

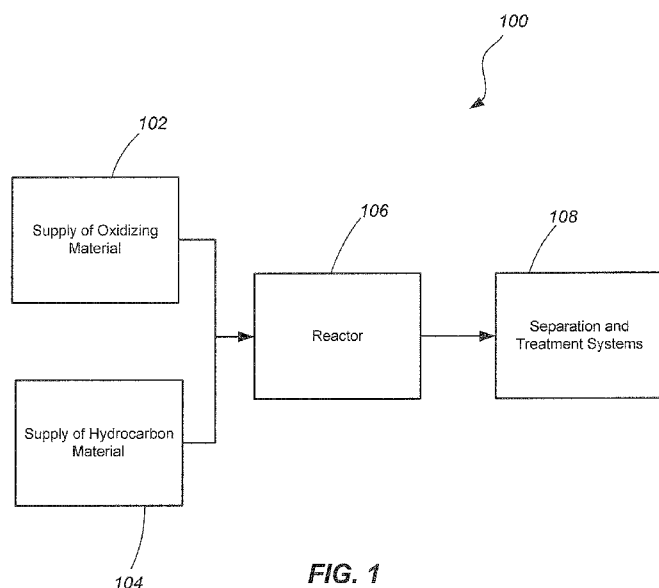


- (51) International Patent Classification:  
*C10G 9/34* (2006.01)
- (21) International Application Number:  
PCT/US2012/038251
- (22) International Filing Date:  
17 May 2012 (17.05.2012)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
13/188,202 21 July 2011 (21.07.2011) US
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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, 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))

(54) Title: MOLTEN SALT ROLLING BUBBLE COLUMN, REACTORS UTILIZING SAME, AND RELATED METHODS

**FIG. 1**

(57) Abstract: Reactors for carrying out a chemical reaction, as well as related components, systems and methods are provided. In accordance with one embodiment, a reactor is provided that includes a furnace and a crucible positioned for heating by the furnace. The crucible may contain a molten salt bath. A downtube is disposed at least partially within the interior crucible along an axis. The downtube includes a conduit having a first end in communication with a carbon source and an outlet at a second end of the conduit for introducing the carbon material into the crucible. At least one opening is formed in the conduit between the first end and the second end to enable circulation of reaction components contained within the crucible through the conduit. An oxidizing material may be introduced through a bottom portion of the crucible in the form of gas bubbles to react with the other materials.