

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
18 February 2021 (18.02.2021)



(10) International Publication Number
WO 2021/030705 A1

(51) International Patent Classification:

B65G 1/137 (2006.01) *B65G 57/00* (2006.01)
B65G 1/02 (2006.01) *B65G 61/00* (2006.01)
B65G 1/04 (2006.01) *G05D 1/00* (2006.01)

(21) International Application Number:

PCT/US2020/046418

(22) International Filing Date:

14 August 2020 (14.08.2020)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

62/886,602 14 August 2019 (14.08.2019) US

(71) Applicant: **OPEX CORPORATION** [US/US]; 305 Commerce Drive, Moorestown, NJ 08057-4234 (US).

(72) Inventors: **STEVENS, Alexander**; 305 Commerce Drive, Moorestown, NJ 08057-4234 (US). **VALINSKY, Joseph**; 305 Commerce Drive, Moorestown, NJ 08057-4234 (US).

(74) Agent: **DINICOLA, Brian K.**; 305 Commerce Drive, Moorestown, NJ 08057 (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, IT, 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, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, 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))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(54) Title: AUTOMATED VEHICLE FOR USE IN INVENTORY MANAGEMENT SYSTEM

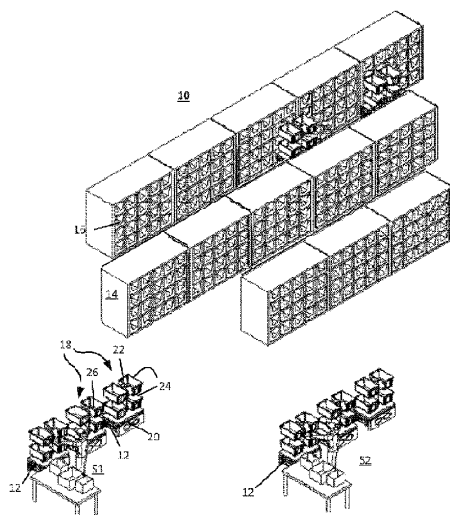


FIG 1A

(57) Abstract: A vehicle for use in an inventory management system having a plurality of destination areas and a guide system includes a platform for receiving and transporting items to and from the destination areas, a plurality of motors, a first drive system, a second drive system, a transfer mechanism, and a clutch mechanism. Drive elements of the first drive system are rotated by a first subset of one or more motors to move the vehicle vertically. Drive elements of the second drive system are rotated by a second subset of two or more motors to move the vehicle horizontally. The transfer system is configured to transfer and retrieve items to and from the destination areas, and the clutch mechanism is configured to engage and disengage the transfer mechanism from the second subset of motors, whereby the second drive system drives movement of the vehicle independently of the transfer mechanism.



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