

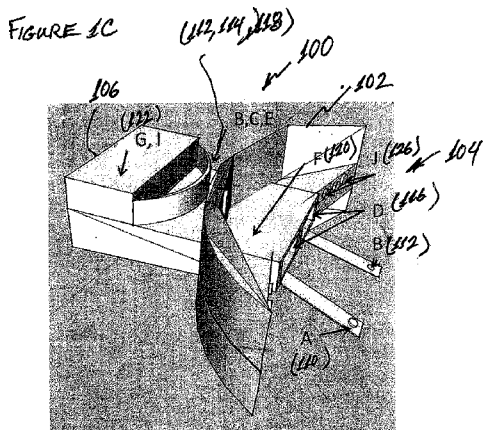


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[Continued on next page]

(54) Title: DEVICE AND SYSTEM FOR SENSING MEDICALLY RELEVANT INFORMATION FROM THE MOUTH



- Vital Signs
 - Temperature (A)
 - Blood Pressure (B)
 - Pulse rate (C)
 - Respiration measures (D)
- Blood oxygen level (E)
- Bite Pressure (F)
- Movement measures (G)
 - Head Acceleration
 - Head Rotation
- Saliva analysis (H)
 - Head motion, sensor processing, power, RF (I)
 - Tongue position sensors (J)

(57) Abstract: An intraoral multisensor device includes a mouthpiece, a plurality of sensors at least one of attached to or integrated with the mouthpiece, and a data communications unit configured to receive signals from the plurality of sensors. The mouthpiece has a form to permit stable arrangement at least partially within a person's mouth such that it can remain for hands-free sensing of a plurality of biological parameters. Also, an intraoral multisensor system includes an intraoral multisensor device and a data processing device adapted to communicate with the intraoral multisensor device.





Declarations under Rule 4.17:

- *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))*
- *of inventorship (Rule 4.17(iv))*

Published:

- *with international search report (Art. 21(3))*

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A. CLASSIFICATION OF SUBJECT MATTER*A61B 5/0205(2006.01)i, A61B 5/02(2006.01)i, A61B 1/24(2006.01)i, A61B 5/01(2006.01)i, A61C 19/04(2006.01)i*

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)

A61B 5/0205; A61C 5/14; A61B 5/00

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: mouthpiece, sensor, vital sign, communication

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	US 2003-0040679 A1 (CHRISTOPHER PAUL WEBER et al.) 27 February 2003 See abstract, paragraphs [0021]-[0028], claims 1-20, and figures 1-4.	1,2,4-8,10,11,14 ,17,19-23,25,26 9,15,16,24 3,12,13,18,27,28
X	US 04510941 A (SEMROW; CAROLYN M. et al.) 16 April 1985 See abstract, column 3, line 31-line 48, claims 1-10, and figures 1-6.	1
Y	US 2009-0221884 A1 (RYAN RICHARD H.) 03 September 2009 See abstract, paragraphs [0032]-[0047], claims 1-12, and figures 1-9.	9,24
Y	US 2004-0181166 A1 (DAVID S. WILLIFORD et al.) 16 September 2004 See abstract, paragraphs [0016]-[0021],[0026]-[0029], claims 1-23, and figures 1-4.	15,16

 Further documents are listed in the continuation of Box C. See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means

"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

"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

"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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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003-0040679 A1	27.02.2003	US 2005-0113654 A1	26.05.2005
US 04510941 A	16.04.1985	None	
US 2009-0221884 A1	03.09.2009	WO 2009-108939 A1	03.09.2009
US 2004-0181166 A1	16.09.2004	None	