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ning of each regular issue of the PCT Gazette.

(54) Title: ULTRASONIC ASSISTED ETCH USING CORROSIVE LIQUIDS

(57) Abstract: An ultrasonic etching apparatus for chemically-etching a workpiece is disclosed. The apparatus includes an outer tank at least partially filled with an aqueous solution, an inner tank at least partially disposed within the outer tank and in contact with aqueous solution, the inner tank at least partially filled with an etching solution, a lid engaged with the mouth of said inner tank; and an ultrasonic transducer coupled to the outer tank to impart ultrasonic energy to the etching solution in said inner tank. Also disclosed are methods of using the apparatus to etch workpieces.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/23905

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H01L 21/302, 21/304

US CL : 438/745, 750; 156/345.11, 345.18

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)

U.S. : 438/745, 750; 156/345.11, 345.18

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

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,187,216 A (DRYER et al) 13 Feb 2001 (13.02.2001), column 4, lines 29-30; column 6, lines 50-55	1-3, 6-7, 9-24, 25, 28
Y	US 4,980,017 A (KAJI et al) 25 Dec 1990 (25.12.1990), column 1, lines 60-65	4
Y	US 4,579,569 A (SHENG et al) 1 April 1986 (01.04.1986), column 2, lines 40-45	5
Y	US 3,775,202 A (MEEK et al) A 27 November 1973 (27.11.1973), column 3, lines 30-35	8
Y	US 5,891,354 A (LEE et al) 6 April 1999 (06.04.1999), column 4, lines 10-15	26-27

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