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(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
03761126.6 / 1 513 443

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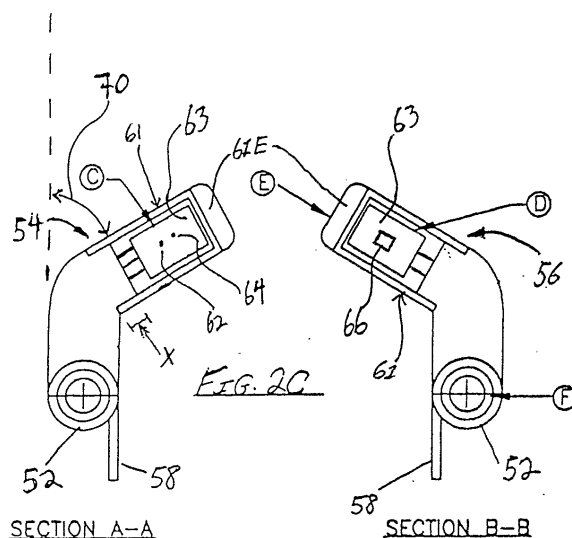
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(54) **Perfusion monitor and system, including specifically configured oximeter probes and covers for oximeter probes**

(57) The present invention relates to pulse oximeter probes that are configured to be placed, respectively, across the septum or nares of the nose. These probes are fabricated to provide signals to estimate arterial oxygen saturation. The present invention also relates to a

combined nasal pulse oximeter probe/nasal cannula. In certain embodiments, an additional limitation of a control means to adjust the flow rate of such gas is provided, where such control is directed by the blood oxygen saturation data obtained from the pulse oximeter probe.



**PARTIAL EUROPEAN SEARCH REPORT**

Application Number

under Rule 62a and/or 63 of the European Patent Convention.
This report shall be considered, for the purposes of
subsequent proceedings, as the European search report

EP 12 16 5265

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 4 830 014 A (GOODMAN DAVID E [US] ET AL) 16 May 1989 (1989-05-16) * column 1, line 11 - line 17 * * column 5, line 3 - line 29 * * column 8, line 49 - line 67; figures 2,3 * * column 1, line 25 - line 43 * * column 10, line 10 - line 17; figure 9 * -----	1	INV. A61B5/1455
X	US 5 335 659 A (POLOGE JONAS A [US]) 9 August 1994 (1994-08-09)	1-5,8, 11,14, 39,41 15,27,40	
Y	* column 1, line 5 - line 11 * * column 2, line 30 - line 68 * * column 4, line 3 - line 6; figure 3 * * column 3, line 54 - line 66 * * figures 1,2,5,6 * * column 3, line 22 - line 27 * * column 4, line 40 - column 5, line 5 * ----- -/--		
			TECHNICAL FIELDS SEARCHED (IPC)
			A61B
INCOMPLETE SEARCH			
<p>The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC so that only a partial search (R.62a, 63) has been carried out.</p> <p>Claims searched completely :</p> <p>Claims searched incompletely :</p> <p>Claims not searched :</p> <p>Reason for the limitation of the search: see sheet C</p>			
Place of search		Date of completion of the search	Examiner
The Hague		12 October 2012	Ekstrand, Vilhelm
<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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EPO FORM 1503 03.82 (P04E07)



PARTIAL EUROPEAN SEARCH REPORT

Application Number
EP 12 16 5265

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	US 6 142 149 A (STEEN SCOT KENNETH [US]) 7 November 2000 (2000-11-07)	1,8-10, 16,17	
Y	* figure 4 * * column 3, line 44 - line 60; figure 1 * * column 2, line 35 - line 43 * -----	15,40	
X	US 6 371 114 B1 (SCHMIDT MATTHEW F [US] ET AL) 16 April 2002 (2002-04-16)	8-10,12, 34	
Y	* paragraph [0054] - paragraph [0058]; figure 1 *	13	TECHNICAL FIELDS SEARCHED (IPC)
A	* paragraph [0052] * * paragraph [0046] * * paragraph [0060] - paragraph [0062] * * paragraph [0126] * -----	1-5, 39-41	
X	US 6 334 065 B1 (AL-ALI AMMAR [US] ET AL) 25 December 2001 (2001-12-25)	1,8,9	
A	* column 18, line 7 - line 20 * * column 5, line 21 - line 26 * -----	18-27, 35-38	
A	US 6 213 955 B1 (KARAKASOGLU AHMET [US] ET AL) 10 April 2001 (2001-04-10)	1-5, 39-41	
	* figures 1-3 * -----		
A	US 4 457 756 A (KERN EUGENE B [US] ET AL) 3 July 1984 (1984-07-03)	1-5, 39-41	
	* column 1, line 34 - line 39 * * claim 5; figures 1-8 * -----		
X	US 4 685 464 A (GOLDBERGER DANIEL S [US] ET AL) 11 August 1987 (1987-08-11)	1,6,7	
	* column 1, line 5 - line 9 * * column 4, line 20 - line 34 * * column 6, line 45 - column 7, line 35; figure 3 * * column 7, line 66 - column 8, line 13 * ----- -/--		



PARTIAL EUROPEAN SEARCH REPORT

Application Number
EP 12 16 5265

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
Y	US 6 190 327 B1 (ISAACSON PHILLIP O [US] ET AL) 20 February 2001 (2001-02-20)	13	
A	* column 3, line 5 - line 18 *	12,34	

A	W0 99/20332 A1 (CHRISTOPHER KENT L [US]) 29 April 1999 (1999-04-29)	12,13,34	
	* page 11, line 1 - line 20; figure 1 *		
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A	US 5 046 491 A (DERRICK STEVEN J [US]) 10 September 1991 (1991-09-10)	12,13,34	
	* column 5, line 1 - line 20 *		
	* column 1, line 10 - line 13 *		

X	W0 01/78597 A1 (CHEETAH MEDICAL INC [US]; KEREN HANAN [IL]) 25 October 2001 (2001-10-25)	18,19	TECHNICAL FIELDS SEARCHED (IPC)
Y	* page 1, line 5 - line 17 *	20,27	
A	* page 9, line 4 - line 23; figure 5 *	21-26,	
	* page 3, line 15 - page 20 *	35-38	
	* page 12, line 20 *		

Y	W0 01/24845 A2 (MILLS ALEXANDER K [US]) 12 April 2001 (2001-04-12)	20	
A	* page 6, line 27 - line 31 *	18,19,	
	* page 16, line 12 - line 20 *	21-27,	
	* page 25, line 16 - line 21 *	35-38	
	* page 3, line 9 - line 13 *		
	* page 3, line 21 - line 26 *		

**INCOMPLETE SEARCH
SHEET C**

Application Number

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Claim(s) completely searchable:
1-27, 34-41

Claim(s) not searched:
28-33

Reason for the limitation of the search (non-patentable invention(s)):

Claims 28 relate to diagnostic methods practised on the human or animal body and are therefore not allowed (Article 53(c)). This because claim 28 involves the following phases:

i) examination phase: claim 28, part c "measuring signals from said central source site pulse oximeter and said first peripheral site pulse oximeter"

ii) comparison phase: description page 38, l 14-17, the difference between the peripheral site and the central source site are compared to a standard value of about 5 percent points.

iii) finding of significant deviation: same passage, a difference greater than 5 percent points is a significant deviation.

iv) decision phase: claim 28, "to determine the presence or absence of impaired peripheral perfusion"

Further, all steps of a technical nature in phases i-iii are performed on the body. Thus, claims 28-33 fulfills all requirements of a diagnostic medical method within the meaning of Article 53(c) EPC.



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 4, 5, 39, 40(completely); 1-3, 41(partially)

Oximeter probe adapted for the nose having two extensions

2. claims: 6, 7(completely); 1-3, 41(partially)

Oximeter probe having hinging means

3. claims: 8-17(completely); 1-3, 41(partially)

Oximeter probe with supply of oxygen

4. claims: 18-27, 35-38

A perfusion resistance monitor system

5. claims: 34(completely); 1-3, 41(partially)

Oximeter adapted for the nose having an extra sensor

**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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

12-10-2012

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EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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ON EUROPEAN PATENT APPLICATION NO.**

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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.

12-10-2012

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		US 2004162493 A1 19-08-2004	
		WO 0124845 A2 12-04-2001	

专利名称(译)	灌注监测器和系统，包括专门配置的血氧计探头和血氧计探头的盖子		
公开(公告)号	EP2489306A3	公开(公告)日	2012-11-21
申请号	EP2012165265	申请日	2003-06-19
[标]申请(专利权)人(译)	佛罗里达大学		
申请(专利权)人(译)	佛罗里达大学		
当前申请(专利权)人(译)	佛罗里达大学		
[标]发明人	MELKER RICHARD LAYON JOSEPH WORLEY GEORGE E NAPPO ROBERT		
发明人	MELKER, RICHARD LAYON, JOSEPH WORLEY, GEORGE E. NAPPO, ROBERT		
IPC分类号	A61B5/1455 A61B5/145 A61B5/00 A61B5/083 A61B5/087 A61M16/00		
CPC分类号	A61B5/0816 A61B5/0836 A61B5/0873 A61B5/14551 A61B5/14552 A61B5/6819 A61B5/682 A61B5/6826 A61B5/6829 A61B2560/0276 A61B2562/247 A61M16/0051 A61M16/021 A61M16/0666 A61M16/0672 A61M16/085 A61M2202/0208 A61M2202/03 A61M2205/3561 A61M2205/3569 A61M2210/0618 A61M2210/0625 A61M2210/0662 A61M2230/06 A61M2230/205 A61M2230/30 A61M2230/42 A61M2230/432 A61M2230/005 A61M2202/0007 A61B5/0205 A61B5/02416 A61B5/02427 A61B5/0261 A61B5/0295 A61B5/036 A61B5/087 A61B5/4818 A61B5/4836 A61B5/7278 A61B5/7282 A61M16/0003 A61M16/0057 A61M16/08 A61M16/20		
审查员(译)	埃克斯特兰德，VILHELM		
优先权	10/176310 2002-06-20 US		
其他公开文献	EP2489306B1 EP2489306A2		
外部链接	Espacenet		

摘要(译)

本发明涉及配置成分别放置在鼻子的隔膜或鼻孔周围的脉搏血氧计探针。这些探针被制造成提供信号以估计动脉血氧饱和度。本发明还涉及一种组合的鼻部脉搏血氧计探头/鼻插管。在某些实施例中，提供了控制装置的附加限制以调节这种气体的流速，其中这种控制由从脉搏血氧计探针获得的血氧饱和度数据引导。

