11/06/2006.
- 2. The allowed claim(s) is/are 1-81.
- 3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of the:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

- 4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 - 5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
- 6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- 1. Notice of References Cited (PTO-892)
- 2. Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3. Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 6/12/06,7/9/07,7/9/07,10/23/07
- 4. Examiner's Comment Regarding Requirement for Deposit of Biological Material
- 5. Notice of Informal Patent Application
- 6. Interview Summary (PTO-413),
Paper No./Mail Date _____.
- 7. Examiner's Amendment/Comment
- 8. Examiner's Statement of Reasons for Allowance
- 9. Other _____.

/Jack I. Berman/
Primary Examiner, Art Unit 2881

ASML 1505

DETAILED ACTION

1. Preliminary amendment filed on November 6, 2006 and addition of new claims 75 to 81 is noted.

Allowable Subject Matter

2. Claims 1, 30, 37, 67, 74, 75 and 78 are allowed.

3. The following is an examiner's statement of reasons for allowance:

Prior art fails to disclose a light source or light bulb or a method of producing light, comprising: a chamber; an ignition source for ionizing a gas within the chamber; and at least one laser for providing energy to the ionized gas within the chamber to produce a high brightness light.

High brightness light sources have several applications particularly in the fields of lithography and wafer inspection. In the instant application, the ignition source is a cathode and anode which generate an electrical discharge and provide ionized gas or plasma. During operation, the cathode and anode can get very hot and can wear out and emit particles that contaminate the light source and reduce the efficiency of the light source. To overcome this, a laser which provides energy to sustain the plasma or ionized gas is included. The temperature in the plasma rises due to heating by the laser beam and these high temperatures lead to

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increased radiation at the shorter wavelengths such as in the ultraviolet.

Prior art by Hoshino et al. (US 2005/0167618 A1) disclose a light source which has a laser that generates a plasma by focusing the laser beam onto a target material that injected downward through a nozzle. In the instant application the plasma is produced by an electrical discharge but maintained by a laser and does not have the debris problem of laser produced plasma (LPP) sources.

Prior art by Sato (JP 61193358 A) discloses a light source where a laser beam excites gas (for emitting UV and FUV light) that is sealed in a bulb tube but fails to disclose an ignition source that generates the plasma and a laser beam to maintain the plasma as in the instant application, which results in a more powerful light source.

Application 11/695,348 (US 2007/0228300 A1) has been checked for double patenting issues.

4. Claims 2 to 29, 31 to 36, 38 to 66, 68 to 73, 76 to 77 and 79 to 81 are allowed by virtue of their dependencies on claims 1,30, 37, 67, 75 and 78.

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEENAKSHI S. SAHU whose telephone number is (571)270-3101. The examiner can normally be reached on Monday - Friday 8AM - 5PM est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jack I. Berman/
Primary Examiner, Art Unit 2881

/Meenakshi S Sahu/
Examiner, Art Unit 2881