## (19) World Intellectual Property Organization

International Bureau



# 

#### (43) International Publication Date 21 February 2008 (21.02.2008)

### (10) International Publication Number WO 2008/021289 A3

(51) International Patent Classification: H04R 25/00 (2006.01)

H04R 25/02 (2006.01)

A61B 7/02 (2006.01)

(21) International Application Number:

PCT/US2007/017867

(22) International Filing Date: 10 August 2007 (10.08.2007)

(25) Filing Language:

**English** 

(26) Publication Language:

**English** 

(30) Priority Data:

11/502,053

10 August 2006 (10.08.2006) US

- (71) Applicants and
- (72) Inventors: MEYER, John, A. [US/US]; 353 Oakridge Drive, Rochester, NY 14617 (US). PENMAN, Dean, Thomas [US/US]; 4935 Spaulding Drive, Clarence, NY 14031 (US).
- (74) Agent: GREENWALD, Howard, J.; Howard J. Greenwald P.c., Suite 3075, 349 West Commercial Street, East Rochester, NY 14445 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, 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, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

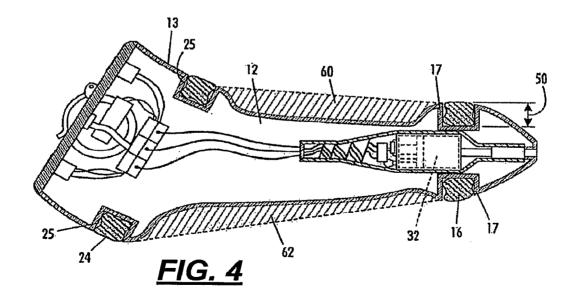
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report:

25 September 2008

(54) Title: IN THE EAR HEARING AID UTILIZING ANNULAR ACOUSTIC SEALS



(57) Abstract: Disclosed is a hearing aid assembly (12) wherein the hearing aid is comprised of an acoustic receiver, an acoustic transmitter (32), and a body (13), and an annular channel (25), wherein the acoustic receiver is designed to fit into a external acoustic meatus of an ear (10), the acoustic transmitter (32) is designed to fit into a inner ear canal (14), and the generally cylindrical body (13) is disposed between the receiver and the transmitter (32), the annular channel (25) is disposed on the surface of the body (13) such that it circumscribes the body's (13) circumference. The annular channel (25) is adapted to receive an annular ring (16) which functions as an acoustic seal and which, in one preferred embodiment, has a T-shaped cross-section.



### INTERNATIONAL SEARCH REPORT

International application No.

PCT/US07/17867

A. CLAS	SIFICATION OF SUBJECT MATTER H04R 25/00( 2006.01)		,
H04R 25/00( 2006.01),25/02( 2006.01);A61B 7/02( 2006.01)			
USPC: 181/129,130,134,135;381/322,324,328 According to International Patent Classification (IPC) or to both national classification and IPC			
B. FIELDS SEARCHED			
Minimum documentation searched (classification system followed by classification symbols)			
U.S.: 181/129,130,134,135;381/322,324,328			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched			
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)			
C. DOCU	JMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where a		Relevant to claim No.
Α	US 6,367,578 B1 (SHOEMAKER) 9 April 2002 (09. col. 4, line 15	04.2002) Figs. 4 and 5, col. 3, line 40 to	1-8
Α	US 6,167,141 (YOEST) 26 December 2000 (26.12.2002) Figs 4,5,7, col. 2, lines 32-44col. 4, lines 1-9 and col. 6, line 66 to col. 7, line 4		
Α	US 6,310,961 B1 (OLIVEIRA et al.) 30 October 2001 (30.10.2001) Figure 4 and abstract 1,6		
	•		
		*	
+1			
Further documents are listed in the continuation of Box C.		See patent family annex.	
Special categories of cited documents:		"T" later document published after the intern date and not in conflict with the applica	
"A" document defining the general state of the art which is not considered to be of particular relevance		principle or theory underlying the inven	tion
"E" earlier application or patent published on or after the international filing date		X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)		"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined	
. ,	referring to an oral disclosure, use, exhibition or other means	with one or more other such documents, such combination being obvious to a person skilled in the art	
"P" document published prior to the international filing date but later than the priority date claimed		"&" document member of the same patent family	
Date of the actual completion of the international search		Date of mailing of the international search report	
27 June 2008 (27.06.2008)		15 JUL 2008	
Name and mailing address of the ISA/US  Mail Stop PCT, Attn: ISA/US		Authorized officer	
Commissioner for Patents		Brian Ensey	
P.O. Box 1450 Alexandria, Virginia 22313-1450		Telephone No. 571-272-7496	
Facsimile No. (571) 273-3201			