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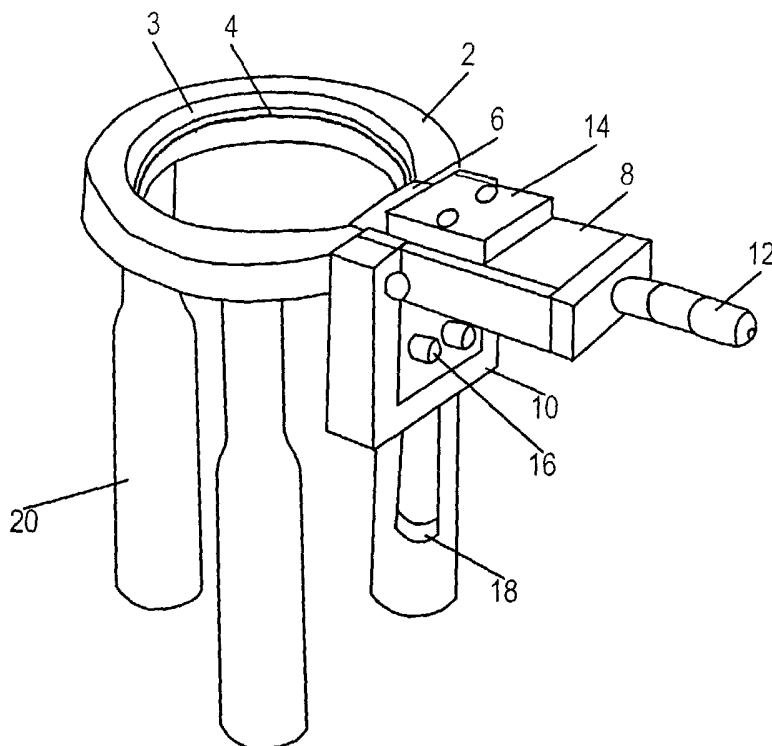
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[Continued on next page]

(54) Title: WAFER BOND STRENGTH EVALUATION APPARATUS



(57) Abstract: An apparatus and method for measuring bond strength of a bonded wafer that allows for more reliable and reproducible measurements, thereby allowing a better comparison of bond strengths of various wafers. A wafer receptacle (2) holds the bonded wafer (28) to be measured securely in place. A Z-axis adjustment device (10) with precision actuator is adjusted to align a blade with bond interface of the bonded wafer. An X-axis adjustment device (8) with precision actuator (18) connected to a spring is adjusted to introduce the blade into bond interface creating a crack, the length of which can be measured and used to determine bond strength. The stability and precision introduced by the Z-axis and X-axis adjustment devices also increase the reliability and reproducibility of the bond strength measurement.

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TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01L 1/24, G01N 3/10
 US CL : 73/800, 827

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. : 73/800, 827

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)
 Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,275,489 A (BORNEMAN et al) 04 January 1994 (04.01.1994), see the entire patent.	1-12
A	US 6,062,461 A (SPARKS et al) 16 May 2000 (16.05.2000), see the entire patent.	1-12
A	US 6,689,245 B2 (TSUJIMOTO) 10 February 2004 (05.02.2004), see the entire Patent.	1-12

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

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INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 3:

East

search terms: wafer, bond, measuring, adjusting, axis, actuator, blade, knife, crack, visible