

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
29 December 2005 (29.12.2005)

PCT

(10) International Publication Number
WO 2005/123565 A3

- (51) International Patent Classification:
B25J 18/04 (2006.01)
- (21) International Application Number:
PCT/US2005/020304
- (22) International Filing Date: 9 June 2005 (09.06.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/578,571 9 June 2004 (09.06.2004) US
- (71) Applicant: BROOKS AUTOMATION, INC. [US/US];
15 Elizabeth Drive, Chelmsford, MA 01824 (US).
- (72) Inventors: PIETRANTONIO, Antonio, F.; 18 Gaita
Drive, Derry, NH 03038 (US). CHESNA, Anthony;
Chelmsford, MA 01824 (US). ALMALI, Hakan; Groton,
MA (US). GILCHRIST, Ulysses; 10 Lawrence Road,
Reading, MA 01867 (US).
- (74) Agents: GREEN, Clarence, A. et al.; Perman & Green,
LLP, 425 Post Road, Fairfield, CT 06824 (US).
- (81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ,
OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,
SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, ZA, ZM, ZW.

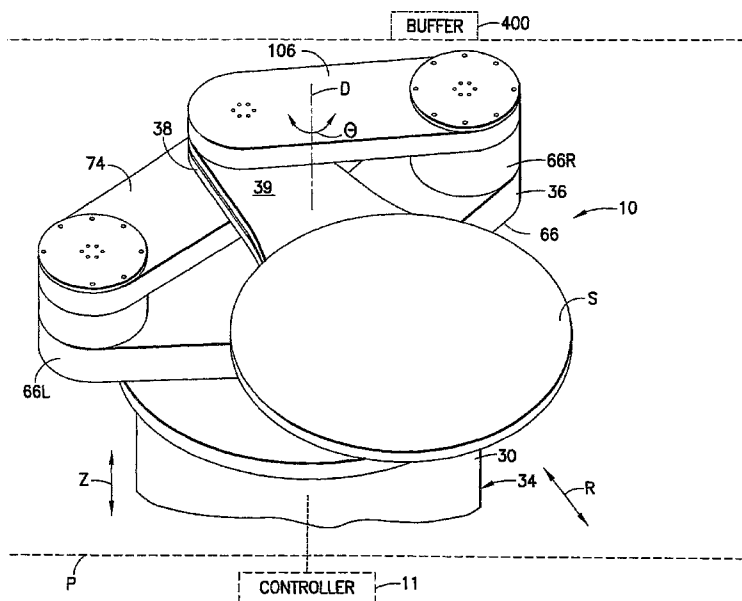
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT,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

Published:
— with international search report
— before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(88) Date of publication of the international search report:
5 April 2007

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: DUAL SACRA ARM



(57) Abstract: A substrate transport apparatus having a drive section and a scara arm operably connected to the drive section to move the scara arm. The scara arm has an upper arm and at least one forearm. The forearm is movably mounted to the upper arm and capable of holding substrate thereon. The upper arm is substantially rigid and is adjustable for changing a predetermined dimension of the upper arm.



WO 2005/123565 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/20304

A. CLASSIFICATION OF SUBJECT MATTER

IPC: **B25J 18/04** (2006.01)

USPC: 414/744.5;901/15,28;74/490.01,490.05

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. : 414/744.5; 901/15, 28; 74/490.01, 490.05

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,669,434 B2 (Namba, et al) 30 December 2003 (30.12.2003), figure 1.	23
X	US 6,155,768 A (Bacchi, et al) 05 December 2000 (05.12.2000), figure 2.	25
---		-----
Y		1-3 and 5-22
Y	US 6,105,454 A (Bacchi, et al) 22 August 2000 (22.08.2000), figure 2.	1-3 and 7-22
Y	US 6,485,250 A (Hofmeister) 26 November 2002 (26.11.2002), figure 2.	5,6
Y	US 5,513,946 A (Sawada, et al) 07 May 1996 (07.05.1996), figure 1.	22

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"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

"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

"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

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

03 October 2006 (03.10.2006)

Date of mailing of the international search report

01 FEB 2007

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Authorized officer

Donald Underwood
Telephone No. 571-272-3600

Facsimile No. (571) 273-3201