US 20170325743A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2017/0325743 A1**

LO (43) **Pub. Date: Nov. 16, 2017**

(54) **REMOTE MONITORING DEVICE**

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(21) Appl. No.: **15/150,666**

(22) Filed: **May 10, 2016**

Publication Classification

(51) **Int. Cl.**

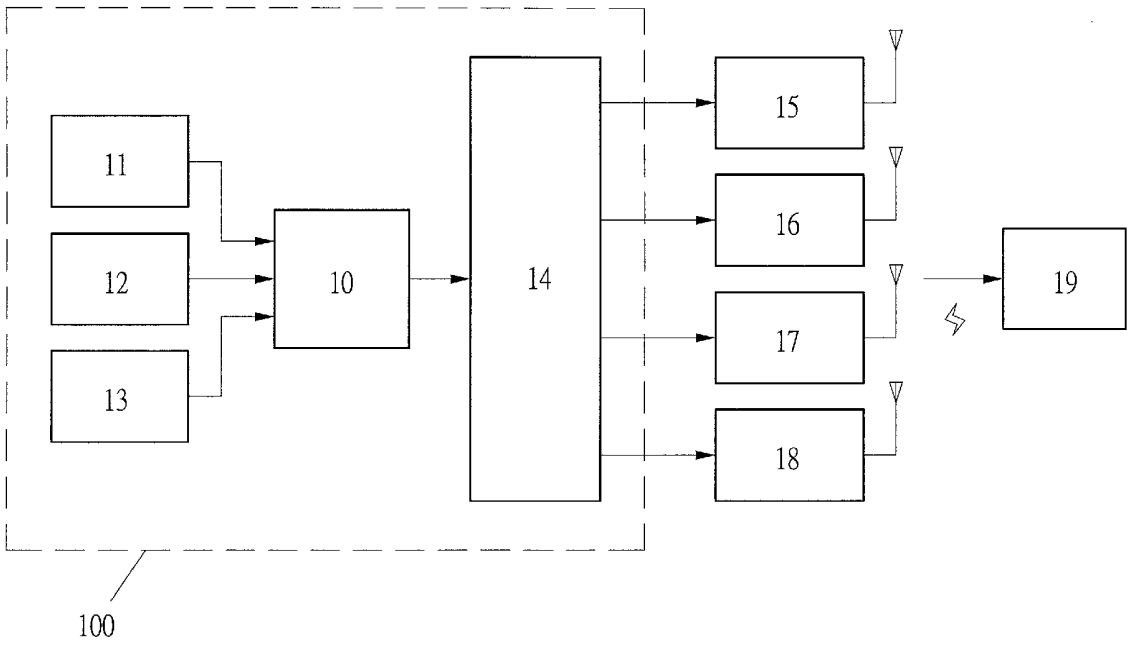
A61B 5/00	(2006.01)
A61B 5/0205	(2006.01)
G08B 21/18	(2006.01)
H04W 4/02	(2009.01)
H04B 5/00	(2006.01)
A61B 5/11	(2006.01)

(52) **U.S. Cl.**

CPC ***A61B 5/6831*** (2013.01); ***H04W 4/02*** (2013.01); ***H04B 5/0025*** (2013.01); ***A61B 5/02055*** (2013.01); ***G08B 21/18*** (2013.01); *A61B 5/1112* (2013.01)

(57) **ABSTRACT**

A remote monitoring device is connected to a rubber strap and contains: a controller, a global system for mobile communication (GSM), a global positioning system (GPS), a Wi-Fi & blue tooth, and a near field communication (NFC). The controller includes a microprocessor, a blood pressure sensing unit, a heartbeat sensing unit, a temperature sensing unit, and a wireless signal transmitting unit. The blood pressure sensing unit is configured to sense blood pressure of a care-receiving person, the heartbeat sensing unit is used to sense heart beating of the care-receiving person, the temperature sensing unit is employed to sense a temperature of the care-receiving person, and the microprocessor receives, compares, calculates and sends sensed signals of the blood pressure, the heart beating, and the temperature. The GSM, the GPS and the Wi-Fi & blue tooth are joined with the controller, respectively.



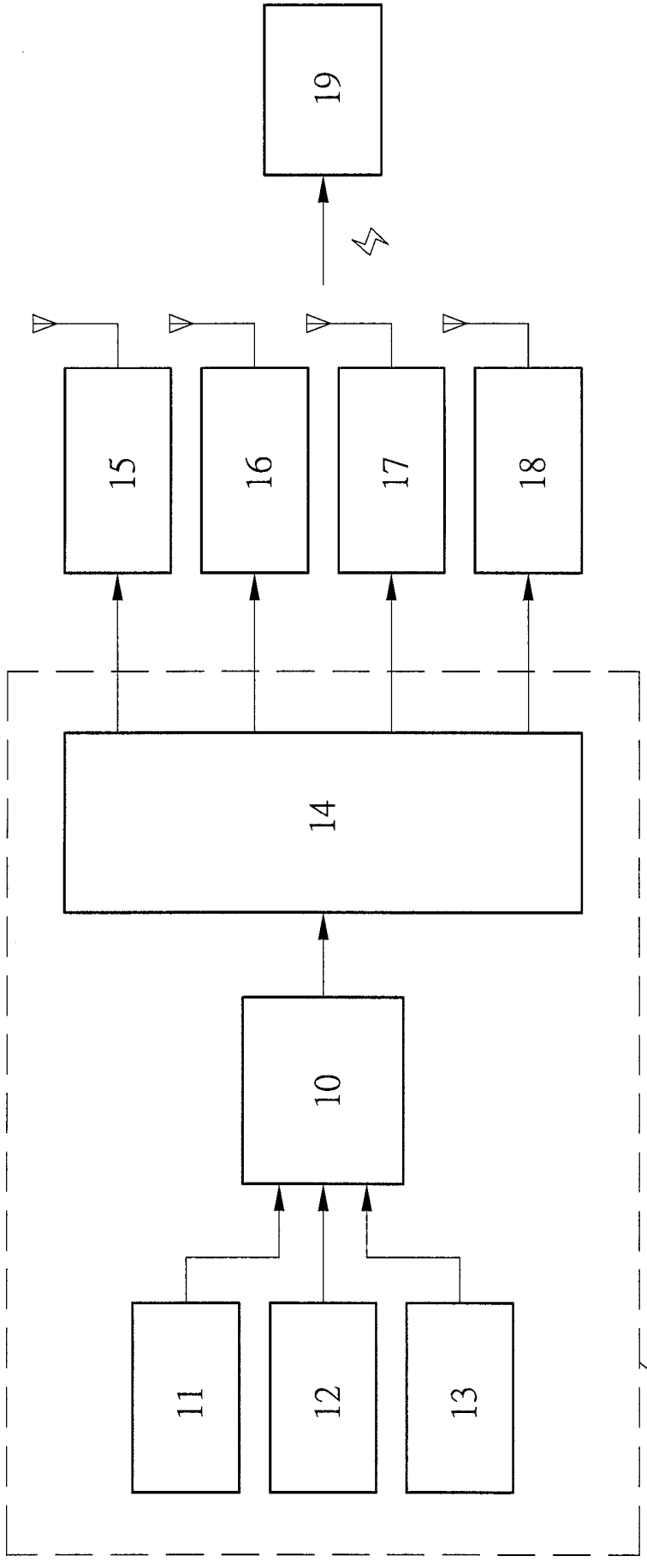


FIG.1

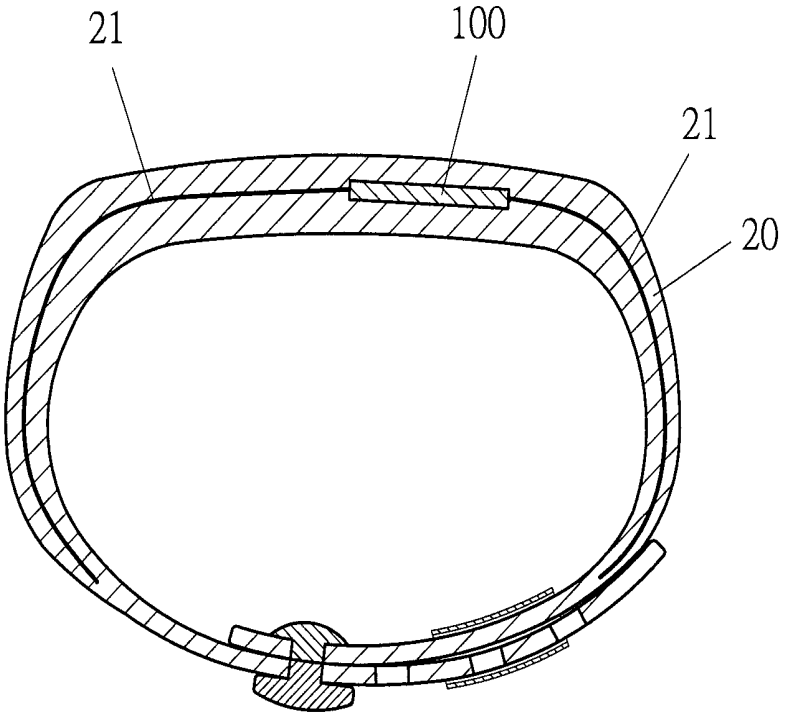


FIG.2

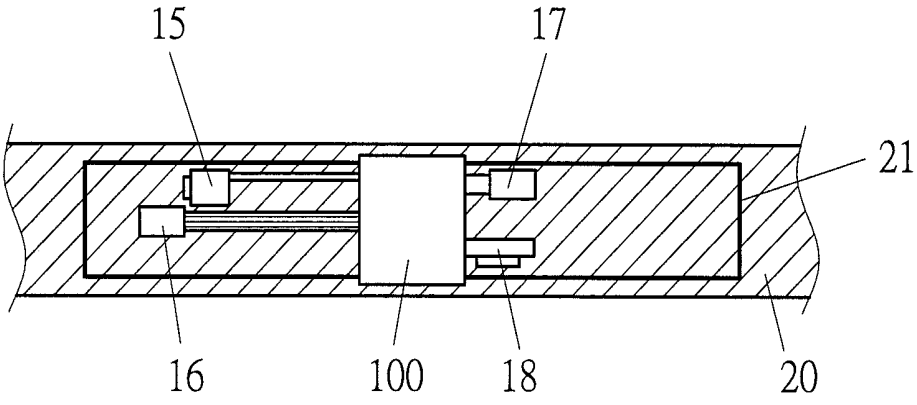


FIG.3

REMOTE MONITORING DEVICE

FIELD OF THE INVENTION

[0001] The present invention relates to a remote monitoring device which senses and monitors blood pressure, heart beating, and temperature of a care-receiving person in a remote distance.

BACKGROUND OF THE INVENTION

[0002] A conventional remote monitoring device contains a camera configured to shoot images of a care-receiving person which are sent to a monitor center via a communication network, such that a carer learns whether the care-receiving person is healthful or not. The conventional remote monitoring device also contains a wireless signal transmitter worn or hung on hand or neck of the care-receiving person. Furthermore, a wireless signal receiver is held by the carer so as to receive wireless signals in a set range from the wireless signal transmitter.

[0003] However, the remote monitoring device has defects as follows:

[0004] (1). The camera cannot shoot the images over the set range.

[0005] (2). The carer has to view the images constantly so as to monitor the care-receiving person's condition.

[0006] (3). The camera cannot determine whether blood pressure, heart beating, and temperature of the care-receiving person are in an allowable range.

[0007] (4). The wireless signal transmitter and the wireless signal receiver cannot send and receive wireless signals in a remote distance, respectively.

[0008] (5). The carer has to hold the wireless signal receiver within a limited distance.

[0009] (6). The wireless signal transmitter cannot learn the blood pressure, the heart beating, and the temperature of the care-receiving person.

[0010] The present invention has arisen to mitigate and/or obviate the afore-described disadvantages.

SUMMARY OF THE INVENTION

[0011] The primary objective of the present invention is to provide a remote monitoring device which senses and monitors blood pressure, heart beating, and temperature of a care-receiving person in a remote distance by using a monitoring receiver in a network transmission manner.

[0012] To obtain above-mentioned objective, a remote monitoring device provided by the present invention is connected to a rubber strap and contains: a controller, a global system for mobile communication (GSM), a global positioning system (GPS), and a Wi-Fi & blue tooth.

[0013] The controller includes a microprocessor, a blood pressure sensing unit, a heartbeat sensing unit, a temperature sensing unit, and a wireless signal transmitting unit.

[0014] The blood pressure sensing unit is configured to sense blood pressure of a care-receiving person, the heartbeat sensing unit is used to sense heart beating of the care-receiving person, the temperature sensing unit is employed to sense a temperature of the care-receiving person, and the microprocessor receives, compares, and calculates if sensed signals of the blood pressure, the heart beating, and the temperature are in an allowable range, wherein the microprocessor sends the sensed signals to the wireless signal transmitting unit after receiving, comparing, and calculating the sensed signals so that the wireless signal transmitting unit converts the sensed signals into wireless signals.

[0015] The GSM is in connection with the controller so as to converts the wireless signals into wireless telecommunication signals;

[0016] The GPS is coupled with the controller so as to send the wireless signals to a positioning satellite, such that a monitoring receiver learns a position of the care-receiving person.

[0017] The Wi-Fi & blue tooth is joined with the controller and converts the sensed signals into wireless network signals which are sent to the monitoring receiver in a network transmission manner.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] FIG. **1** is a block diagram showing the assembly of a remote monitoring device according to a preferred embodiment of the present invention.

[0019] FIG. **2** is a cross sectional view showing the assembly of the remote monitoring device according to the preferred embodiment of the present invention.

[0020] FIG. **3** is another cross sectional view showing the assembly of the remote monitoring device according to the preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0021] With reference to FIGS. **1-3**, a remote monitoring device according to a preferred embodiment of the present invention is connected to a rubber strap **20** and comprises: a controller **100**, a global system for mobile communication (GSM) **15**, a global positioning system (GPS) **16**, a Wi-Fi & blue tooth **17**, and a near field communication (NFC) **18**.

[0022] The controller **100** includes a microprocessor **10**, a blood pressure sensing unit **11**, a heartbeat sensing unit **12**, a temperature sensing unit **13**, and a wireless signal transmitting unit **14**. The blood pressure sensing unit **11** is configured to sense blood pressure of a care-receiving person, the heartbeat sensing unit **12** is used to sense heart beating of the care-receiving person, the temperature sensing unit **13** is employed to sense a temperature of the care-receiving person, and the microprocessor **10** receives, compares, and calculates if sensed signals of the blood pressure, the heart beating, and the temperature are in an allowable range, wherein the microprocessor **10** sends the sensed signals to the wireless signal transmitting unit **14** after receiving, comparing, and calculating the sensed signals so that the wireless signal transmitting unit **14** converts the sensed signals into wireless signals. The GSM **15** is in connection with the controller **100** so as to converts the wireless signals into wireless telecommunication signals. The GPS **16** is coupled with the controller **100** so as to send the wireless signals to a positioning satellite, such that a monitoring receiver **19** learns a position of the care-receiving person. The Wi-Fi & blue tooth **17** is joined with the controller **100** and converts the sensed signals into wireless network signals which are sent to the monitoring receiver **19** in a network transmission manner. The NFC **18** is in connection with the controller **100** and transmits near field wireless signals to a near field receiver. The rubber strap **20** includes a signal feedback wire **21** connected with the controller **100**, such that when the rubber strap **20** is broken

to tear off the signal feedback wire **21**, the controller **100** informs the monitoring receiver **19** that the rubber strap **20** is broken.

[0023] Accordingly, when the care-receiving person wears the rubber strap **20**, the blood pressure sensing unit **11** senses the blood pressure, the heart heartbeat sensing unit **12** senses the heart beating, and the temperature sensing unit **13** senses the temperature, thereafter the microprocessor **10** sends the sensed signals to the wireless signal transmitting unit **14**, the wireless signal transmitting unit **14** sends the wireless signals to the GSM **15**, the GPS **16**, and the Wi-Fi & blue tooth **17**. In addition, the NFC **18** transmits the near field wireless signals in a near distance so that a carer learns the blood pressure, the heart beating, and the temperature of the care-receiving person by using the monitoring receiver **19**. The monitoring receiver **19** is a mobile phone or a computer network, and the positioning satellite acquires the position of the care-receiving person. Preferably, when the rubber strap **20** is broken to tear off the signal feedback wire **21**, the controller **100** informs the monitoring receiver **19** that the rubber strap **20** is broken.

[0024] Thereby, the remote monitoring device is adapted for signal transmission of internet or telecommunication, such that the carer learns the blood pressure, the heart beating, and the temperature of the care-receiving person in a remote distance by way of satellite communications network so as to call health care unit in emergency.

[0025] While the preferred embodiments of the invention have been set forth for the purpose of disclosure, modifications of the disclosed embodiments of the invention as well as other embodiments thereof may occur to those skilled in the art. Accordingly, the appended claims are intended to cover all embodiments which do not depart from the spirit and scope of the invention.

What is claimed is:

1. A remote monitoring device being connected to a rubber strap and comprising: a controller, a global system for mobile communication (GSM), a global positioning system (GPS), and a Wi-Fi & blue tooth;

wherein the controller includes a microprocessor, a blood pressure sensing unit, a heartbeat sensing unit, a temperature sensing unit, and a wireless signal transmitting unit;

wherein the blood pressure sensing unit is configured to sense blood pressure of a care-receiving person, the heartbeat sensing unit is used to sense heart beating of the care-receiving person, the temperature sensing unit is employed to sense a temperature of the care-receiving person, and the microprocessor receives, compares, and calculates if sensed signals of the blood pressure, the heart beating, and the temperature are in an allowable range, wherein the microprocessor sends the sensed signals to the wireless signal transmitting unit after receiving, comparing, and calculating the sensed signals so that the wireless signal transmitting unit converts the sensed signals into wireless signals;

wherein the GSM is in connection with the controller so as to converts the wireless signals into wireless telecommunication signals;

wherein the GPS is coupled with the controller so as to send the wireless signals to a positioning satellite, such that a monitoring receiver learns a position of the care-receiving person; and

wherein the Wi-Fi & blue tooth is joined with the controller and converts the sensed signals into wireless network signals which are sent to the monitoring receiver in a network transmission manner.

2. The remote monitoring device as claimed in claim **1**, wherein a near field communication (NFC) is in connection with the controller.

3. The remote monitoring device as claimed in claim **1**, wherein the rubber strap includes a signal feedback wire connected with the controller, such that when the rubber strap is broken to tear off the signal feedback wire, the controller informs the monitoring receiver that the rubber strap is broken.

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专利名称(译)	远程监控设备		
公开(公告)号	US20170325743A1	公开(公告)日	2017-11-16
申请号	US15/150666	申请日	2016-05-10
[标]发明人	LO SZU CHI		
发明人	LO, SZU CHI		
IPC分类号	A61B5/00 A61B5/0205 G08B21/18 H04W4/02 H04B5/00 A61B5/11		
CPC分类号	A61B5/6831 H04W4/02 H04B5/0025 G08B21/18 A61B5/02055 A61B5/1112 A61B5/002 A61B5/0022 G08B21/0286 G08B21/0453 G16H40/67		
外部链接	Espacenet USPTO		

摘要(译)

远程监控设备连接到橡胶带并且包含：控制器，全球移动通信系统（GSM），全球定位系统（GPS），Wi-Fi和蓝牙以及近场通信（NFC）。控制器包括微处理器，血压感测单元，心跳感测单元，温度感测单元和无线信号发送单元。血压感测单元被配置为感测接受护理的人的血压，心跳感测单元用于感测护理接收人的心脏跳动，温度感测单元用于感测护理接收的温度。人，微处理器接收，比较，计算和发送血压，心脏跳动和温度的感测信号。 GSM，GPS和Wi-Fi和蓝牙分别与控制器连接。