(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
7 January 2016 (07.01.2016)

WIPO | PCT

(10) International Publication Number
WO 2016/004398 A3

(51) **International Patent Classification**:
C12N 13/00 (2006.01)

(21) **International Application Number**:
PCT/US2015/039125

(22) **International Filing Date**:
2 July 2015 (02.07.2015)

(25) **Filing Language**: English

(26) **Publication Language**: English

(30) **Priority Data**:
62/020,088 2 July 2014 (02.07.2014) US
62/154,672 29 April 2015 (29.04.2015) 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, BN, 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, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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, ST, 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, KM, ML, MR, NE, SN, TD, TG).

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(54) **Title**: ACOUSTOPHORETIC DEVICE WITH UNIFORM FLUID FLOW

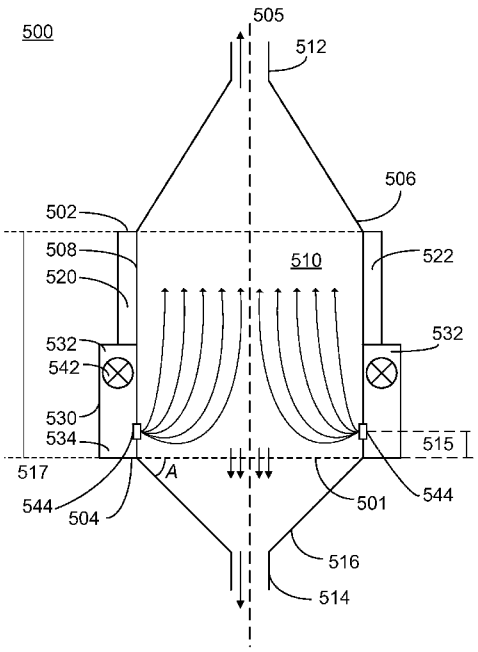


FIG. 17

(57) **Abstract**: An acoustophoresis device which includes a substantially vertical flow path of the fluid mixture in order to improve separation of particles / secondary fluid from a primary fluid is disclosed. The vertical flow path reduces velocity non-uniformities in the acoustic chamber resulting from gravity forces. The device includes an acoustic chamber in which multidimensional acoustic standing waves are generated. The fluid can be introduced into the acoustic chamber using a dump diffuser in which a plurality of inlets enter near the bottom of the acoustic chamber such that flow symmetry reduces both, gravity driven flow non-uniformities, and any flow interference effects between inlet mixture flow into the acoustic chamber and the continuous gravity driven particle cluster drop out.

WO 2016/004398 A3

WO 2016/004398 A3

Published:

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

(88) Date of publication of the international search report:
17 March 2016