

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
31 August 2006 (31.08.2006)

PCT

(10) International Publication Number
WO 2006/091593 A3

(51) International Patent Classification:
H01L 21/00 (2006.01)

[US/US]; 48761 Kato Road, Fremont, California 94538 (US).

(21) International Application Number:
PCT/US2006/006103

(74) Agent: **SANFORD, Scott, D.**; O'MELVENY & MYERS LLP, EMBARCADERO CENTER WEST, 275 Battery Street, San Francisco, California 94111-3344 (US).

(22) International Filing Date:
17 February 2006 (17.02.2006)

(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, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, 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.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/064,880 24 February 2005 (24.02.2005) US

(71) Applicant (for all designated States except US): **ASYST TECHNOLOGIES, INC.** [US/US]; 48761 Kato Road, Fremont, California 94538 (US).

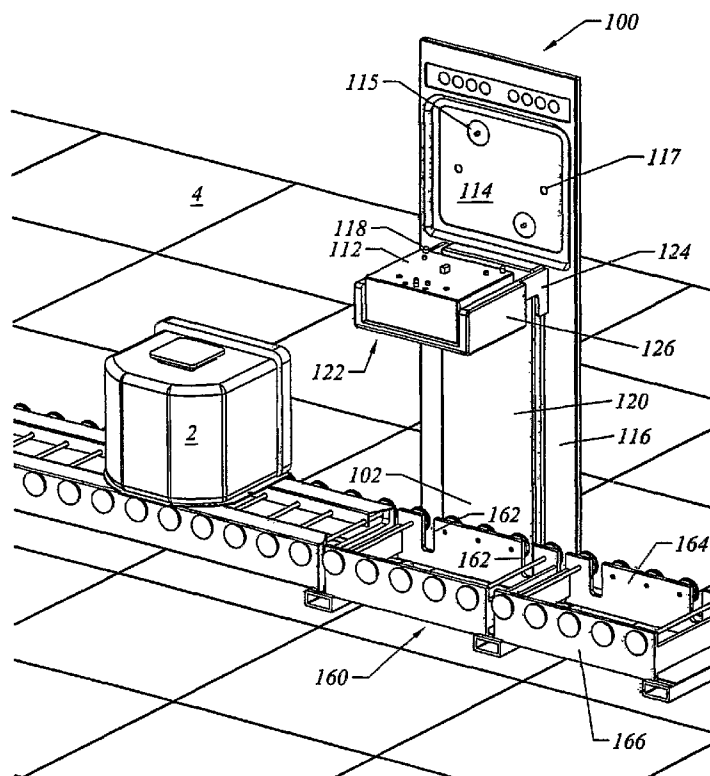
(72) Inventors; and

(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,

(75) Inventors/Applicants (for US only): **BONORA, Anthony, C.** [US/US]; 48761 Kato Road, Fremont, California 94538 (US). **KROLAK, Michael** [US/US]; 48761 Kato Road, Fremont, California 94538 (US). **HINE, Roger, G.**

[Continued on next page]

(54) Title: DIRECT TOOL LOADING



(57) Abstract: The present invention comprises a container transport and loading system. The system generally comprises a load port for presenting articles to a tool and a container transport system. In one embodiment, the load port includes a vertically movable FOUF advance plate assembly that is adapted to load and unload a FOUF from a conveyor that passes by the load port and move the FOUF horizontally. In another embodiment, the load port includes a vertically movable support structure that is adapted to load and unload a container from a shuttle that passes by the load port. The various embodiments of the load port and container transport system are improvements over conventional container transport systems. The present invention also includes a shuttle for simultaneously transporting multiple containers that a load port may load or unload a container from.



FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, 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).

(88) Date of publication of the international search report:
28 December 2006

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.