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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
04 August 2022 (04.08.2022)

WIPO | PCT

(10) International Publication Number
WO 2022/162573 A1

(51) International Patent Classification:
F41J 13/00 (2009.01)

(21) International Application Number:
PCT/IB2022/050710

(22) International Filing Date:
27 January 2022 (27.01.2022)

(25) Filing Language: Italian

(26) Publication Language: English

(30) Priority Data:
102021000001820 29 January 2021 (29.01.2021) IT

(71) Applicant: **LEONARDO S.P.A.** [IT/IT]; Piazza Monte Grappa, 4, 00195 Roma (IT).

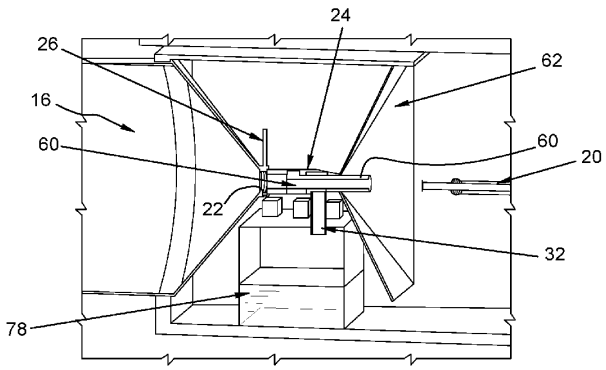
(72) Inventors: **GIOVANNINI, Andrea**; c/o Leonardo S.p.A, Department: Divisione Elettronica, Via delle Officine Galileo, 1, 50013 Campi Bisenzio (FI) (IT). **FANTONI, Marco**; c/o Leonardo S.p.A, Department: Divisione Elettronica, Via di Levante, n° 48, 57124 Livorno (IT).

(74) Agent: **BARZANO' & ZANARDO MILANO SPA**; Corso Vittorio Emanuele II, 61, I-10128 Torino (IT).

(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.

(54) Title: SYSTEM FOR BRAKING AND RECOVERING PROJECTILES, PROVIDED WITH A COUNTER BARREL ASSEMBLY

Fig. 4



(57) Abstract: The system comprises a main structure (12) in which a firing chamber (14) and a braking and recovery tank (16), adjacent to the firing chamber (14), are positioned. The firing chamber (14) is intended for housing a firearm (18) configured for firing at least one projectile (P) into the braking and recovery tank (16). Furthermore, the braking tank (16) is configured for containing a liquid capable of braking the projectile (P) coming from the firing chamber (14) and fired by the firearm (18). Furthermore, the braking and recovery tank (16) has an opening (22) in front of which a barrel (20) of the firearm (18) is to be positioned. The opening (22) is configured to allow the projectile (P) to gain access to the braking and recovery tank (16) when the projectile (P) is fired by the firearm (18). There is also a counter barrel assembly (24) placed between the firing chamber (14) and the braking and recovery tank (16), and configured for receiving and guiding through itself the projectile (P) fired by the firearm (18), so as to cause the projectile

[Continued on next page]

WO 2022/162573 A1

(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).

Declarations under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

Published:

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

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

(P) to enter the braking and recovery tank (16).