

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GLOBALFOUNDRIES U.S., INC., GLOBALFOUNDRIES DRESDEN
MODULE ONE LLC & CO. KG, GLOBALFOUNDRIES DRESDEN
MODULE TWO LLC & CO. KG, and
THE GILLETTE COMPANY,
Petitioners,

v.

ZOND, LLC,
Patent Owner

IPR2014-01073¹
Patent 6,085779 B2

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

Claims 1-4, 10-15, 17, 18, 24-27, and 29

¹ Cases IPR2014-00828, IPR2014-00829, IPR2014-00917 and IPR2014-01076 have been joined with the instant proceeding.

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 B. Zond mischaracterizes the teachings of Pinsley and Angelbeck..... 4

 C. A person of ordinary skill in the art would have combined Iwamura with Pinsley and Angelbeck 9

III. CLAIMS 1, 4, 10, 11, 13-15, 18, 24, 25, AND 17 ARE UNPATENTABLE OVER THE CITED PRIOR ART 13

 A. Iwamura in view of Pinsley and Angelbeck teaches “an excited atom source” recited in claim 1, and “a metastable atom source” recited in claim 18. 13

 B. Iwamura in view of Pinsley and Angelbeck teaches “a plasma chamber that is coupled to the [excited / metastable] atom source” recited in claims 1 and 18. 15

 C. Iwamura in view of Pinsley and Angelbeck teaches “an energy source that is coupled to the volume of [excited / metastable] atoms ... thereby generating a plasma with a multi-step ionization process” recited by claims 1 and 18. 17

 D. Iwamura in view of Pinsley and Angelbeck teaches “a metastable atom source that generates metastable atoms” recited in claim 4. 18

E. Iwamura in view of Pinsley and Angelbeck teaches “the [excited / metastable] atom source is positioned inside the plasma chamber” recited by claims 10 and 24, and “the [excited / metastable] atom source is positioned outside the plasma chamber” recited by claims 11 and 25..... 18

F. Iwamura in view of Pinsley and Angelbeck teaches “the energy source is chosen from the group comprising [various sources]” recited in recited by claim 13, “the energy source comprises a power supply” recited by claim 14, and “the power supply is chosen from the group comprising [various types of power supplies]” recited by claims 15 and 27. 19

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Cases

EWP Corp. v. Reliance Universal, Inc., 755 F.2d 898, 907 (Fed. Cir. 1985)4

In re Mouttet, 686 F.3d 1322, 1332 (Fed. Cir. 2012)9

PETITIONER'S EXHIBIT LIST

April 27, 2015

Exhibit	Description
1001	U.S. Patent No. 6,805,779 ("779 Patent")
1002	Declaration of Dr. Uwe Kortshagen ("Kortshagen Decl.")
1003	D.V. Mozgrin, <i>et al</i> , <u>High-Current Low-Pressure Quasi-Stationary Discharge in a Magnetic Field: Experimental Research</u> , Plasma Physics Reports, Vol. 21, No. 5, pp. 400-409, 1995 ("Mozgrin")
1004	A. A. Kudryavtsev and V.N. Skerbov, <u>Ionization relaxation in a plasma produced by a pulsed inert-gas discharge</u> , Sov. Phys. Tech. Phys. 28(1), pp. 30-35, January 1983 ("Kudryavtsev")
1005	U.S. Patent No. 3,761,836 ("Pinsley")
1006	U.S. Patent No. 3,514,714 ("Angelbeck")
1007	U.S. Patent No. 5,753,886 ("Iwamura")
1008	File History for U.S. Patent No. 6,805,779, Office Action dated February 11, 2004 ("02/11/04 Office Action")
1009	File History for U.S. Patent No. 6,805,779, Response dated May 6, 2004 ("05/06/04 Response")
1010	European Patent Application No. 1614136, Response dated July 24, 2007 (07/24/07 Response in EP 1614136)
1011	J. Vlček, <u>A collisional-radiative model applicable to argon discharges over a wide range of conditions. I: Formulation and basic data</u> , J. Phys. D: Appl. Phys. 22 (1989) pp. 623-631, Printed in the UK
1012	J. Vlček, <u>A collisional-radiative model applicable to argon discharges over a wide range of conditions. II: Application to low-pressure, hollow-cathode arc and low-pressure glow discharges</u> , J. Phys. D: Appl. Phys.

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