

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
08 August 2019 (08.08.2019)



(10) International Publication Number
WO 2019/151953 A1

(51) International Patent Classification:

C01B 3/06 (2006.01) H01M 8/065 (2016.01)
B01J 7/02 (2006.01)

#06-03 JTC Cleantech Two @cleantech Park, Singapore
637143 (SG).

(21) International Application Number:

PCT/SG2019/050060

(74) Agent: SCHWEIGER, Martin et al.; 105 Cecil Street,
#12-04, The Octagon, Singapore 069534 (SG).

(22) International Filing Date:

01 February 2019 (01.02.2019)

(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, 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.

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10201800957X 03 February 2018 (03.02.2018) SG
1811769.7 19 July 2018 (19.07.2018) GB

(71) Applicant: H3 DYNAMICS HOLDINGS PTE. LTD.
[SG/SG]; 3 Cleantech Loop, #06-03 JTC Cleantech Two
@cleantech Park, Singapore 637143 (SG).

(72) Inventors: WANKEWYCZ, Taras; c/o H3 DYNAMICS
HOLDINGS PTE. LTD., 3 Cleantech Loop, #06-03 JTC
Cleantech Two @cleantech Park, Singapore 637143 (SG).
LI, Aidan; c/o H3 DYNAMICS HOLDINGS PTE. LTD.,
3 Cleantech Loop, #06-03 JTC Cleantech Two @cleantech
Park, Singapore 637143 (SG). ZHANG, Xiaohu; c/o H3
DYNAMICS HOLDINGS PTE. LTD., 3 Cleantech Loop,

(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).

(54) Title: HYDROGEN GENERATOR AND A METHOD FOR GENERATING HYDROGEN

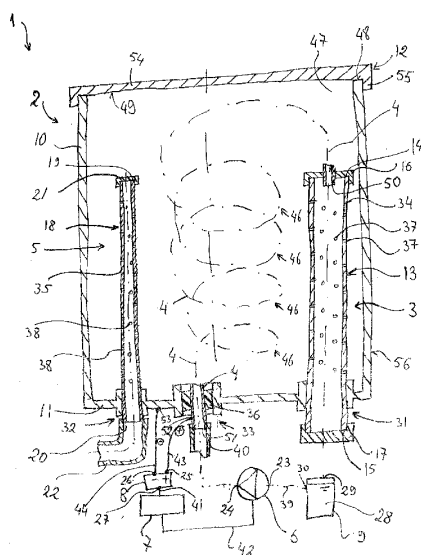


Fig. 1

(57) Abstract: The application provides a hydrogen generator. The hydrogen generator includes a reaction chamber in which at least one water conduit tubing, at least one water dispenser, and at least one hydrogen collector are provided, a supply water tank, a water pump, an electric power supply, and a controller. The reaction chamber is provided for containing a reagent. The water conduit tubing includes a water conduit tubing inlet being fluidically connected to the supply water tank and a water conduit tubing outlet. The water dispenser includes a water dispenser inlet being fluidically connected to the water conduit tubing outlet and a surface with a plurality of water outlet channels. The controller is adapted to activate the water pump for transferring water from the supply water tank to the reaction chamber for interacting with the reagent in the reaction chamber to generate hydrogen gas. The hydrogen collector includes a surface with a plurality of gas inlet channels for receiving the hydrogen gas.

[Continued on next page]

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*