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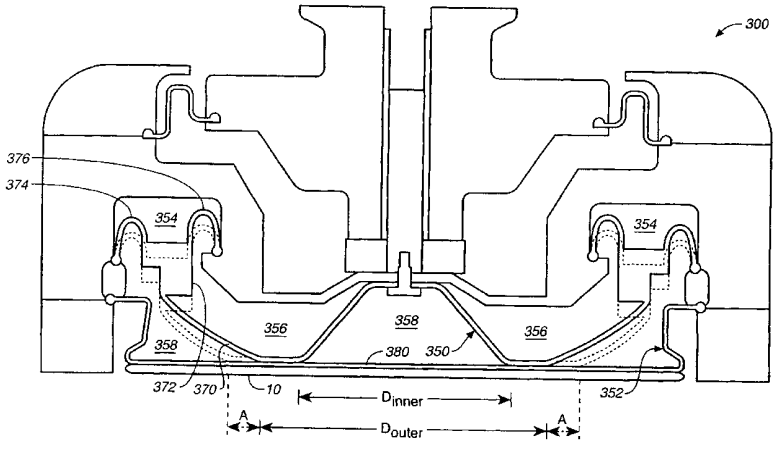
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CARRIER HEAD WITH FLEXIBLE MEMBRANES TO CONTROL THE APPLIED LOAD AND THE DIMENSION OF THE LOADING AREA



(57) Abstract: A carrier head (300) for a chemical mechanical polishing apparatus includes two membranes (352, 350). The external membrane (352) includes a central portion (380) that provides a mounting surface to engage the substrate (10), a lip portion (382), and a perimeter portion (384) that extends in a convoluted path between the spacer rings (362, 364, 366) to be secured to the base assembly. The internal membrane (350) includes a central portion (370) that will contact the upper surface of the external membrane (352) in a controllable annular area, a relatively thick annular portion (372), an annular outer flap (374) that extends from the outer rim of the thick portion (372), an annular inner flap (376) that extends from the inner edge of the thick portion (372). The contact area of the internal membrane (350) against the external membrane (352), thus the loading area in which pressure is applied to the substrate (10), may be controlled by varying the pressure in the chambers (354, 356, 358) formed between the two membranes (350, 352) and the housing (302).

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B24B37/04 B24B41/06 B24B49/16

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 7 B24B

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 practical, search terms used)
EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99 02304 A (APPLIED MATERIALS INC) 21 January 1999 (1999-01-21) page 23, line 5 -page 24, line 2 figures 5,6	1
A	US 6 056 632 A (ADAMS JOHN A ET AL) 2 May 2000 (2000-05-02) the whole document	13

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
23 January 2002	30/01/2002

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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