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- (71) Applicant (for all designated States except US): **PRIMUS POWER CORPORATION** [US/US]; 3967 Trust Way, Hayward, California 94545 (US).

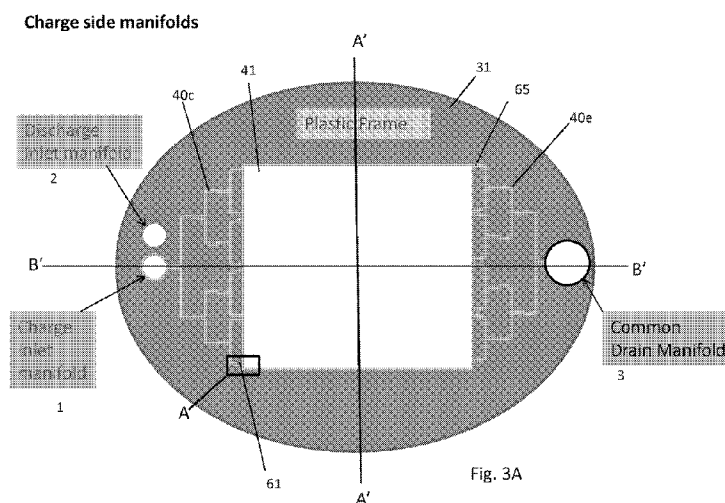
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **LA O', Gerardo** [PH/US]; c/o Primus Power Corporation, 3967 Trust Way, Hayward, California 94545 (US). **WINTER, Rick** [US/US]; c/o Primus Power Corporation, 3967 Trust Way, Hayward, California 94545 (US). **HALL, Jonathan** [US/US]; c/o Primus Power Corporation, 3967 Trust Way, Hayward, California 94545 (US). **PHARKYA, Pallavi** [IN/US]; c/o Primus Power Corporation, 3967 Trust Way, Hayward, California 94545 (US). **KREINER, Paul** [US/US]; c/o Primus Power Corporation, 3967 Trust Way, Hayward, California 94545 (US). **COLE, Russell** [US/US]; c/o Primus Power Corporation, 3967 Trust Way, Hayward, California 94545 (US).

- (74) Agents: **RADOMSKY, Leon** et al.; The Marbury Law Group, PLLC, 11800 Sunrise Valley Drive, 15th Floor, Reston, Virginia 20191 (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.

[Continued on next page]

(54) Title: ELECTROLYTE FLOW CONFIGURATION FOR A METAL-HALOGEN FLOW BATTERY



(57) Abstract: A flow battery and method of operating a flow battery. The flow battery includes a first electrode, a second electrode and a reaction zone located between the first electrode and the second electrode. The flow battery is configured with a first electrolyte flow configuration in charge mode and a second flow configuration in discharge mode. The first electrolyte flow configuration is at least partially different from the second electrolyte flow configuration.

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- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- Published:**
- *with international search report (Art. 21(3))*
- (88) Date of publication of the international search report:**
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Declarations under Rule 4.17:

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

A. CLASSIFICATION OF SUBJECT MATTER***H01M 8/18(2006.01)i, H01M 8/02(2006.01)i***

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H01M 8/18; H01M 12/08; H01M 8/20; H01M 2/40; H01M 2/00; H01M 10/44

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: flow, redox, battery, charge, discharge, configuration, electrolyte

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 07-153478 A (EBARA CORP.) 16 June 1995 See abstract, figures 1-3, 9, paragraphs 2, 17-20, claims 1-2	1-39
A	US 4521497 A (TAMMINEN, PENTTI J.) 04 June 1985 See abstract, column 3, line 25-column 6, line 24, claims 1-4	1-39
A	JP 07-065871 A (MEIDENSHA CORP.) 10 March 1995 See abstract, figures 1-3, paragraphs 9-13, claim 1	1-39
A	US 2004/0234843 A1 (SKYLLAS-KAZACOS, MARIA) 25 November 2004 See abstract, figure 2, paragraphs 59-61	1-39
A	JP 2001-216995 A (SUMITOMO ELECTRIC IND., LTD.) 10 August 2001 See abstract, figures 1-5, paragraphs 22-28, claims 1-2	1-39

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

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Date of mailing of the international search report

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Korean Intellectual Property Office
189 Cheongsu-ro, Seo-gu, Daejeon Metropolitan
City, 302-701, Republic of Korea

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Authorized officer

Yang, Kyung Shik

Telephone No. 82-42-481-8404



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/043805

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 07-153478 A	16.06.1995	None	
US 4521497 A	04.06.1985	EP 0166812 A1 JP 60-253153 A	08.01.1986 13.12.1985
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JP 2001-216995 A	10.08.2001	None	