

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau



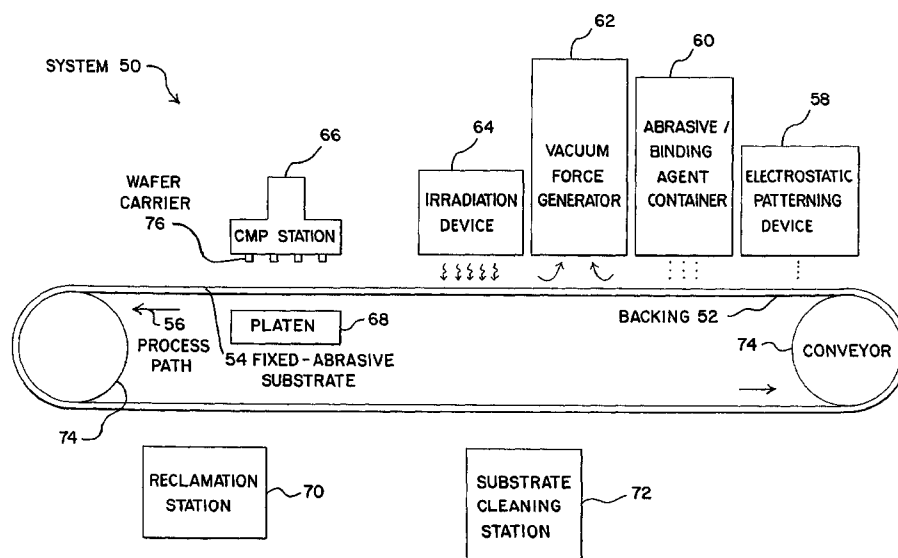
(43) International Publication Date
11 October 2001 (11.10.2001)

(10) International Publication Number
PCT WO 01/074537 A1

- (51) International Patent Classification⁷: B24B 37/04, 21/18, B24D 3/28, 11/00, 18/00 (74) Agent: BECKER, Donna, E.; Brinks Hofer Gilson & Li-one, P.O. Box 10087, Chicago, IL 60610 (US).
- (21) International Application Number: PCT/US01/09887 (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, 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, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (22) International Filing Date: 28 March 2001 (28.03.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 09/541,109 31 March 2000 (31.03.2000) US (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant: LAM RESEARCH CORPORATION [US/US]; 4650 Cushing Parkway, Fremont, CA 94538 (US).
- (72) Inventor: BOYD, John, M.; 8730 Sierra Vista Road, Atascadero, CA 93422 (US). Published: — with international search report

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR FIXED-ABRASIVE SUBSTRATE MANUFACTURING AND WAFER POLISHING IN A SINGLE PROCESS PATH



(57) Abstract: Methods and apparatus are provided for combining the manufacturing of a fixed-abrasive substrate and the chemical mechanical planarization of semiconductor wafers using a single process path (26). An electrostatic patterning device (58) produces an electrostatic charge of a predetermined pattern and density on a backing (52). An abrasive/binding agent container (60) deposits an abrasive/binding agent mixture on the surface of the backing (52). The mixture is attracted to the backing (52) in the pattern of the electrostatic charge. A vacuum force generator (62) removes the excess abrasive/binding agent mixture from the backing (52). An UV irradiation device (64) fixes the mixture to the backing (52). A conveyor (74) carries the fixed-abrasive substrate (54) to the CMP station (66).



WO 01/074537 A1



(48) Date of publication of this corrected version:

27 December 2002

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.

(15) Information about Correction:

see PCT Gazette No. 52/2002 of 27 December 2002, Section II