

(12) International Application Status Report

Received at International Bureau: 17 February 2017 (17.02.2017)

Information valid as of: 11 June 2018 (11.06.2018)

Report generated on: 24 March 2019 (24.03.2019)

(10) Publication number:

WO2018/120354

(43) Publication date:

05 July 2018 (05.07.2018)

(26) Publication language:

Chinese (ZH)

(21) Application Number:

PCT/CN2017/073107

(22) Filing Date:

08 February 2017 (08.02.2017)

(25) Filing language:

Chinese (ZH)

(31) Priority number(s):

201611237146.3 (CN)

(31) Priority date(s):

28 December 2016 (28.12.2016)

(31) Priority status:

Priority document received (in compliance with PCT Rule 17.1)

(51) International Patent Classification:

A61F 11/00 (2006.01); A61N 7/00 (2006.01)

(71) Applicant(s):

SHENZHEN INSTITUTES OF ADVANCED TECHNOLOGY, CHINESE ACADEMY OF SCIENCES [CN/CN]; 1068, Xueyuan Avenue, Xili University Town, Nanshan District Shenzhen, Guangdong 518055 (CN) *(for all designated states)*

(72) Inventor(s):

ZHENG, Hairong; 1068, Xueyuan Avenue, Xili University Town, Nanshan District Shenzhen, Guangdong 518055 (CN)

LIN, Zhengrong; 1068, Xueyuan Avenue, Xili University Town, Nanshan District Shenzhen, Guangdong 518055 (CN)

NIU, Lili; 1068, Xueyuan Avenue, Xili University Town, Nanshan District Shenzhen, Guangdong 518055 (CN)

MENG, Long; 1068, Xueyuan Avenue, Xili University Town, Nanshan District Shenzhen, Guangdong 518055 (CN)

ZHOU, Wei; 1068, Xueyuan Avenue, Xili University Town, Nanshan District Shenzhen, Guangdong 518055 (CN)

HUANG, Xiaowei; 1068, Xueyuan Avenue, Xili University Town, Nanshan District Shenzhen, Guangdong 518055 (CN)

WANG, Kaiyue; 1068, Xueyuan Avenue, Xili University Town, Nanshan District Shenzhen, Guangdong 518055 (CN)

(74) Agent(s):

CHOFN INTELLECTUAL PROPERTY; Room 1215-1218, Zuoan Gongshe Plaza 12th Floor, 68 North Fourth Ring Road W., Haidian District Beijing 100080 (CN)

(54) Title (EN): ULTRASONIC WAVE GENERATION DEVICE FOR HEARING RECOVERY TREATMENT

(54) Title (FR): DISPOSITIF DE GÉNÉRATION D'ONDES ULTRASONORES DESTINÉ À UN TRAITEMENT DE RÉCUPÉRATION AUDITIVE

(54) Title (ZH): 用于进行听觉恢复治疗的超声波生成装置

(57) Abstract:

(EN): Disclosed is an ultrasonic wave generation device for hearing recovery treatment, comprising an ultrasonic wave generation part. The ultrasonic wave generation part comprises a reference time-delay determination module (101), an emission sequence parameter determination module (102) and an ultrasonic transducer module (103). The ultrasonic transducer module (103) is used for emitting actual ultrasonic waves, and the efficiency and precision are improved by focusing by means of a plurality of array elements (1032). Moreover, by arranging a wearing part (301), a user can directly wear the device on the ears by using the wearing part (301) so as to improve the convenience of use and achieve the effect of real-time intervention.

(FR): L'invention concerne un dispositif de génération d'ondes ultrasonores pour un traitement de récupération auditive, comprenant une partie de génération d'ondes ultrasonores. La partie de génération d'ondes ultrasonores comprend un module de détermination de retard temporel de référence (101), un module de détermination de paramètre de séquence d'émission (102) et un module de transducteur ultrasonore (103). Le module de transducteur ultrasonore (103) est utilisé pour émettre des ondes ultrasonores réelles, et l'efficacité et la précision sont améliorées par focalisation au moyen d'une pluralité d'éléments de réseau (1032). En outre, en disposant une partie destinée à être portée (301), un utilisateur peut directement porter le dispositif sur les oreilles en utilisant la partie destinée à être portée (301), de façon à améliorer la commodité d'utilisation et à obtenir l'effet d'une intervention en temps réel.

(ZH): 一种用于进行听觉恢复治疗的超声波生成装置,包括超声波生成部,超声波生成部包括参考延时确定模块(101)、发射序列参数确定模块(102)和超声换能器模块(103),超声换能器模块(103)用于发射实际的超声波,通过多个阵元(1032)聚焦的方式提高效率和精准程度;并且通过设置佩戴部(301)使得用户可以使用佩戴部(301)直接携带在耳朵上,提高了使用的便捷程度,达到了实时干预的效果。

International search report:

Received at International Bureau: 29 September 2017 (29.09.2017) [CN]

International Report on Patentability (IPRP) Chapter II of the PCT:

Not available

(81) Designated States:

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, 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

European Patent Office (EPO) : 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

African Intellectual Property Organization (OAPI) : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG

African Regional Intellectual Property Organization (ARIPO) : BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW

Eurasian Patent Organization (EAPO) : AM, AZ, BY, KG, KZ, RU, TJ, TM