(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
17 July 2003 (17.07.2003)

PCT

(10) International Publication Number
WO 03/058691 A1

(51) International Patent Classification[7]: H01L 21/00

(21) International Application Number: PCT/US02/41394

(22) International Filing Date:
26 December 2002 (26.12.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/041,027 28 December 2001 (28.12.2001) US

(71) Applicant: LAM RESEARCH CORPORATION [US/US]; 4650 Cushing Parkway, Fremont, CA 94538 (US).

(72) Inventor: KNEER, Emil, A.; 4431 E. 3rd Street, Apt. 1, Tucson, AZ 85711 (US).

(74) Agent: VON WOHLD, Rick; Martine & Penilla, LLP, 710 Lakeway Drive, Suite 170, Sunnyvale, CA 94085 (US).

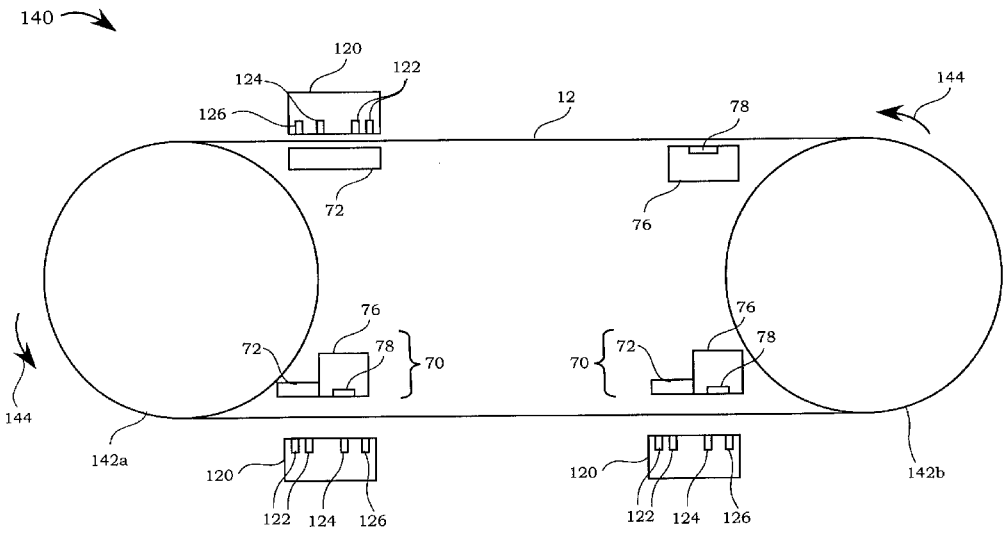
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

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: METHODS AND APPARATUS FOR CONDITIONING AND TEMPERATURE CONTROL OF A PROCESSING SURFACE



(57) Abstract: Methods and apparatus for controlling the temperature of a process surface and for conditioning of a process surface are provided. In one example, a temperature controller is described within a CMP system (140). The CMP system has a first roller (142a) and a second roller (142b) and a linear belt (12) circulating around the first and second rollers. The linear belt has a width that spans between a first edge and a second edge. The temperature controller includes an array of thermal elements (78). Each of the thermal elements of the array is independently controlled. The array of thermal elements is positioned between the first roller and the second roller and configured to contact a back surface of the linear belt. The array of thermal elements extends between the first edge and the second edge of the linear belt width.

WO 03/058691 A1