

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
10 March 2022 (10.03.2022)



(10) International Publication Number
WO 2022/049089 A3

(51) International Patent Classification:

C25B 9/23 (2021.01) C25B 15/08 (2006.01)
B01D 53/86 (2006.01) G21C 9/06 (2006.01)
C25B 15/023 (2021.01)

(21) International Application Number:

PCT/EP2021/074057

(22) International Filing Date:

31 August 2021 (31.08.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2013706.3 01 September 2020 (01.09.2020) GB

(71) Applicant: ENAPTER S.R.L. [IT/IT]; Via Lavoria 56/G,
56040 Crespina Lorenzana (IT).

(72) Inventors: BUSCH, Thorben; Enapter, Hahnstraße 5,
48369 Saerbeck (DE). CALDECOTT, Ralph; Enapter,

Via Lavoria 56/G, 56040 Crespina Lorenzana (IT).
CALDERONI, Claudio; Enapter, Via Lavoria 56/G,
56040 Crespina Lorenzana (IT). **CHAPMAN, Sean Craw-**
ford; Enapter, Via Lavoria 56/G, 56040 Crespina Loren-
zana (IT). **FILPI, Antonio**; Enapter, Via Lavoria 56/G,
56040 Crespina Lorenzana (IT). **SCHMIDT, Jan-Justus**;
Enapter, Via Lavoria 56/G, 56040 Crespina Lorenzana
(IT). **SCHMIDT, Max-Istvan**; Enapter, Via Lavoria 56/G,
56040 Crespina Lorenzana (IT).

(74) Agent: MATHYS & SQUIRE; The Shard, 32 London
Bridge Street, London Greater London SE1 9SG (GB).

(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,

(54) Title: SYSTEM FOR THE REMOVAL OF HYDROGEN/OXYGEN IN A GASEOUS STREAM

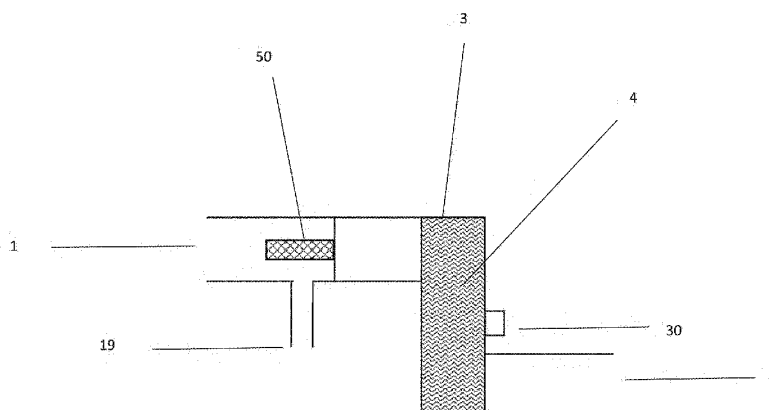


Figure 7A

(57) Abstract: According to one embodiment of the present invention there is provided a combiner for the removal of hydrogen/oxygen gas in a gaseous stream, said combiner comprising: a pipe capable of accommodating the flow of a gaseous stream, wherein the pipe is adapted to transmit the gaseous stream to a catalytically active structure (CAS), the CAS having: contact with the substantial majority of the gaseous stream, a housing, and an inlet, said inlet being connected to the pipe, and an outlet, for the removal of the gaseous stream post recombination, and a second pipe connected to the outlet of the CAS for the transmission of the gaseous stream away from the combiner. A second embodiment of the invention sees the CAS housed within an electrochemical cell directly.

WO 2022/049089 A3

[Continued on next page]

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))*

(88) Date of publication of the international search report:

28 April 2022 (28.04.2022)