

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
03 October 2019 (03.10.2019)



(10) International Publication Number
WO 2019/191137 A1

(51) International Patent Classification:

B03C 1/02 (2006.01) *B03C 1/32* (2006.01)
B03C 1/033 (2006.01) *C12M 3/00* (2006.01)

(21) International Application Number:

PCT/US2019/024138

(22) International Filing Date:

26 March 2019 (26.03.2019)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/648,300 26 March 2018 (26.03.2018) US
62/728,684 07 September 2018 (07.09.2018) US

(71) Applicant: **LEVITAS, INC.** [US/US]; 3283 25th Street,
#3, San Francisco, California 94110 (US).

(72) Inventors: **FACER, Geoffrey**; 3283 25th Street, #3, San
Francisco, California 94110 (US). **TRAVERS, Kevin**;
3283 25th Street, #3, San Francisco, California 94110 (US).
JOVIC, Andreja; 3283 25th Street, #3, San Francisco,
California 94110 (US). **DE GROOT, Theodorus Evan**;

3283 25th Street, #3, San Francisco, California 94110 (US).
ZIV, Keren; 3283 25th Street, #3, San Francisco, Califor-
nia 94110 (US).

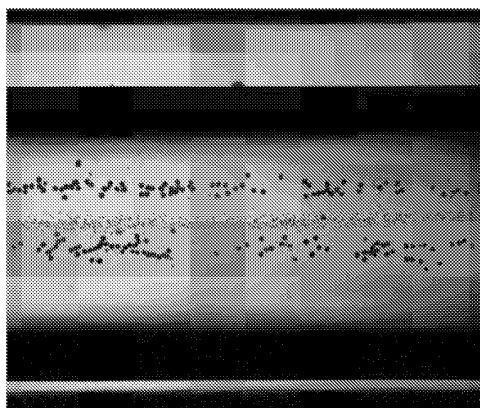
(74) Agent: **SEIDEL, Jeffrey J.**; WILSON SONSINI
GOODRICH & ROSATI, 650 Page Mill Road, Palo Alto,
California 94304 (US).

(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, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP,
KR, KW, 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,

(54) Title: MAGNETIC PARTICLE ISOLATION DEVICE AND METHODS OF USE

FIG. 23



(57) Abstract: The present invention provides for devices and methods of isolating particles. A fluidics particle isolation device is disclosed having a fluidic channel extending therethrough, wherein a segment of the fluidic channel is exposed to an asymmetric magnetic field such that when a solution containing the particles in a paramagnetic medium are passed through the magnetic field, the particles are isolated within the solution.

[Continued on next page]

WO 2019/191137 A1

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).

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*