

(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 2020/060488 A1

(51) International Patent Classification:

B64C 39/02 (2006.01) *B64D 37/14* (2006.01)
B64D 27/24 (2006.01) *B64D 41/00* (2006.01)
B64D 37/30 (2006.01)

(21) International Application Number:

PCT/SG2019/050467

(22) International Filing Date:

18 September 2019 (18.09.2019)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10201808080T	18 September 2018 (18.09.2018)	SG
10201808081R	18 September 2018 (18.09.2018)	SG
10201808370R	25 September 2018 (25.09.2018)	SG

(71) Applicant: **H3 DYNAMICS HOLDINGS PTE. LTD.**

[SG/SG]; 67 Ayer Rajah Crescent, #03-23/24, Singapore 139950 (SG).

(72) Inventors: **WANKEWYCZ, Taras**; c/o H3 Dynamics

Holdings Pte. Ltd, 67 Ayer Rajah Crescent, #03-23/24, SINGAPORE 139950 (SG). **KESMEZ, Mehmet**; c/o H3 Dynamics Holdings Pte. Ltd, 67 Ayer Rajah Crescent, #03-23/24, SINGAPORE 139950 (SG). **LEE, Cher Chuan**; c/o H3 Dynamics Holdings Pte. Ltd, 67 Ayer Rajah Crescent, #03-23/24, SINGAPORE 139950 (SG). **THAKAR, Harshavardhan**; c/o H3 Dynamics Holdings Pte. Ltd, 67 Ayer Rajah Crescent, #03-23/24, Singapore 139950 (SG).

(74) Agent: **SCHWEIGER, Martin** et al.; 105 Cecil Street,

#12-04, The Octagon, Singapore 069534 (SG).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

(54) Title: UNMANNED VEHICLE

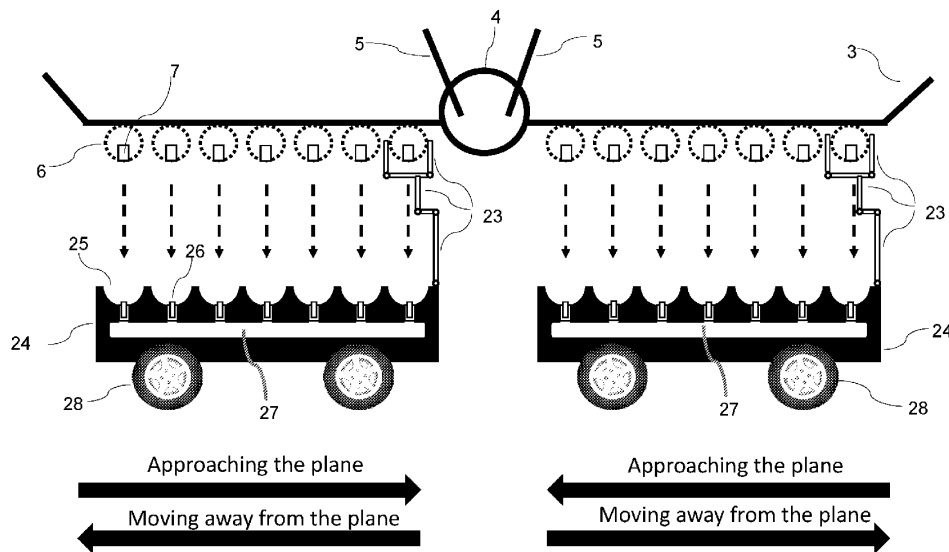


Fig. 4

(57) Abstract: The application provides an autonomous refueling vehicle for a hydrogen-electric aircraft, which includes two or more wings. The wings are provided with one or more removable electric propulsion pods. The autonomous refueling vehicle includes a hydrogen refueling module adapted to connect to the propulsion pods and to a hydrogen source. The autonomous refueling vehicle includes also a propulsion pod handling device, which is adapted to remove the propulsion pod from the wings and to position the propulsion pods on the hydrogen refueling module such that the propulsion pods are connected to the hydrogen refueling module. The autonomous refueling vehicle is also adapted to autonomously move itself to the hydrogen source to allow the hydrogen refueling module to removably connect to the hydrogen source for refueling of the propulsion pods.

[Continued on next page]

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, 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))
- in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE