



- (51) **International Patent Classification:**
C01B 3/36 (2006.01) *B01J 12/00* (2006.01)
- (21) **International Application Number:**
PCT/US2012/044210
- (22) **International Filing Date:**
26 June 2012 (26.06.2012)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
13/174,670 30 June 2011 (30.06.2011) US
- (71) **Applicant (for all designated States except US):** **LG FUEL CELL SYSTEMS INC.** [US/US]; 6065 Strip Avenue NW, North Canton, OH 44720 (US).
- (72) **Inventor; and**
- (75) **Inventor/Applicant (for US only):** **SCOTTO, Mark, Vincent** [US/US]; 2688 Cardington Green, Uniontown, OH 44685 (US).
- (74) **Agents:** **GOSNELL, Paul** et al.; Krieg DeVault LLP, One Indiana Square, Suite 2800, Indianapolis, IN 46204 (US).
- (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, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, 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.

- (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, 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, ML, MR, NE, SN, TD, TG).

Published:

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

- (88) **Date of publication of the international search report:**
1 May 2014

(54) **Title:** REDUCING GAS GENERATORS AND METHODS FOR GENERATING REDUCING GAS

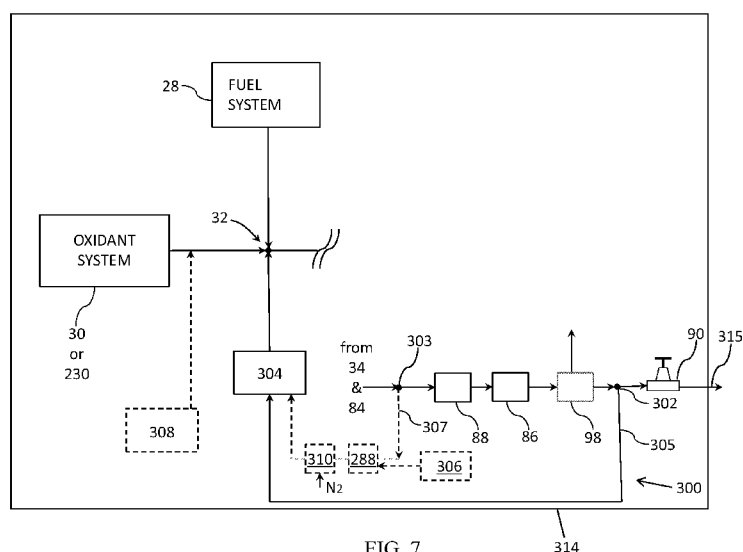


FIG. 7

(57) **Abstract:** One embodiment of the present invention is a unique reducing gas generator. Another embodiment is a unique method for generating a reducing gas. Other embodiments include apparatuses, systems, devices, hardware, methods, and combinations for generating reducing gas. Further embodiments, forms, features, aspects, benefits, and advantages of the present application will become apparent from the description and figures provided herewith.