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(54) **A warning device for deaf-blind persons**

(57) A warning device for a deaf-blind person includes a respective transmitter (11) associated with each event to be monitored. The transmitter (11) detects the occurrence of the event and transmits a signal to a receiver (12). The receiver (12) then actuate a switch (17) which bears a tactile indication of the event detected.

Furthermore, the device is also caused to vibrate in a particular pattern of vibration uniquely indicative of the detected event. The vibration can only be turned off by a user using the correct tactile switch (17). The tactile indication on the switch (17) will identify the event which has occurred.

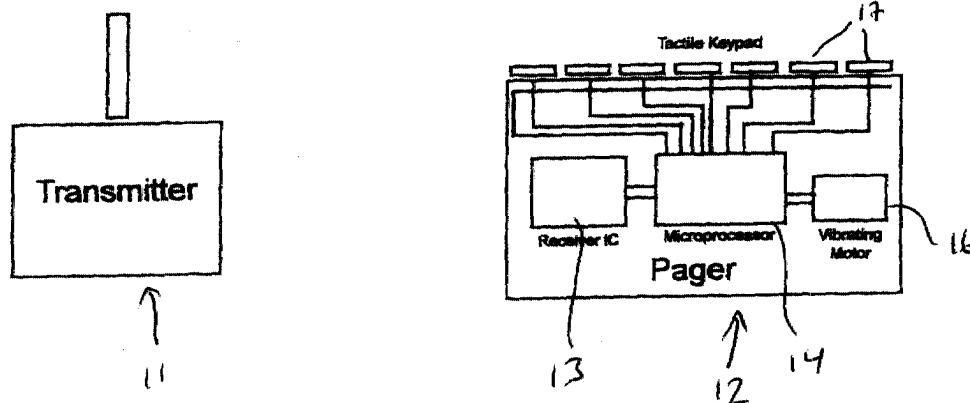


Fig. 1.

Description

[0001] This invention relates to a warning device which alerts deaf-blind persons to the occurrence of particular important events in the domestic or other environment.

[0002] Deaf-blind persons are unable to detect the occurrence of important events such as the ringing of a doorbell, ringing of the telephone, activation of a smoke alarm and the inability to detect these events could have devastating consequences such as loss of life or serious injury to the person concerned.

[0003] In order to deal with a similar problem with persons who are deaf or blind systems have been proposed in which each event to be monitored has a radio transmitter associated with it which detects the occurrence of an event and transmits a coded signal to a pager which is worn by the person. The pager decodes the signal and provides a display indicative of the event which has occurred. For example, if the telephone is ringing, a telephone symbol can be displayed in a display. Of course, for a person who is also blind, display of a symbol on a display will not assist and therefore in these circumstances it has been proposed to provide another means by which the occurrence of a particular event can be indicated. Therefore it has been proposed to provide a system whereby the pager, as well as displaying a symbol corresponding to the event detected, vibrates in one of a number of patterns, each pattern of which is uniquely indicative of the occurrence of a particular event.

[0004] However, a problem still exists with this arrangement insofar as the ability of such a system to work is dependent on a user learning, remembering and correctly interpreting this pattern of vibration to enable correct identification of the event which has occurred. Of course, an inability to recognise the particular pattern of vibration can have the same consequences as having no warning device at all which are outlined above.

[0005] The present invention arose from a consideration of these problems and aims to provide a warning device in which this problem is obviated or at least significantly reduced.

[0006] Therefore, according to the present invention, there is provided a warning device for deaf-blind persons, said device comprising a transmitter which detects the occurrence of a with particular event and which is operable to transmit a signal indicative of said event and a receiver adapted to receive said signal indicative of said event and to produce both a visual and non-visual indication of the event which has occurred wherein the said receiver further includes at least one user operable control which allows user selection from multiple patterned events and said visual and non-visual indication of said event continues until said user operable control is operated by said user to select said predetermined event which corresponds to said event which has occurred.

[0007] With this arrangement, it is possible to provide a warning device in which deaf-blind persons can be safely warned of the occurrence of a domestic or other event.

[0008] By event is meant any occurrence which a user may wish to be warned about. Example of events are the ringing of a doorbell, ringing of a telephone, activation of a fire alarm, activation of a burglar alarm, a baby crying. These examples are not intended to be exhaustive any many other occurrences will be capable of forming an event for the purposes of the present invention.

[0009] Preferably, the receiver is in the form of a pager which is preferably adapted to be worn by a user.

[0010] Preferably, the non-visual indicator is in the form of a vibration of the receiver.

[0011] The invention will now be described further by way of example and with reference to the accompanying drawings, the single figure of which shows a schematic representation of one form of warning device in accordance with the invention.

[0012] Referring now the drawing, there is shown in Figure 1 a warning device comprising a transmitter 11 and a receiver unit 12.

[0013] The transmitter 11 comprises a conventional transmitter which is preferably operable to transmit signals at radio (RF) frequencies.

[0014] The receiver unit 12 comprises a receiver 13 which receives the; radio frequency signals from the transmitter 11. The receiver 13 is connected via a microprocessor 14 to a vibrating motor 16. The microprocessor 14 is also connected to a plurality of tactile user operable switches 17 mounted on the exterior of the unit 12. Each of the tactile switches 17 includes a tactile indication (not-shown) on the top surface which is indicative of a particular event. The tactile indication (not shown) can comprise a series of raised protrusions disposed so as to define a shape identifiable with a particular event such as, for example, a square for a telephone, a semicircle for a doorbell, a star for the fire alarm. Each of the switches may be formed from a transparent or translucent material and may include a bulb or other light source such as a light emitting diode (LED) below each switch, the bulb or other light under which the switch appropriate to an event which occurred being illuminated when the event occurs.

[0015] In use, a transmitter 11 is linked to each event which it is desired to be monitored such as, for example the doorbell, the telephone, a person, fire alarm, burglar alarm and a baby such that the transmitter detects the occurrence of the desired event. The linking may not be direct and may be wireless. Still further the linking may be such that a sensor is located so as to detect, for example the telephone ringing, the doorbell ringing etc., and the cause activation of the transmitter when the occurrence of an event is detected by the sensor. When the occurrence of an event is detected, the respective transmitter 11 transmits a radio frequency signal. The radio frequency signal sent is coded so as to uniquely

identify the event detected. This coded signal is received by the receiver 13 in the receiver unit 12. The receiver 13 decodes the transmitted signal and via the microprocessor 14 causes the light source associated with the switch 17 which bears a tactile indication indicative of the event which has been detected to be illuminated. This obviously provides a visual indication of the event which has occurred. Furthermore, the receiver also via microprocessor causes the vibrating motor to be vibrated in a particular pattern of vibration which identifies the event which has been detected. This provides a vibratory or non-visual identification of the detected event.

[0016] Whilst the non-visual indication preferably is vibration, any other suitable form of non-visual identification can be provided as desired or as appropriate./

[0017] However, it will be appreciated that a deaf-blind person will not be able to correlate, unless they can remember the vibration pattern for each type of event, the vibration pattern detected cannot be compared with the tactile switch 17 illuminated in order to determine the event which has occurred. Therefore, in the warning device 10 of the present invention, the user is required to use the tactile switches 17 to turn off the vibration. The vibration can only be turned off by the user operating the tactile switch 17 which bears the tactile indication appropriate for the event which has occurred and therefore, in use, the user will switch each of the switches 17 in turn and once the vibration has stopped will use the tactile indication on the top of the switch which has turned off the vibration to determine the event which has occurred.

[0018] It will be appreciated that with the warning device of the invention, the deaf-blind person can be easily and safely warned of the occurrence of events which have occurred and which may require immediate action from them.

[0019] It is of course to be understood that the invention is not intended to be restricted to the details of the above embodiment which are described by way of example only.

which corresponds to said event which has occurred.

2. A warning device according to Claim 1, wherein the receiver is in the form of a pager.
3. A warning device according to Claim 2, wherein the pager is adapted to be worn by a user.
4. A warning device according to any one of Claims 1 to 3, wherein the non-visual indication is in the form of a vibration of the receiver.
5. A warning device substantially as hereinbefore described with reference to the drawing.

Claims

1. A warning device for deaf-blind persons, said device comprising a transmitter which detects the occurrence of a with particular event and which is operable to transmit a signal indicative of said event and a receiver adapted to receive said signal indicative of said event and to produce both a visual and non-visual indication of the event which has occurred wherein the said receiver further includes at least one user operable control which allows user selection from multiple patterned events and said visual and non-visual indication of said event continues until said user operable control is operated by said user to select said predetermined event

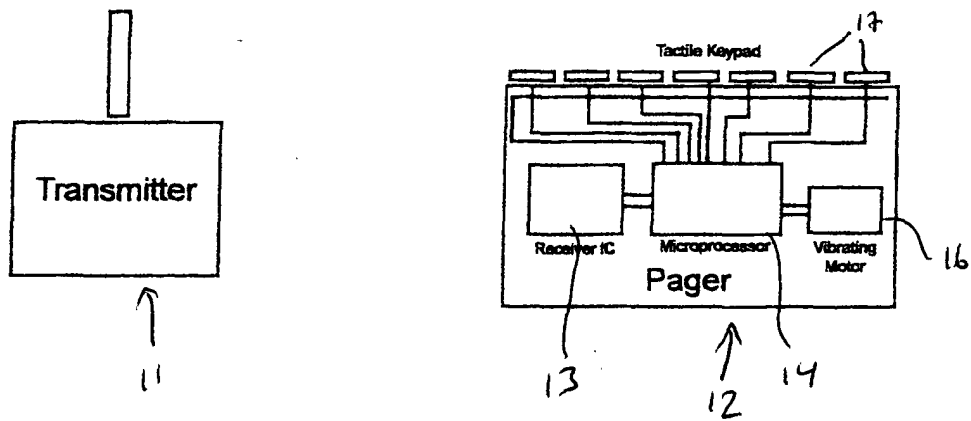


FIG. 1.