

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
06 July 2023 (06.07.2023)



(10) International Publication Number
WO 2023/126475 A3

(51) International Patent Classification:
H01M 8/0254 (2016.01) *H01M 8/10* (2016.01)

(21) International Application Number:
PCT/EP2022/088004

(22) International Filing Date:
29 December 2022 (29.12.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
21218388.3 30 December 2021 (30.12.2021) EP
22200384.0 07 October 2022 (07.10.2022) EP

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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,

(54) Title: FUEL CELL BIPOLAR PLATES

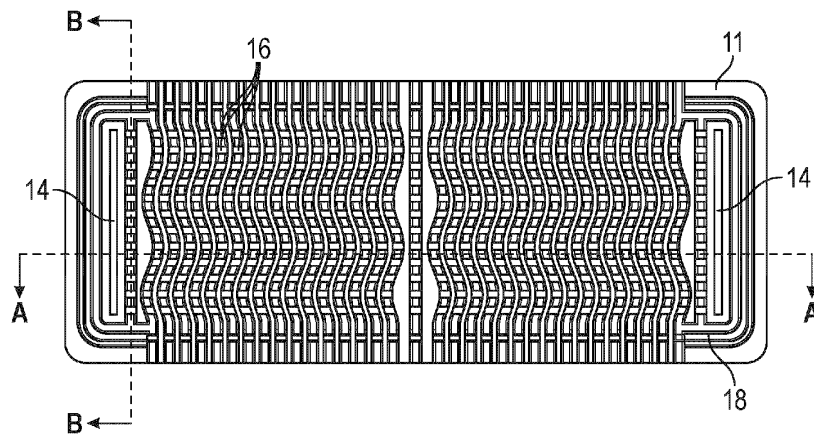


FIG. 4

(57) Abstract: A hydrogen fuel cell unit is made from identical bipolar plates, each stamped from a single sheet of steel and coated with ta-C, the unit comprising, in order(i) a first bipolar plate having a front face and a rear face, the rear face being an anode in the unit, (ii) a first membrane electrode assembly, (iii) a second bipolar plate having a front face and a rear face, the front face being a cathode in the unit and the rear face being an anode in the unit, wherein the first membrane electrode assembly is between the first and second bipolar plates, and a flow path is provided between the rear face of the first bipolar plate and the first membrane electrode assembly for flow of hydrogen, and a flow path is provided between the front face of the second bipolar plate and the first membrane electrode assembly for flow of oxygen, (iv) a second membrane electrode assembly, and (v) a third bipolar plate having a front face and a rear face, the front face being a cathode in the unit, wherein the second membrane electrode assembly is between the second and third bipolar plates, and a flow path is provided between the rear face of the second bipolar plate and the second membrane electrode assembly for flow of hydrogen, and a flow path is provided between the front face of the third bipolar plate and the second membrane electrode assembly for flow of oxygen.

[Continued on next page]

CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, 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, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, 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, ME, 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:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *of inventorship (Rule 4.17(iv))*

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*

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

14 September 2023 (14.09.2023)