(19) World Intellectual Property Organization

International Bureau





(10) International Publication Number

(43) International Publication Date 21 February 2008 (21.02.2008)

(51) International Patent Classification:

H01L 21/306 (2006.01) G05B 19/04 (2006.01) H01L 21/68 (2006.01) B65G 49/07 (2006.01) F26B 11/08 (2006.01) B08B 7/00 (2006.01)

G11B 7/00 (2006.01)

(21) International Application Number:

PCT/US2007/018195

(22) International Filing Date: 15 August 2007 (15.08.2007)

(25) Filing Language: **English**

(26) Publication Language: English

(30) Priority Data:

US 60/838.012 15 August 2006 (15.08.2006) 11/893,183 14 August 2007 (14.08.2007) US

- (71) Applicant (for all designated States except US): AP-PLIED MATERIALS, INC. [US/US]: Legal Affairs Department - M/S 2061, P.O.Box 450a, Santa Clara, CA 95052 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): CHILD, Kent, Riley [US/US]; 1807 Chapman Court, Los Banos, CA 93635 (US). EGAMI, Glen [US/US]; 1833 Saint Andrews Place, San Jose, CA 95132 (US). KO, Alexander, Sou-kang [US/US]; 596 Valeri Ruth Court, Santa Clara, CA 95050 (US).

- WO 2008/021460 A3
- (74) Agents: BERNADICOU, Michael, J. et al.; Blakely, Sokoloff, Taylor & Zafman LLP, 12400 Wilshire Boulevard, 7th Floor, Los Angeles, CA 90025 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM. ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of
- (88) Date of publication of the international search report: 27 November 2008



(54) Title: CATCH-CUP TO DIVERTER ALIGNMENT LEVELING JIG

(57) Abstract: An apparatus for leveling and centering a catch-cup chamber to a diverter chamber of a semiconductor processing chamber is described, hi one embodiment, the apparatus has a frame with branches. A coupler is mounted to the end of each branch. A measuring device is mounted to each branch. The apparatus is placed in the diverter. The measuring device measures a distance from a branch to a top surface of the catch-cup chamber.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US07/18195

		1 6 17 6 5 6 7 1 6 17 5 5		
A. CLASSIFICATION OF SUBJECT MATTER IPC: H01L 21/306(2006.01),21/68(2006.01);F26B 11/08(2006.01);G11B 7/00(2006.01);G05B19/04:B65G 49/07;B08B 7/00(2006.01)				
USPC: According to	118/728,729,730;156/345.51;156/345.55 International Patent Classification (IPC) or to both nat	ional classification and IPC		
B. FIELDS SEARCHED				
	cumentation searched (classification system followed b 8/728, 729, 730; 156/345.51; 156/345.55	y classification symbols)		
Documentation	on searched other than minimum documentation to the	extent that such documents are included in	the fields searched	
	ta base consulted during the international search (name	of data base and, where practicable, search	h terms used)	
	JMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where a		Relevant to claim No.	
X 	US 6,366,830 B2 (BACCHI et al) 02 April 2002 (02.	.04.2002), figures and abstract	1-6 and 9	
Y			7, 8 and 10-20	
. Y	US 2006/0011300 A1 (KIM et al) 19 January 2006 (19.01.2006), Figures, abstract, [0026].		1-20	
Y	JP 05-144925 A (NORIYASU) June 11, 1993 (11.06 Machine Generated English Translation	1-20		
Y	US 2004/0060186 A1 (PEINE) 01 APRIL 2004 (01.9 [0020], figures.	11-20		
Y	US 2006/0090848 A1 (KOGA et al) 04 May 2006 (04.05.2006), abstract, [0044], [0045], [0060]		12-20	
Y	US 2005/0013332 A1 (KISH, Jr. et al) 20 January 20 section [0071].	005 (20.06.2005), abstract, figures,	11 -	
Further documents are listed in the continuation of Box C. See patent family annex.				
date and not in con			published after the international filing date or priority conflict with the application but cited to understand the ry underlying the invention	
		"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone		
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)		"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being		
"O" document	referring to an oral disclosure, use, exhibition or other means	obvious to a person skilled in the art		
"P" document published prior to the international filing date but later than the "&" document member of the same patent family priority date claimed				
Date of the actual completion of the international search Date of mailing of the international search report			th report	
31 July 2008 (31.07.2008) 16 SEP 2008				
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Authorized officer				
Con	nmissioner for Patents	Sylvia R. MacArthur		
P.O. Box 1450 Alexandria, Virginia 22313-1450 Telephone No. 703-308-0661				
Facsimile No. (571) 273-3201				

Form PCT/ISA/210 (second sheet) (April 2007)