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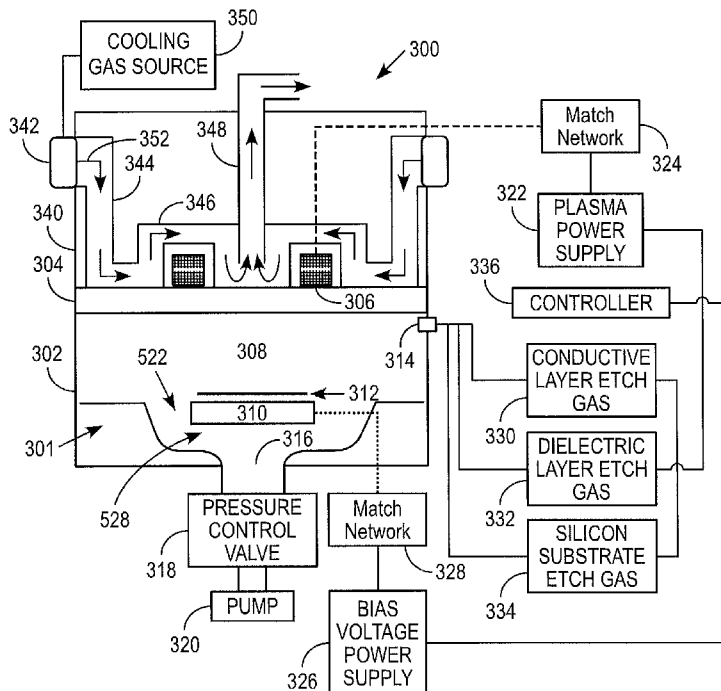
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(81) Designated States (unless otherwise indicated, for every
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DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU,
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[Continued on next page]

(54) Title: CHAMBER FILLER KIT FOR PLASMA ETCH CHAMBER USEFUL FOR FAST GAS SWITCHING



(57) Abstract: A chamber filler kit [or an inductively coupled plasma processing chamber in which semiconductor substrates are processed by inductively coupling RF energy through a window facing a substrate supported on a cantilever chuck. The kit includes at least one chamber filler which reduces the lower chamber volume in the chamber below the chuck. The fillers of the kit can be mounted in a standard chamber having a chamber volume of over 60 liters and by using different sized chamber fillers it is possible to reduce the chamber volume to provide desired gas flow conductance and accommodate changes in vacuum pressure during processing of the substrate.

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Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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- *with international search report (Art. 21(3))*

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 13/28491

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H01L 21/331 (2013.01)

USPC - 438/348

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) -- H01L 21/331 (2013.01)

USPC -- 438/348

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

IPC(8) -- H01L 21/331; H01L; C23C; C23F; (2013.01)

USPC -- 438/348, §; 118/§

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Patbase; PubWest (PGPB,USPT,USOC,EPAB,JPAB); USPTO; Espacenet; Google Scholar -- CANTILEVER\$ CHAMBER CYCL\$ DEPOSIT\$ DEPRESSURIZ\$ DIAMETER ETCH\$ HEIGHT ICP INDUCTIVELY COUPLED INSERT LINER MINIMIZ\$ PLASMA PRESSURIZ\$ REDUCED VOLUME RETROFIT\$ TIME

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,408,786 B1 (Kennedy et al.) 25 June 2002 (25.06.2002) Figs 1-6; col 4, ln 26-46; col 5, ln 17-21; col 5, ln 28 to col 6, ln 61	1-20
A	US 2006/0196420 A1 (Ushakov et al.) 07 September 2006 (07.09.2006) Fig 1	1-20
A	US 2010/0140223 A1 (Tyler et al.) 10 June 2010 (10.06.2010) para [0067]; [0076]; [0118]	1-20
A	US 6,623,596 B1 (Collins et al.) 23 September 2003 (23.09.2003) col 1, ln 62 to col 2, ln 3; col 31, ln 1-3	1-20
A	US 2008/0251019 A1 (Krishnaswami et al.) 16 October 2008 (16.10.2008) para [0037]; [0052]	1-20
A	US 2006/0065635 A1 (Derderian et al.) 30 March 2006 (30.03.2006) Fig 1	1-20
A	US 2004/0253747 A1 (Wen) 16 December 2004 (16.12.2004) abstract	1-20
A	US 2004/0092118 A1 (Johnson et al.) 13 May 2004 (13.05.2004) Figs 1A-B; abstract	1-20

 Further documents are listed in the continuation of Box C.


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"&" document member of the same patent family

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