

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
29 October 2020 (29.10.2020)



(10) International Publication Number
WO 2020/218971 A1

(51) International Patent Classification:
G01S 15/00 (2020.01) A61B 5/00 (2006.01)

(21) International Application Number:
PCT/SG2020/050230

(22) International Filing Date:
15 April 2020 (15.04.2020)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10201903629R 23 April 2019 (23.04.2019) SG

(71) Applicant: **AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH** [SG/SG]; 1 Fusionopolis Way, #20-10 Connexis North Tower, Singapore 138632 (SG).

(72) Inventors: **OLIVO, Malini**; c/o Singapore Bioimaging Consortium, (SBIC), 11 Biopolis Way, Helios, #01-02, Singapore 138667 (SG). **BI, Renzhe**; c/o Singapore Bioimaging Consortium, (SBIC), 11 Biopolis Way, Helios, #01-02, Singapore 138667 (SG). **HO, Jun Hui**; c/o Singapore Bioimaging Consortium, (SBIC), 11 Biopolis Way, Helios, #01-02, Singapore 138667 (SG). **DU, Yao**; c/o Singapore Bioimaging Consortium, (SBIC), 11 Biopolis Way, Helios, #01-02, Singapore 138667 (SG).

(74) Agent: **VIERING, JENTSCHURA & PARTNER LLP**; P.O. Box 1088, Rochor Post Office, Rochor Road, Singapore 911833 (SG).

(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, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, 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).

(54) Title: PLACEMENT DEVICE FOR MEDICAL OR VETERINARY USE, PLACEMENT TRACKING SYSTEM, AND METHOD FOR TRACKING

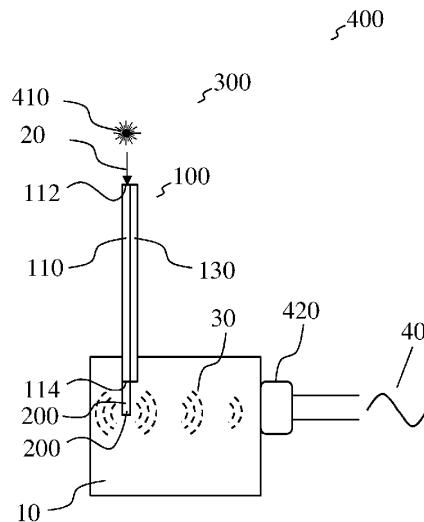


FIG. 4

(57) Abstract: An aspect relates to a placement device for placement in a medium, including: an elongated optical transmission guide to which a photoacoustic transducer is attached to, wherein the photoacoustic transducer may include a first surface facing away from the second end of the elongated optical transmission guide. The photoacoustic transducer may include a 3-Dimensional shape configured to produce an acoustic signal upon absorption of electromagnetic energy received from the elongated optical transmission guide, and an emission profile of the acoustic signal is based on the 3-Dimensional shape, when the photoacoustic transducer is immersed in homogeneous medium. The placement device may be integral to a medical or veterinary device. An aspect relates to a placement tracking system including the placement device and an ultrasound detector. An aspect relates to a method for tracking a portion of a placement device in a medium using the system.

[Continued on next page]

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))
- in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE