



(51) International Patent Classification:
C02F 1/469 (2006.01) C02F 103/08 (2006.01)
C02F 9/12 (2006.01)

garajan [US/US]; 11, Leparc Drive, Princeton Junction, NJ 08550 (US).

(21) International Application Number:
PCT/US2010/042673

(74) Agents: WINTER, Catherine, J. et al.; General Electric Company, Global Patent Operation, 2 Corporate Drive, Suite 648, Shelton, CT 06484 (US).

(22) International Filing Date:
21 July 2010 (21.07.2010)

(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, RO, RS, RU, 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:
12/544,617 20 August 2009 (20.08.2009) US

(71) Applicant (for all designated States except US): GENERAL ELECTRIC COMPANY [US/US]; 1 River Road, Schenectady, NY 12345 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): CAI, Wei [CN/US]; Global Research, Patent Docket Room, Bldg. K1-4a59, Niskayuna, NY 12309 (US). XIONG, Rihua [CN/US]; Global Research, Patent Docket Room, Bldg. K1-4a59, Niskayuna, NY 12309 (US). WEI, Chang [US/US]; Global Research, Patent Docket Room, Bldg. K1-4a59, Niskayuna, NY 12309 (US). SOLOMON, Robert, Lee [US/US]; Global Research, Patent Docket Room, Bldg. K1-4a59, Niskayuna, NY 12309 (US). RAMESH, Ren-

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SOLID ELECTROLYTE PRODUCING ASSEMBLY AND METHOD

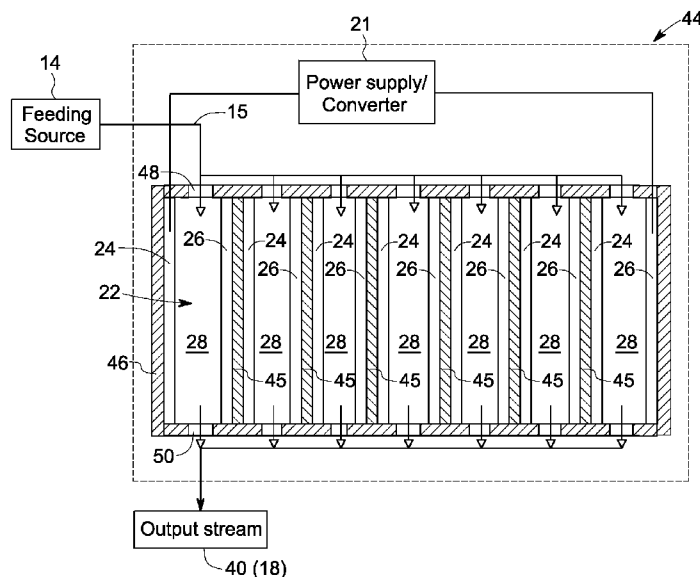


FIG. 4

(57) Abstract: A solid electrolyte producing system includes a supercapacitor desalination device comprising a power supply and a supercapacitor desalination unit. The supercapacitor desalination unit includes a pair of electrodes electrically coupled to the power supply and operable in a charging mode of operation and a discharging mode of operation. A feeding source is configured to provide a feed liquid to the supercapacitor desalination unit when the supercapacitor desalination unit is in the charging mode of operation. The feed liquid comprises at least one determined electrolyte. A crystallization device is providing for receiving a concentrated liquid from the supercapacitor desalination device in the discharging mode of operation, the concentrated liquid being a saturated liquid or supersaturated liquid of the at least one determined type of electrolyte. The at least one determined type of electrolyte precipitates in the crystallization device as solid electrolyte. The system further comprises a separation device for separating the solid electrolyte from the liquid of the crystallization device as a solid electrolyte product.

**Declarations under Rule 4.17:**

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