

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
16 September 2021 (16.09.2021)



(10) International Publication Number
WO 2021/181401 A1

(51) International Patent Classification:
B64G 1/00 (2006.01) *F02K 7/18* (2006.01)
F02K 9/78 (2006.01)

(21) International Application Number:
PCT/IL2021/050383

(22) International Filing Date:
05 April 2021 (05.04.2021)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
273270 12 March 2020 (12.03.2020) IL

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(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,

(54) Title: LAUNCH SYSTEM AND METHOD

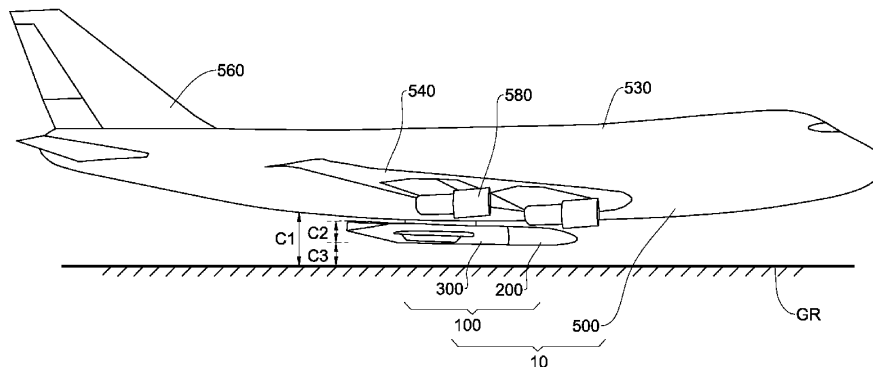


FIG. 1

(57) Abstract: A launch system is provided, including a composite vehicle and a carrier vehicle. The composite vehicle includes a payload vehicle, a booster vehicle and a first coupling system. The payload vehicle is configured for powered spaceflight at least in a space medium, and includes a rocket driven propulsion system. The booster vehicle is configured for powered supersonic/hypersonic aerodynamic flight, includes a ramjet propulsion system, and is configured for transporting the composite vehicle between a first altitude and a second altitude under propulsive power provided by the ramjet propulsion system. The first coupling system is configured for selectively coupling and decoupling the payload vehicle with respect to the booster vehicle. The carrier vehicle is configured at least for powered subsonic/transonic/supersonic aerodynamic flight, and for transporting the composite vehicle to at least the first altitude from a ground location. The launch system also includes a second coupling system for selectively coupling and decoupling the composite vehicle with respect to the carrier aircraft.

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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))*
- *with information concerning request for restoration of the right of priority in respect of one or more priority claims (Rules 26bis.3 and 48.2(b)(vii))*