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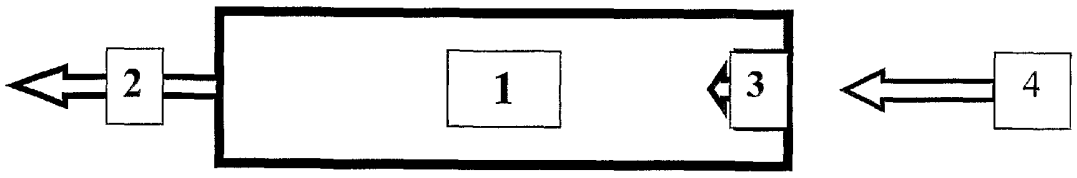
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ABT-ANTI-BEDSORE TIMER



(57) Abstract: The Anti-Bedsore Timer is an electronic device with its electronics placed in casing 1 attached by cable 2 to an existing signalling system for summoning medical teams in hospitals, rehabilitation clinics, hospices, and similar institutions for the purpose of regularly warning medical teams of the time for putting immobilized patients in a different laying position, thus preventing the creation of open wounds - bedsores. Cable 4 is already a part of the system for summoning the medical team by patients and, when it is plugged into socket 3 on the AB Timer, it remains in function. It is important to emphasize that the installation of this device does not require any adaptations or additions to the existing signalling system used by patients for summoning the medical team. Certainly, it may be interesting for a future manufacturer to know that there is a possibility of building different versions: from the basic, simple model, to a more complex, luxuriously equipped one.

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ABT-Anti-B 1sore Timer

Technical Field

This invention belongs to electronic assemblies of the Timer type (timed switch), MKP classified as HO5K, to be exact, it is an electronic assembly (timer) that activates the alarm signalling the medical team to change the position of an immobilized patient in bed.

Background Art

The prevention of bedsores has depended entirely on the medical team changing the patient's position in bed every two hours. Hence, it all hinges on the human factor, unreliable and with the tendency of failing, which in this case has disastrous consequences for the patient who sustains open and very painful wounds that are difficult to treat.

Diclosure of the Invention

It is a known medical fact that, when a human body rests in the same position for over two hours without interruptions, at the places exposed to the maximum pressure of the body mass (the protruding parts) in contact with the surface, the blood circulation is hindered, or it completely stops in places, which facilitates the creation of open wounds – bedsores (see the Annex on this subject), painful, difficult to heal, and requiring a long-term treatment that is extremely testing both for the patient, and for the medical team. The prevention of these severe wounds in immobilized patients is simple: the staff MUST turn the patient regularly, that is, every 2 hours (the longest time a patient can spend in one position) to the left side, and after 2 more hours, again to the right side, and so forth, without interruptions, around the clock.
So the problem is easy to solve, except that the patient must be turned to the other side every 2 hours during a 24-hour period.
The problem, however, is the involvement of the human factor, which often falls short for a rather simple and banal reason: medical team members FORGET to do something in a timely manner, which is far from unusual, knowing that medical teams in such institutions are constantly exposed to stress in course of their daily work, and that stress causes distraction. As a result, patients are not regularly turned in their beds, and they suffer the above-mentioned severe consequences.

My idea of the solution to this problem includes a timer that sends a signal every 2 hours during a 24-hour period reminding the medical team to turn the patient to the other side. This timer is easy to add to the existing alarm system signalling the medical team to tend to the needs of patients.

The invention is comprised of electronic elements fitted in an assembly and designed to send a short impulse, every 2 hours over a 24-hour period, identical to the sound of buzzers installed above beds in all better equipped hospitals or hospices, which are operated by patients themselves.

This electronic device is designed so that it can be added as required where there is a realistic danger of the above-mentioned problem (bedsores), by simply plugging it in the existing signalling device for the medical team, without any prior technical additions or changes, and plugging it out when the requirement ceases to exist. The above described operation does not require any technical knowledge or background; actually, after reading a short manual, all

members of the medical team can operate this device unlimitedly, and, since it requires a low voltage to work, it does not pose any threat whatsoever.

So, after the patient has spent two hours in the same position, the device sends the impulse and activates a signal that stops only when a medical team member comes to the patient's room and turns it off by pressing the buzzer, and, of course, when the patient is turned to other side. Hence, the biggest problem is solved, i.e. the medical team FORGETTING (I repeat that this is caused by a number of reasons, such as stress and hard work) to tend to this regularly every two hours. By activating this device, the team can perform other assignments easier, but it is also deprived of an excuse for not performing this preventive action of vital importance for the patient in a regular manner.

Short description of the invention

The invention is composed of an electronic plate with electronic elements attached to it, and a power supply box (4 x 1.5 V batteries), all fitted in an appropriate plastic casing, with a protruding cable of the required length with a plug on one end (identical to the one earlier attached to the end of the buzzer cable above the bed), and a matching socket on the other end, in which the existing buzzer cable can be plugged as required.

One version of the device shall have a regulator with a timescale for adjusting the time that has to elapse between two impulses.

One of the versions shall have a socket in the casing to enable power supply from a converter plugged in a 220 V socket, so that the device does not depend on the batteries.

One of the versions of the device shall have a switch that will enable shutting down the device without plugging out the cables, meaning that it will not be necessary to remove or move the device, and that it will be easily re-activated with the switch if the need for that arises. This may be useful for wards with difficult patients who face high risk of bedsores, where this device could be permanently built in the signalling system.

One of the versions has a built-in radio emitter that sends the signal to a radio receiver kept by the person who looks after the patient. The pulsating tone in the receiver can be turned off only by pressing the button on the main device, i.e. by or above the patient's bed. So if the person looking after the patient wants to turn off the pulsating tone when the signal reaches the receiver, for example, in the pocket, he or she has to go to the patient's room and press the appropriate button on the main device by or above the bed, and then, of course, turn the patient to the other side.

CLAIMS

1- ABT Anti-bedsore Timer is a device characterised by an electronic assembly/timer which, after a fixed (2 hours) or manually set period of time, sends a short-lasting impulse without interruptions over a 24-hour period, always in same fixed or manually set intervals.

2- ABT Anti-bedsore Timer is a device characterised by a casing for batteries supplying the electronic assembly with power.

3- ABT Anti-bedsore Timer is a device characterised by a socket for the converter cable supplying the electronic assembly with power from a 220 V room socket.

4- ABT Anti-bedsore Timer is a device characterised by a switch connecting or disconnecting the electronic part of the device from the power source.

5- ABT Anti-bedsore Timer is a device characterised by a signalling diode indicating that the device is in the active mode.

6- ABT Anti-bedsore Timer is a device characterised by a leaden diode indicating that the batteries need to be replaced.

7- ABT Anti-bedsore Timer is a device characterised by a casing with a safety fuse for the protection of the electronic assembly.

8- ABT Anti-bedsore Timer is a device characterised by a cable with a plug that connects it with the existing signal system for summoning the medical team by patients.

9- ABT Anti-bedsore Timer is a device characterised by a socket for the cable (belonging to a part earlier installed in the signalling system for summoning the medical team by patients) with a buzzer on one end the patient presses to summon the medical team.

10- ABT Anti-bedsore Timer is a device characterised by four rubber props the device can be placed on as required to prevent it from sliding or damaging the furniture or walls.

11- ABT Anti-bedsore Timer is a device characterised by two openings on the bottom end of the casing for attaching the casing to a vertical surface.

12- ABT Anti-bedsore Timer is a device characterised by (in one of the possible versions) a switch at the top end of the casing for connecting or disconnecting the device from the signalling system (with this switch, it is no longer required to plug out the cables, as in the most simple version of the device).

13- ABT Anti-bedsore Timer is a device characterised by (in one of the possible versions) a time regulator at the top end of the casing for regulating the interval between two signals.

14- ABT Anti-bedsore Timer is a device characterised by (in one of the possible versions) a display at the top end of the casing showing how much time is left until the activation of the signal.

15- ABT Anti-bedsore Timer is a device characterised by (in one of the possible versions) a radio emitter sending the signal to a belonging radio receiver.

16- ABT Anti-bedsore Timer is a device characterised by (in one of the possible versions) a radio receiver as a separate component, yet an integral part of the device.

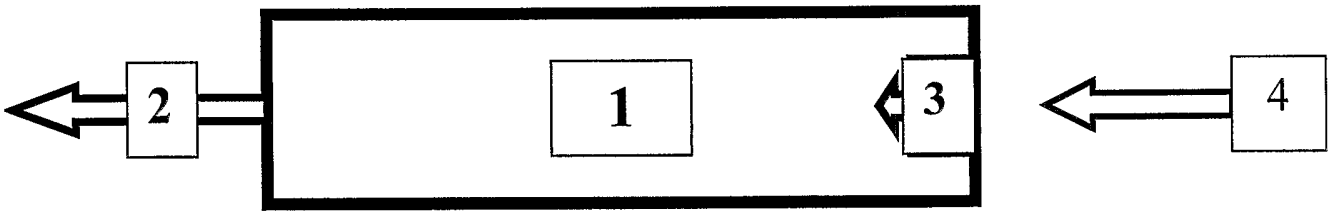

FIG 1

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International Application No
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61J7/04 G08B5/36

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)
IPC 7 A61J G08B G04F

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

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 583 832 A (DEPONTY ERNEST) 10 December 1996 (1996-12-10) column 1, line 8 -column 3, line 12; figures 1,2	1-16
Y	US 4 225 852 A (WATERS RONALD L ET AL) 30 September 1980 (1980-09-30) column 1, line 10 -column 2, line 2; figures 1,2	1-16
Y	US 5 224 496 A (FARRALL WILLIAM R ET AL) 6 July 1993 (1993-07-06) column 1, line 4 -column 2, line 52; figures 1-10	1-16
A	US 6 014 346 A (MALONE KEVIN R) 11 January 2000 (2000-01-11) column 1, line 14 -column 3, line 27	1-16

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
17 March 2004	23/03/2004

Name and mailing address of the ISA	Authorized officer
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International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 384 728 B1 (KANOR STEVEN E ET AL) 7 May 2002 (2002-05-07) column 2, line 26 -column 3, line 18	1-16

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/BA 03/00006

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5583832 A	10-12-1996	NONE	
US 4225852 A	30-09-1980	NONE	
US 5224496 A	06-07-1993	NONE	
US 6014346 A	11-01-2000	NONE	
US 6384728 B1	07-05-2002	NONE	