



(11) **EP 3 581 101 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
22.01.2020 Bulletin 2020/04

(51) Int Cl.:
A61B 5/021 (2006.01) A61B 5/00 (2006.01)

(43) Date of publication A2:
18.12.2019 Bulletin 2019/51

(21) Application number: **19179313.2**

(22) Date of filing: **11.06.2019**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(71) Applicant: **Contemporary Han Cloud Co., Ltd Taipei City 106 (TW)**

(72) Inventor: **Kuo, Yu-Cheng 106 Taipei City (TW)**

(74) Representative: **Straus, Alexander et al 2K Patent- und Rechtsanwälte Dr. Alexander Straus Keltenring 9 82041 München / Oberhaching (DE)**

(30) Priority: **11.06.2018 US 201862683626 P**

(54) **DEVICE AND METHOD FOR PULSE DIAGNOSIS MEASUREMENT**

(57) A pulse diagnosis measurement device comprises a sensing device, for sensing a blood pressure wave of an organism, to generate a pulse signal; a pulse-holding device, for applying a pressure on a pulse of the organism, wherein the pulse-holding device has an elasticity coefficient, the elasticity coefficient is corresponding to a frequency of a harmonic of the blood pressure wave, and the harmonic is an integer harmonic or a fractional harmonic; and a processing device, for generating pulse diagnosis information of the harmonic according to the pulse signal.

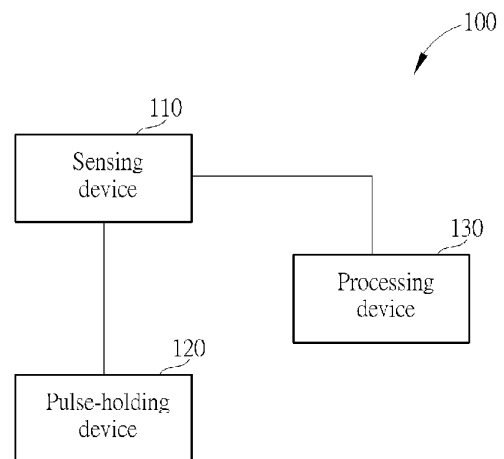


FIG. 1



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 19 17 9313

5

10

15

20

25

30

35

40

45

50

55

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	WO 2007/067690 A2 (UNIV DREXEL [US]; LEC RYSZARD M [US]; SWOBODA MAREK [US]) 14 June 2007 (2007-06-14) * abstract * * paragraph [0035] - paragraph [0049] * * paragraph [0055] * * paragraph [0081] - paragraph [0141] * * paragraph [0156] * * figures 1,2,4,8 *	1-7	INV. A61B5/021 A61B5/00
X	WO 2012/004559 A1 (MEDICAL RES COUNCIL [GB]; ROUSE JOHN [GB]) 12 January 2012 (2012-01-12) * paragraph [0038] - paragraph [0039] * * figures 2A-B * ----- -/--	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			A61B
INCOMPLETE SEARCH			
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.			
Claims searched completely :			
Claims searched incompletely :			
Claims not searched :			
Reason for the limitation of the search: see sheet C			
Place of search		Date of completion of the search	Examiner
The Hague		6 December 2019	Van der Haegen, D
CATEGORY OF CITED DOCUMENTS		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	
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			

EPO FORM 1503 03.82 (P04E07)



PARTIAL EUROPEAN SEARCH REPORT

Application Number
EP 19 17 9313

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	Alex Yartsev: "Resonance, damping and frequency response Deranged Physiology", 20 January 2018 (2018-01-20), XP055632271, Retrieved from the Internet: URL:https://derangedphysiology.com/main/ci cm-primary-exam/required-reading/cardiovas cular-system/Chapter%207.3.4/resonance-dam ping-and-frequency-response [retrieved on 2019-10-15] * the whole document *	1-7	
A	----- US 5 730 138 A (WANG WEI-KUNG [TW]) 24 March 1998 (1998-03-24) * abstract * * figure 1 *	1	TECHNICAL FIELDS SEARCHED (IPC)
A	----- US 2017/071823 A1 (CHAO KUANG-CHENG [TW]) 16 March 2017 (2017-03-16) * paragraph [0018] - paragraph [0035] *	1	

EPO FORM 1503 08.82 (P04C10) 2

INCOMPLETE SEARCH
SHEET CApplication Number
EP 19 17 9313

5

Claim(s) completely searchable:

1-7

10

Claim(s) not searched:

8-15

Reason for the limitation of the search:

15

It is noted that a meaningful search is not possible on the basis of the claims 8 to 15 defining the second invention.

20

Pulse pressure is the difference between systolic and diastolic blood pressure and, as stated in independent claims 8 and 13, can be computed from a blood pressure signal. In other words, pulse pressure is a parameter of the cardiovascular system. Hence, pulse pressure cannot be increased (or decreased) by simply adjusting the pressure exerted by the pulse-holding device (e.g. cuff, tourniquet, PPG finger-clip, ...) on the body, contrary to what is stated in independent claims 8 and 13.

25

In addition, the description does not provide support and disclosure within the meaning of Articles 84 and 83 EPC for any device and method having the ability to influence pulse pressure by simply adjusting the pressure exerted by a pulse-holding device, and there is no common general knowledge of this kind available to the person skilled in the art.

30

This non-compliance with the substantive provisions is such that a meaningful search of the whole claimed subject-matter of the claims cannot be carried out (Rule 63 EPC and Guidelines B-VIII, 3).

35

40

45

50

55



5

CLAIMS INCURRING FEES

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

10

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):

15

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.

20

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:

25

see sheet B

30

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

35

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

40

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:

45

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:

50

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).

55



LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 19 17 9313

5

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:

10

1. claims: 1-7

Pulse-holding device adapted to a predetermined harmonic frequency of the sensed blood pressure signal.

15

2. claims: 8-15

Method and a device for determining the "most suitable" pressure to be exerted by a pulse-holding device.

20

25

30

35

40

45

50

55

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

EP 19 17 9313

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.

06-12-2019

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2007067690 A2	14-06-2007	US 2007163353 A1 WO 2007067690 A2	19-07-2007 14-06-2007

WO 2012004559 A1	12-01-2012	NONE	

US 5730138 A	24-03-1998	NONE	

US 2017071823 A1	16-03-2017	CN 106540374 A CN 205549231 U TW 201711668 A US 2017071823 A1	29-03-2017 07-09-2016 01-04-2017 16-03-2017

EPO FORM P0459

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

专利名称(译)	测量脉冲诊断的装置和方法		
公开(公告)号	EP3581101A3	公开(公告)日	2020-01-22
申请号	EP2019179313	申请日	2019-06-11
[标]发明人	KUO YU CHENG		
发明人	KUO, YU-CHENG		
IPC分类号	A61B5/021 A61B5/00		
CPC分类号	A61B5/0004 A61B5/02 A61B5/0225 A61B5/4854 A61B5/6803 A61B5/681 A61B5/6822 A61B5/6824 A61B5/6826 A61B5/6829 A61B5/7235 A61B5/7257 A61B5/02108 A61B5/022 A61B5/026 A61B5/6831 A61B5/7264		
代理机构(译)	斯特劳斯, 亚历山大		
优先权	62/683626 2018-06-11 US		
其他公开文献	EP3581101A2		
外部链接	Espacenet		

摘要(译)

脉搏诊断测量装置包括：感测装置，用于感测生物体的血压波，以产生脉搏信号；以及一种用于在生物体的脉搏上施加压力的脉冲保持装置，其中，该脉冲保持装置具有弹性系数，该弹性系数对应于血压波的谐波频率，该谐波为整数谐波或分数谐波；处理装置，用于根据脉冲信号产生谐波的脉冲诊断信息。

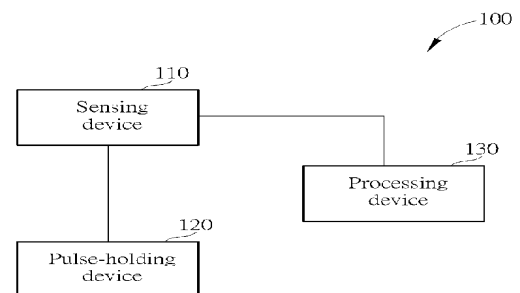


FIG. 1