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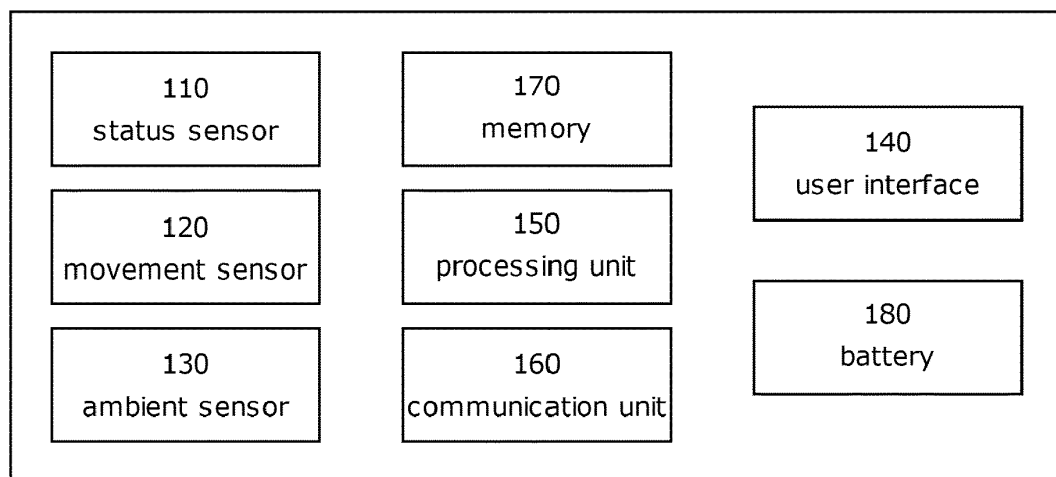
(30) Priority: **29.07.2019 EP 19188875**

(54) **DEVICE, SYSTEM AND METHOD FOR FALL DETECTION**

(57) The present invention relates to a fall detection device, wherein the fall detection device comprises at least one status sensor, configured to at least sense if the fall detection device is worn and provide corresponding data, at least one movement sensor, configured to measure and provide data on the movement and/or orientation of the fall detection device, and at least one ambient sensor, configured to measure and provide data on the ambient conditions of the fall detection device. Further, the fall detection device comprises a processing

unit, configured to operate the fall detection device and run a fall detection algorithm to identify fall events, wherein the input is at least a subset of the sensor data, and a communication unit, configured to communicate with external devices, wherein the communication unit comprises at least one of a Subscriber Identity Module (SIM card) and an embedded SIM (eSIM). The invention also relates to a fall detection system for identifying a fall and triggering an alarm and a corresponding method.

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**Fig. 1**



## EUROPEAN SEARCH REPORT

 Application Number  
 EP 20 18 8159

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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 2019/063576 A1 (KONINKLIJKE PHILIPS NV [NL]) 4 April 2019 (2019-04-04)  * abstract; figures 1,2,5 * * paragraph [0002] - paragraph [0003] * * paragraph [0008] * * paragraph [0021] * * paragraph [0024] - paragraph [0027] * * paragraph [0069] * * paragraph [0081] * -----	1-8, 10-12, 14,15	INV. G08B21/04
X	US 2018/228404 A1 (BHUNIA SOURAV K [US] ET AL) 16 August 2018 (2018-08-16) * abstract * * paragraph [0044] - paragraph [0045] * * paragraph [0076] * -----	1,3,8,15	
X	US 2014/142403 A1 (BRUMBACK CHRISTINE BOOMER [US] ET AL) 22 May 2014 (2014-05-22) * abstract; figures 1-3 * * page 2, line 17 - line 24 * * page 12, line 18 - page 13, line 2 * * page 14, line 16 - page 15, line 30 * -----	1,3,8, 12,15	TECHNICAL FIELDS SEARCHED (IPC)
A	US 8 179 268 B2 (GANNOT ISRAEL [IL]; LITVAK DIMITRY [IL] ET AL.) 15 May 2012 (2012-05-15) * abstract; figure 1 * * column 2, line 29 - line 46 * * column 4, line 64 - column 6, line 25 * -----	13	G08B
<del>The present search report has been drawn up for all claims</del>			
Place of search		Date of completion of the search	Examiner
Munich		16 April 2021	Wagner, Ulrich
CATEGORY OF CITED DOCUMENTS 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 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			

EPO FORM 1503 03.82 (P04C01)



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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:

1-8, 10-15

☐ 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: 1-8, 10-12, 14, 15

referring to a wearable fall detection device, system and method, with features for interacting with a user, transmitting an alarm or detecting the severity of a fall up to motionlessness

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2. claim: 9

referring to a method describing a specific fall detection algorithm

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3. claim: 13

referring to a method for a fall detection system including a microphone for collecting and analysing ambient noises

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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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16-04-2021

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