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(54) A HEARING AID WITH AN ANTENNA

(57) This disclosure presents a hearing aid comprising an assembly. The assembly comprises: a microphone for reception of sound and conversion of the received sound into a corresponding first audio signal, a signal processor for processing the first audio signal into a second audio signal compensating a hearing loss of a user of the hearing aid, and a wireless communication unit configured for wireless communication. The assembly of the hearing aid comprises an antenna system. The antenna system comprises a first feeding structure and

a radiating segment. The first feeding structure is connected or coupled to the wireless communication unit. The radiating segment may be adjacent to and galvanic disconnected from at least a part of the first feeding structure. The at least a part of the first feeding structure is galvanic disconnected from the radiating segment if a capacitive coupling between the at least a part of the first feeding structure and the radiating segment is between 0.5 pF and 20 pF.

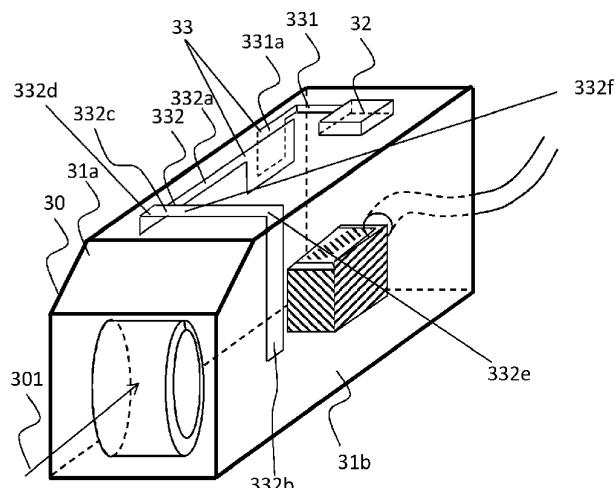


Fig. 3



EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
10	X US 2013/342407 A1 (KVIST SOREN [DK] ET AL) 26 December 2013 (2013-12-26) * paragraphs [0035], [0080], [0091]; figures 1,2, *	1-13	INV. H01Q1/27
15	Y EP 1 594 188 A1 (MATSUSHITA ELECTRIC IND CO LTD [JP] PANASONIC CORP [JP]) 9 November 2005 (2005-11-09) * paragraphs [0004], [0047]; figure 1 *	1,14-16	
20	X EP 2 076 065 B1 (OTICON AS [DK]) 22 January 2014 (2014-01-22) * paragraph [0011]; figure 3 *	1,16	
25	X WO 2012/059302 A2 (GN RESOUND AS [DK]; OEZDEN SINASI [DK]) 10 May 2012 (2012-05-10) * page 17, line 10 - line 17; figures 2,4 * * page 9, line 24 - line 26 * * page 17, line 23 - line 26 *	1,16	
30	Y EP 2 723 101 A2 (GN RESOUND AS [DK]) 23 April 2014 (2014-04-23) * figures 2,3 * * paragraphs [0005], [0006], [0008], [0010], [0040], [0062], [0068] *	1,16	H01Q H04R
35	A WO 2014/090420 A1 (SIEMENS MEDICAL INSTR PTE LTD [SG]; FRAUNHOFER GES ZUR FÖRDERUNG DER A) 19 June 2014 (2014-06-19) * page 3, line 14 - line 25 * * figure 3 * * page 10, lines 18-19 *	1,16	
40			
45			
50	2 The present search report has been drawn up for all claims		
55	Place of search Munich	Date of completion of the search 21 August 2024	Examiner Heiner, Christoph
CATEGORY OF CITED DOCUMENTS			
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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 24 17 1658

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

21-08-2024

	Patent document cited in search report		Publication date		Patent family member(s)	Publication date
10	US 2013342407	A1	26-12-2013	CN	103515694 A	15-01-2014
				DK	2680366 T3	21-11-2016
				EP	2680366 A1	01-01-2014
				JP	5868900 B2	24-02-2016
				JP	2014007743 A	16-01-2014
				US	2013342407 A1	26-12-2013
15	EP 1594188	A1	09-11-2005	EP	1594188 A1	09-11-2005
				JP	3735635 B2	18-01-2006
				JP	WO2004070879 A1	01-06-2006
				KR	20050098880 A	12-10-2005
				US	2006114159 A1	01-06-2006
				WO	2004070879 A1	19-08-2004
20	EP 2076065	B1	22-01-2014	CN	101489171 A	22-07-2009
				CN	106878901 A	20-06-2017
				DK	2076065 T3	03-02-2014
				DK	201300096 U1	28-06-2013
				EP	2076065 A1	01-07-2009
				ES	2443918 T3	21-02-2014
25				US	2009169038 A1	02-07-2009
				WO	103329350 A	25-09-2013
				DK	2628210 T3	01-04-2019
				EP	2628210 A2	21-08-2013
				JP	2013541913 A	14-11-2013
				US	2013308805 A1	21-11-2013
30				WO	2012059302 A2	10-05-2012
				EP	2723101 A2	23-04-2014
				DK	2723101 T3	04-02-2019
				DK	3468230 T3	29-08-2022
				EP	3468230 A1	23-04-2014
				EP	3468230 A1	10-04-2019
35	WO 2014090420	A1	19-06-2014	DK	2932560 T3	04-12-2017
				EP	2932560 A1	21-10-2015
				US	2015296312 A1	15-10-2015
				WO	2014090420 A1	19-06-2014
				EP	FORM P0459	
				EP	For more details about this annex : see Official Journal of the European Patent Office, No. 12/82	
40				EP	FORM P0459	
				EP	FORM P0459	
				EP	FORM P0459	
				EP	FORM P0459	
				EP	FORM P0459	
				EP	FORM P0459	
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55				EP	FORM P0459	
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				EP	FORM P0459	
				EP	FORM P0459	