

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
30 August 2018 (30.08.2018)



(10) International Publication Number
WO 2018/157095 A1

- (51) International Patent Classification:
B65G 1/04 (2006.01) *B65G 1/10* (2006.01)
- (21) International Application Number:
PCT/US2018/019791
- (22) International Filing Date:
26 February 2018 (26.02.2018)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
62/463,352 24 February 2017 (24.02.2017) US
15/905,810 26 February 2018 (26.02.2018) US

SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

- (71) Applicant: OPEX CORPORATION [US/US]; 305 Commerce Drive, Moorestown, NJ 08057-4234 (US).
- (72) Inventors: VALINSKY, Joseph; 305 Commerce Drive, Moorestown, NJ 08057-4234 (US). DEWITT, Robert, R.; 12 Orchard Lane, Marlton, NJ 08053 (US). STEVENS, Alexander; 523 S. Juniper Street, Philadelphia, PA 19147 (US). KUMAR, Dhruva; 117 N. Essex Avenue; B-101, Narbeth, PA 19072 (US).
- (74) Agent: ELAND, Stephen H.; Dann, Dorfman, Herrell & Skillman, 1601 Market Street - Suite 2400, Philadelphia, PA 19103 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA,

(54) Title: AUTOMATED STORAGE AND RETRIEVAL SYSTEM

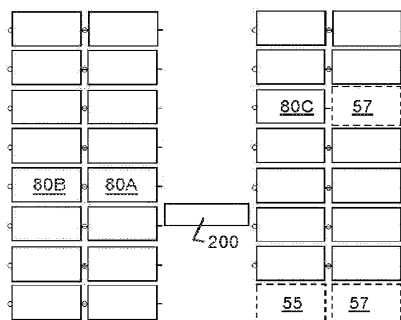


FIG. 10A

(57) Abstract: A method and apparatus are provided for storing or retrieving items to/from a plurality of destinations areas. The items are loaded onto one of a plurality of independently controlled delivery vehicles. The delivery vehicles follow a path to/from the destination areas that are positioned along the path. The destination areas are configured such that the destination areas have a depth to accommodate a plurality of containers in a horizontal line one behind another. The containers may be releasable interconnected so that retrieving one of the interconnected containers displaces one or more connected containers.

WO 2018/157095 A1