

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
26 March 2020 (26.03.2020)



(10) International Publication Number
WO 2020/060927 A1

(51) International Patent Classification:

B64C 39/02 (2006.01) *B60L* 58/12 (2019.01)
B64D 27/24 (2006.01) *B60L* 53/30 (2019.01)

(21) International Application Number:

PCT/US2019/051306

(22) International Filing Date:

16 September 2019 (16.09.2019)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

16/132,712 17 September 2018 (17.09.2018) US
16/285,968 26 February 2019 (26.02.2019) US

(71) Applicant: **WING AVIATION LLC** [US/US]; 1600 Amphitheatre Parkway, Mountain View, California 94043 (US).

(72) Inventors: **SCHMALZRIED, James**; 1600 Amphitheatre Parkway, Mountain View, California 94043 (US). **PRAGER, André**; 1600 Amphitheatre Parkway, Mountain View, California 94043 (US). **KUBIE, Martin**; 1600

Amphitheatre Parkway, Mountain View, California 94043 (US).

(74) Agent: **CLAASSEN, Cory G.** et al.; Christensen O'Connor Johnson Kindness PLLC, 1201 Third Avenue, Suite 3600, Seattle, Washington 98101 (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, 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,

(54) Title: UNMANNED AERIAL VEHICLE FLEET MANAGEMENT

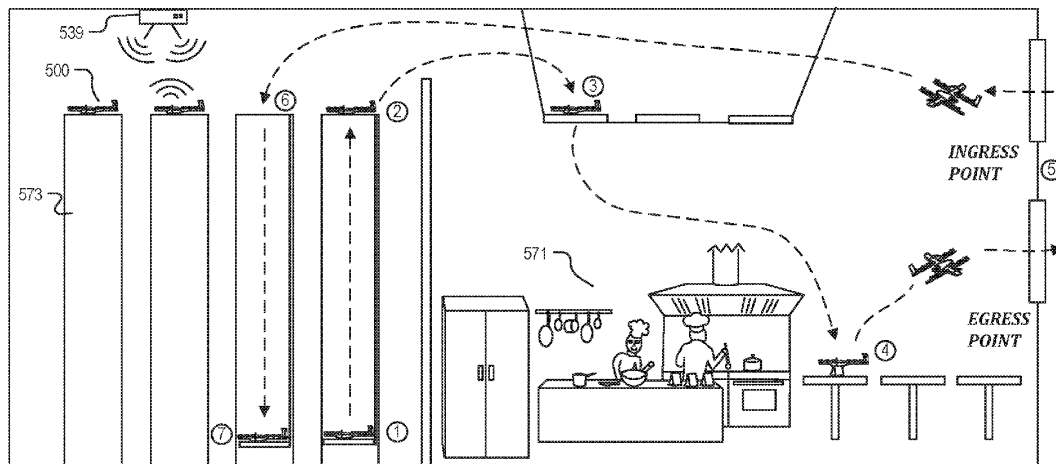


FIG. 5

(57) Abstract: An unmanned aerial vehicle (UAV) includes one or more sources of propulsion, a power source, and communication system. The UAV also includes a controller coupled to the communication system, the power source, and the one or more sources of propulsion. The controller includes logic that when executed by the controller causes the UAV to perform operations, including measuring a power source charge level of the UAV; sending a signal including the power source charge level of the UAV to an external device; receiving movement instructions from the external device; and engaging the one or more sources of propulsion to move the UAV from a first location on a storage rack to a second location within a storage facility.

[Continued on next page]

WO 2020/060927 A1

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))*