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(54) **Device for amelioration of the quality of hearing**

(57) This is referred to patients with partial or total loss of hearing of the one ear and somehow good or excellent condition of the other ear.

The essential difference from the ordinary dullness earphones of optic glasses type, or any other type or system, is the addition of a second microphone in the altitude of the ear with necrosis.

By the use of this device the patient may perceive low intensity sounds even whistles as well as the sound of a telephone earphone from the side and close to the ear with necrosis.

This device consists of:

1. Microphone: mini condensing microphone (ordinary)

2. Pre-amplifier of acoustic frequencies (ordinary)
3. Earphone: (or sound vibrations system for incitement through the cranial bones, of the acoustic nerve), for the healthy ear (ordinary).
4. Batteries and switch on-off (ordinary)
5. Adjuster for voice volume (ordinary).

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EUROPEAN SEARCH REPORT

Application Number
EP 99 60 0013

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	GB 1 559 611 A (TELEX COMMUNICATIONS) 23 January 1980 (1980-01-23) * page 1, column 1, line 14 - page 1, column 2, line 69 * * page 2, column 2, line 97 - column 3, line 44; figures 1-3,9 *	1-5	H04R25/00 G02C11/06
Y	US 3 019 305 A (MCCARRELL STUART G) 30 January 1962 (1962-01-30) * column 1, line 23 - column 1, line 31 * * column 3, line 34 - column 3, line 39; figures 1-7 * * column 3, line 34 - column 3, line 39; figures 1-6 *	1-5	
A	GR 2 001 901 Y (PIERROUTSAKOS MICHAEL DIMITRIS) 1 April 1997 (1997-04-01) * the whole document *	1-5	
A	HARFORD E ET AL: "A REHABILITATIVE APPROACH TO THE PROBLEM OF UNILATERAL HEARING IMPAIRMENT: THE CONTRALATERAL ROUTING OF SIGNALS (CROS)" JOURNAL OF SPEECH AND HEARING DISORDERS, AMERICA SPEECH AND HEARING ASSOCIATION, DANVILLE, IL, US, vol. 30, no. 2, May 1965 (1965-05), pages 121-138, XP009008743 ISSN: 0022-4677 * the whole document *	1-3	TECHNICAL FIELDS SEARCHED (Int.Cl.7) H04R G02C
A	MICHAEL VALENTE: "Fitting Options for Unilateral Hearing Loss" THE HEARING JOURNAL, vol. 48, no. 4, April 1995 (1995-04), pages 10,45-48, XP009008733 * the whole document *	1-5	
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 29 April 2003	Examiner Kunze, H
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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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
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29-04-2003

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
GB 1559611	A	23-01-1980	AU	510028 B2	05-06-1980
			AU	1730376 A	09-03-1978
			BE	847287 A1	31-01-1977
			BR	7605770 A	23-08-1977
			CA	1100618 A1	05-05-1981
			CH	610169 A5	30-03-1979
			DE	2643465 A1	05-05-1977
			DK	459376 A	18-04-1977
			FR	2328350 A1	13-05-1977
			IT	1073024 B	13-04-1985
			JP	52049703 A	21-04-1977
			JP	57034720 B	24-07-1982
			LU	75885 A1	11-05-1977
			MX	143842 A	24-07-1981
			NL	7610562 A	19-04-1977
			NO	763455 A	19-04-1977
			SE	7610096 A	18-04-1977

US 3019305	A	30-01-1962	US	2962562 A	29-11-1960

GR 2001901	Y	01-04-1997	NONE		
