



- (51) **International Patent Classification:**
A61N 1/36 (2006.01) *H04R 25/00* (2006.01)
- (21) **International Application Number:**
PCT/US2023/035386
- (22) **International Filing Date:**
18 October 2023 (18.10.2023)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
63/380,225 19 October 2022 (19.10.2022) US
- (71) **Applicant:** CALA HEALTH, INC. [US/US]; 1800 Gateway Drive, Suite 300, San Mateo, California 94404 (US).
- (72) **Inventors:** BRANTIGAN, Anne; 1800 Gateway Drive, Suite 300, San Mateo, California 94404 (US). KENT, Alexander R.; 1800 Gateway Drive, Suite 300, San Mateo, California 94404 (US). KNODEL, Crystal; 1800 Gateway Drive, Suite 300, San Mateo, California 94404 (US). ROSENBLUTH, Kathryn H.; 1800 Gateway Drive, Suite 300, San Mateo, California 94404 (US). SCHULTE, Gregory T.; 1800 Gateway Drive, Suite 300, San Mateo, California 94404 (US).

formia 94404 (US). WELLS, Kyra; 1800 Gateway Drive, Suite 300, San Mateo, California 94404 (US). SZENTES, Belen; 1800 Gateway Drive, Suite 300, San Mateo, California 94404 (US). SINGHAL, Raghav; 1800 Gateway Drive, Suite 300, San Mateo, California 94404 (US).

(74) **Agent:** CHRISTENSEN, Michael, R.; Knobbe, Martens, Olson & Bear, LLP, 2040 Main Street, 14th Floor, Irvine, California 92614 (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, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, 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, CV,

(54) **Title:** NEUROMODULATION DEVICES AND METHODS

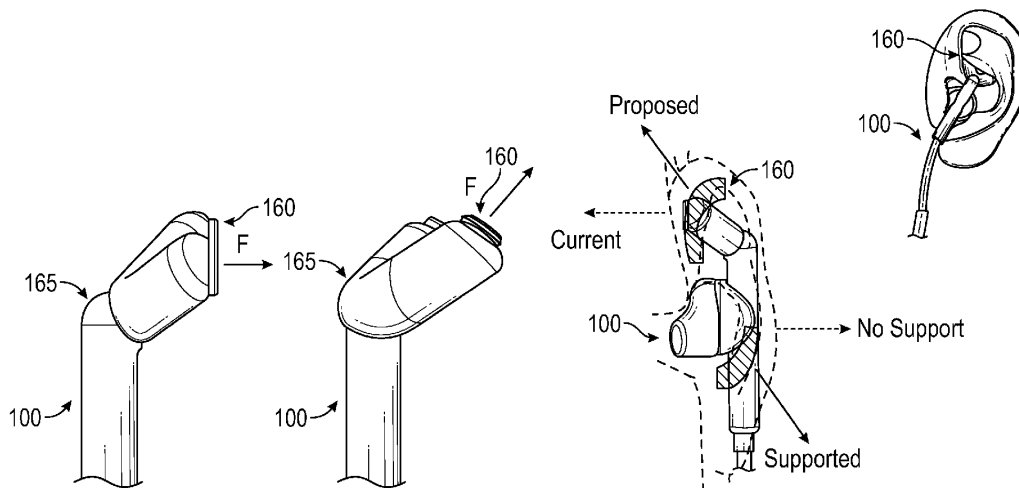


FIG. 1L

(57) **Abstract:** Neuromodulation systems are provided in some aspects that are configured for placement inside the ear with a pressure applicator to bias electrodes to provide facilitate conductivity, for example, in a direction towards the ear for auricular neurostimulation. Neuromodulation systems are also provided in some aspect that can include one or more sensors that measure data from one or more biomarkers of a user's physiological state and an optional controller that uses the measured data to adjust one or more stimulation parameters.

[Continued on next page]

GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, 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, ME, 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).

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

- *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*