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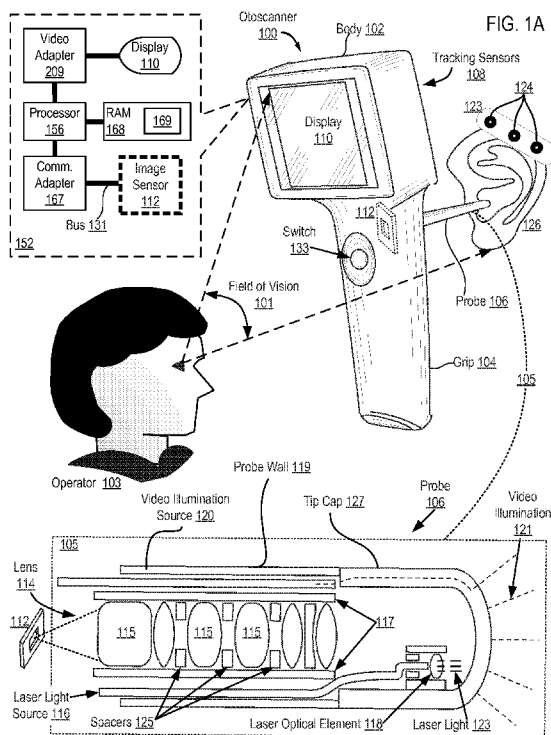
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[Continued on next page]

(54) Title: VIDEO OTOSCANMER WITH LINE-OF-SIGHT PROBE AND SCREEN



(57) Abstract: An otoscanner including an otoscanner body, the body comprising a hand grip, the body having mounted upon it an ear probe, a tracking illumination emitter, a plurality of tracking illumination sensors, and a display screen, the otoscanner body having mounted within it an image sensor; the ear probe comprising a wide-angle lens optically coupled to the image sensor, laser light source, a laser optical element, and a source of non-laser video illumination; the display screen coupled for data communications to the image sensor, the display screen displaying images of the scanned ear, the display screen positioned on the otoscanner body in relation to the ear probe so that when the ear probe is positioned for scanning, both the display screen and the ear probe are visible to an operator operating the otoscanner; and a data processor configured to construct a 3D image of the interior of the scanned ear.



RW, 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.

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- 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))

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PCT/US 13/28364

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H04N 13/02 (2013.01)

USPC - 348/46

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)

IPC(8): H04N 13/02 (2013.01)

USPC: 348/46

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

IPC(8): H04N 13/02 (2013.01) (keyword limited - see terms below)

USPC: 348/42, 46, E13.74; 600/109, 443; 702/1, 19 (keyword limited - see terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWEST (PGPB, USPT, USOC, EPAB, JPAB), PatBase(All), Google Patent, Google Scholar

Search Terms: Optical scanning device, ear probe, wide angle, tracking, illumination, sensor, display grip, body, laser, light, 3D, 3-D

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 7,625,335 B2 (Deichmann et al) 01 December 2009 (01.12.2009) see entire document, col. 5, ln 45, ln 61-65; col 6, ln 41-44; col 7, ln 36; col 8, ln 27-29, ln 38-43; col 9, ln 39-42; col 10, ln 65-67; col 11, ln 1-13; col 13, ln 51-53	1-20
A	US 5,738,633 A (Christiansen) 14 April 1998 (14.04.1998) see col 1, ln 23-31, ln 65-67 thru col 2, ln 1-2, ln 54-57; col 3, ln 24, ln 26, ln 31; col 4, ln 42	1-20
A	US 2011/0026037 A1 (Forster et al.) 03 February 2011 (03.02.2011) entire document, especially para [0027]-[0030]	1-20
A	US 2009/0018465 A1 (Hessel et al.) 15 January 2009 (15.01.2009) entire document, especially Fig. 3 and para [0039]-[0043]	1-20
A	US 7,110,124 B2 (Jensen et al) 19 September 2006 (14.09.2006) see col 3, ln 5-8, ln 32-34 ln 63-66	1-20
A	US 7,742,635 B2 (Rohaly et al) 22 June 2010 (22.06.2010) entire document	1-20



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* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

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