

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
8 November 2007 (08.11.2007)

PCT

(10) International Publication Number
WO 2007/127974 A2

(51) International Patent Classification:

B01F 13/06 (2006.01) **B01F 3/12** (2006.01)

(21) International Application Number:

PCT/US2007/067755

(22) International Filing Date: 30 April 2007 (30.04.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/796,084 28 April 2006 (28.04.2006) US
11/796,598 27 April 2007 (27.04.2007) US

(71) Applicant (for all designated States except US): **MINUS 100, LLC** [US/US]; 1004 Lewis Lane, Clarks Summit, Pennsylvania 18411 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **KERNS, Kevin, C.** [US/US]; 1004 Lewis Lane, Clarks Summit, Pennsylvania 18411 (US).

(74) Agents: **PREPELKA, Nathan, J.** et al.; The Webb Law Firm, 436 Seventh Avenue, 700 Koppers Building, Pittsburgh, Pennsylvania 15219 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, 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, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

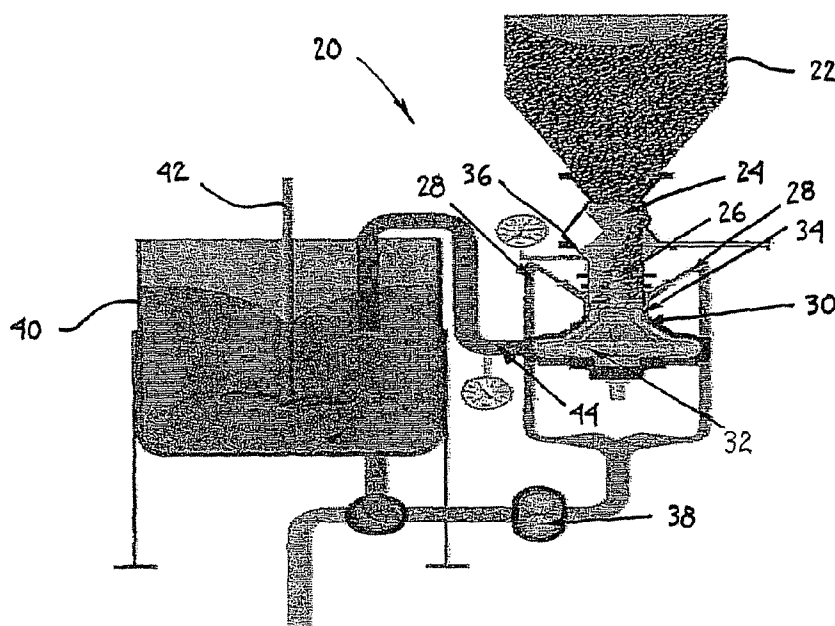
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD, SYSTEM AND APPARATUS FOR THE DEAGGLOMERATION AND/OR DISAGGREGATION OF CLUSTERED MATERIALS



(57) Abstract: A method of separating at least one cluster of a plurality of clustered particles of a specified material. The method includes: initiating the wetting of at least a portion of the plurality of cluster particles; disaggregating at least a portion of the wetted plurality of cluster particles into a disaggregated material including a plurality of smaller clusters, discrete particles or any combination thereof; and stabilizing at least a portion of the disaggregated material by reducing, eliminating or replacing specified controlling attractive forces. A system and apparatus for separating at least one cluster of a plurality of clustered particles of a specified material are also disclosed.

WO 2007/127974 A2