(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 1 925 341 A1**

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
28.05.2008 Bulletin 2008/22

(51) Int Cl.:
A63B 24/00 *(2006.01)*

(21) Application number: **07121228.6**

(22) Date of filing: **21.11.2007**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR MK RS

(30) Priority: **21.11.2006 IT BO20060789**

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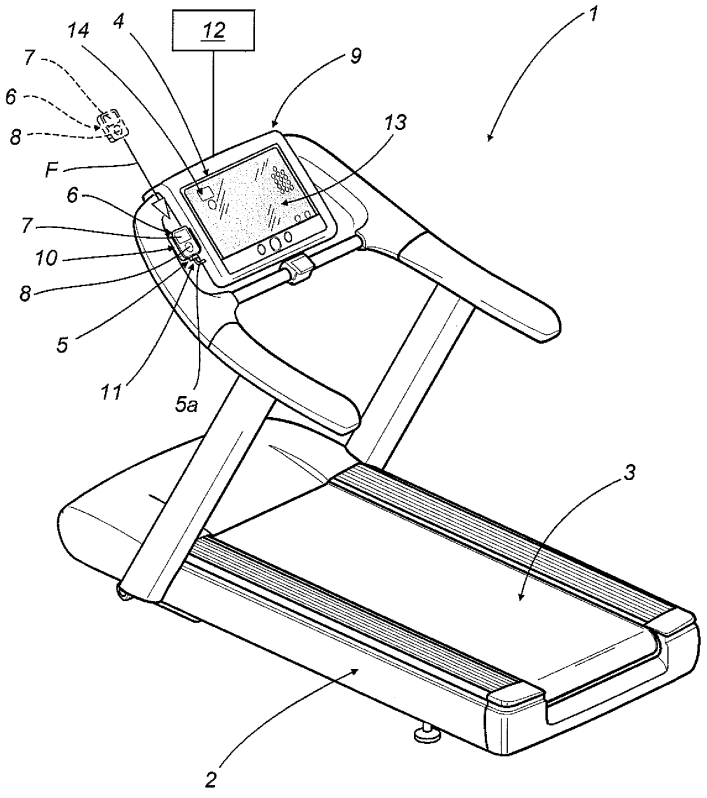
(54) Exercise machine

(57) An exercise machine (1) comprises a frame (2) and means (3) for performing an exercise associated with the frame (2) to allow a user to perform at least a predetermined exercise; the exercise machine (1) comprises an interface (4) which can be associated, by means of a relative connection (5a), with an audio/video storage and reproduction device (6) with which information and commands can be exchanged, in particular when the exercise is being performed.

FIG.1



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Description

[0001] The present invention relates to an exercise machine and in particular to an exercise machine which can be interfaced with audio and/or video storage and reproduction devices.

[0002] Modern exercise machines, such as treadmills, exercise bikes and the like, currently combine an increasing number of functions which are secondary to requirements purely relating to use of the muscles by the user, such as, for example, monitoring heart activity or energy consumption.

[0003] As exercise equipment evolved, exercise machines were developed which integrate audio reproduction devices, for example a radio or CD player, as well as having a screen (usually LCD) positioned in front of the user and with which the machine is controlled (for example by operating with the touch screen method).

[0004] While the user is exercising, the touch screen can be used to watch television programmes or for various types of multimedia connections, such as an internet connection.

[0005] However, such reproduction devices do not allow the user to be entertained with a vast and popular selection of preferred tracks, both because of radio or TV equipment reception limits, and because of the low number of tracks that can be stored in a normal known type of CD medium.

[0006] In parallel, an increasing number of portable audio and even video storage and reproduction devices are spreading, such as the Apple® iPod®, which can store an ever increasing volume of information, therefore audio tracks, videos, photographs, of particular interest for the user.

[0007] It should be noticed that often such devices are used, not just during leisure time, but during work-outs or while performing any exercise because they offer a vast selection of audio tracks or videos, all of which the user likes because he has selected them.

[0008] However, because he is exercising, the user finds it difficult to use and manage the reproduction device.

[0009] Prior art devices, although recently being made ever smaller and lighter, still have a mass that is not null, which must be supported by the user, for example by hanging it on his arm, and which is an obstacle or inconvenience during a work-out.

[0010] To contain the mass and dimensions of such reproduction devices, the outer dimensions are gradually getting ever smaller, with a consequent parallel reduction of the dimensions of the relative keys or control and operating screens whose operation is extremely laborious, in particular while exercising, for example running or cycling.

[0011] In this context, the main technical purpose of the present invention is to propose an exercise machine which is free of the above-mentioned disadvantages. The present invention has for an aim to propose an exercise machine which allows the user to be entertained during a work-out by listening to tracks he enjoys using a personal device.

[0012] The present invention also has for an aim to propose a machine which allows the user to be entertained during a work-out by watching videos or film footage he enjoys.

[0013] The present invention also has for an aim to propose an exercise machine which allows easy and convenient management of audio and/or video storage and reproduction devices, in particular during a work-out.

[0014] The technical purpose indicated and the aims specified are substantially achieved by an exercise machine comprising the technical features described in claim 1 and in one or more of the dependent claims herein.

[0015] Further features and advantages of the present invention are more apparent in the description below, with reference to a preferred, non-limiting, embodiment of an exercise machine, illustrated in the accompanying drawings, in which:

- Figure 1 is a schematic perspective view, partly in blocks, of an exercise machine in accordance with the present invention, in a first operating configuration;
- Figure 2 is a schematic front view, partly in blocks, of a detail of the exercise machine of Figure 1, in a second operating configuration;
- Figure 3 is a schematic front view, partly in blocks, of the detail of Figure 2, in a third operating configuration;
- Figure 4 is a schematic front view, partly in blocks, of the detail of Figure 2, in a fourth operating configuration.

[0016] With reference to the accompanying drawings and in particular with reference to Figure 1, the numeral 1 denotes an exercise machine in accordance with the present invention.

[0017] The exercise machine 1 comprises a frame 2 supporting means 3 for performing an exercise of the substantially known type and therefore not described in detail, for allowing a user, not illustrated, to perform at least a predetermined exercise.

[0018] It should be noticed that in Figure 1 the exercise machine 1 is illustrated as a treadmill. However, the present invention also relates to exercise bikes or any other exercise machine 1 of the type comprising the frame 2 and the means 3 for performing an exercise.

[0019] The machine 1 comprises a graphical interface 4 supported by the frame 2.

[0020] The interface 4 is also positioned at the means 3 for performing the exercise.

[0021] The machine 1 comprises transmission means 5, in communication with the interface 4, there being the possibility of associating the transmission means with an audio and/or video, that is to say, multimedia content,

storage and reproduction device 6, of the substantially known type, such as the Apple® iPod®, so that the device 6 is put into communication with the interface 4.

[0022] The communication means 5 preferably comprise a connection 5a, of the substantially known type, for optimising communication between the device 6 and the interface 4 according to the methods described in more detail below.

[0023] The connection 5a is preferably a serial connection. In alternative embodiments, not illustrated, the connection 5a is of the parallel type or USB or wireless.

[0024] Advantageously, the interface 4 interacts with the audio/video reproduction device 6 through the transmission means 5 to exchange information and commands with the device 6, preferably when the user is exercising.

[0025] The device 6 has a screen 7 for displaying film footage or photographs or for displaying information about the music tracks being reproduced.

[0026] Moreover, the device 6 has a control panel 8 by means of which the device 6 is used.

[0027] In the preferred embodiment illustrated, the exercise machine 1 comprises means 9 for managing the means 3 for performing the exercise, allowing the user to customise the exercise, for example to regulate the speed or angle of the treadmill belt. In the present invention, the interface 4 is integrated in the management means 9, of the substantially known type and therefore not described in detail, for example a console.

[0028] In other words, in accordance with the present invention, the interface 4 is integrated in the management means 9 to make the machine 1 more compact.

[0029] The exercise machine 1 preferably comprises a support 10 for the device 6.

[0030] The support 10 is associated with the frame 2, preferably substantially at the interface 4.

[0031] Advantageously, the communication means 5 comprise a connector 11 for connection to the device 6.

[0032] It should be noticed that it is well known that the devices 6 have a communication and power port, not illustrated in the accompanying drawings. The connector 11 is suitable for engagement with the respective communication port present in the audio/video storage and reproduction device 6.

[0033] The interface 4 comprises a control device, schematically illustrated with a block 12, for interaction with the storage and reproduction device 6.

[0034] The control device 12 is advantageously integrated in a computerised check and control unit, not illustrated, usually designed to check and manage the machine 1.

[0035] More specifically, as described in more detail below, the control device 12 can simulate operation of the device 6 control panel 8 using the communication means 5.

[0036] In other words, the device 12 allows the audio/video storage and reproduction device 6 to be operated from a remote position, consisting of the interface 4.

[0037] In more detail, the control device 12 preferably consists of a screen 13 sensitive to pressure applied by the user, commonly known as a "touch screen".

[0038] As illustrated in Figure 1, in a first operating configuration, in particular when the storage and reproduction device 6 is connected to the machine, the interface 4 has an icon 14 for retrieving device 6 controls on the screen 13.

[0039] It should be noticed that it is well known that the term "icon" refers to an image (usually a stylised drawing) whose aim is to represent a program, an action or a type of file or to transmit information in an extremely concise form.

[0040] As illustrated in Figure 2, in a second operating configuration, a first portion 15 of the screen 13 is intended for displaying multimedia content reproduced by the audio/video storage and reproduction device 6; the portion 15 therefore forms a screen for displaying multimedia content.

[0041] The second operating configuration is preferably an alternative to the above-mentioned first configuration. Advantageously, the second operating configuration can be derived from the first by "touching" the screen 13.

[0042] Advantageously, the portion 15 also forms a display 16 for showing the user information about audio/video storage and reproduction device 6 operation, for example a list of tracks.

[0043] A second portion 17 of the screen 13 is intended for displaying a second icon 18 which is part of the interface 4 and reproduces an enlarged audio/video storage and reproduction device 6 control panel 8.

[0044] In particular, the icon 18 shows and reproduces on the screen 13 the device 6 main controls.

[0045] In practice, the device 6 is controlled by acting on the touch screen 13 at the icon 18.

[0046] In other words, the action on the icon 18 is translated, by the touch screen 13, the device 12 and the communication means 5, into a command for the audio/video storage and reproduction device 6.

[0047] The icon 18 preferably also graphically represents the device 6 control panel 8, that is to say, the icon 18 shows and reproduces on the screen 13 the device 6 main controls in an identical configuration and acting on the touch screen 13 at the icon 18 the device 6 is controlled with the individual keys operating in the same way.

[0048] According to Figure 3, in a third operating configuration, the portion 15 of the screen 13 intended for video reproduction or for displaying information as the display 16, is enlarged compared with Figure 2, to give the user a better view.

[0049] As shown in Figure 4, in a fourth operating configuration, the portion 17 of the screen 13 intended for the icon 18 visually and functionally reproducing the device 6 controls is further enlarged compared with Figure 2, to offer controls which are easy to use even while exercising.

[0050] In practice, the user inserts, according to the

arrow F of Figure 1, his personal audio/video storage and reproduction device 6 in the machine 1 support 10.

[0051] It should be noticed that the earphones, not illustrated, may preferably remain attached to the device 6 and the user remains in audio contact with the device 6 by means of them.

[0052] Advantageously, in alternative embodiments, the audio signal can be switched on the machine 1 console 9.

[0053] When the device 6 is inserted in the support 10, the connector 11 is inserted in the respective port, not illustrated, of the device 6, and by means of the serial connection 5a puts the interface 4 in communication with the device 6.

[0054] As illustrated in Figure 1, the icon 14 relative to the device 6 associated with the machine 1 appears on the screen 13.

[0055] As illustrated in Figure 2, acting on the icon 14, the portions 15 and 17 are defined on the screen 13, respectively for displaying information and videos and for controls.

[0056] More precisely, the videos reproduced by the device 6 become visible in the portion 15 or, in the display 16 configuration, information is made available about the audio tracks/videos stored in the device 6.

[0057] Advantageously, the icon 18, which as already indicated reproduces the device 6 control panel 8 and implements its operation by means of the touch screen 13, is enlarged compared with the panel 8, and so is easier to use.

[0058] As illustrated in Figure 3, by acting on the screen 13, the portion 15 is further enlarged for maximum visibility.

[0059] As illustrated in Figure 4, by acting on the screen 13, the portion 17 dedicated to device 6 remote controls is maximised, so that they are easy and convenient to operate while exercising.

[0060] The exercise machine brings important advantages.

[0061] The generic user can associate his personal audio and video storage and reproduction device with the machine, and can then listen to or watch all of the material he likes.

[0062] The graphical interface combined with the touch screen allows easy remote control of the device 6.

[0063] This allows exercises to be performed correctly, without any particular impediments, the dedicated, enlarged portions of screen allowing easy interaction with the storage and reproduction device.

[0064] The invention described above is susceptible of industrial application and may be modified and adapted in several ways without thereby departing from the scope of the inventive concept. Moreover, all details of the invention may be substituted by technically equivalent elements.

Claims

1. An exercise machine comprising a frame (2), means (3) for performing an exercise associated with the frame (2) to allow a user to perform at least a predetermined exercise, **characterised in that** it comprises an interface (4) at the means (3) for performing an exercise, transmission means (5) in communication with the interface (4), there being the possibility of associating the transmission means (5) with an audio/video storage and reproduction device (6) having a respective control panel (8) so as to put the audio/video reproduction device (6) in communication with the interface (4), said interface (4) interacting with the audio/video reproduction device (6) through the transmission means (5) to exchange information with the audio/video reproduction device (6), in particular when the exercise is being performed.

2. The exercise machine according to claim 1, **characterised in that** it comprises means (9) for managing the means (3) for performing the exercise, allowing the user to customise the exercise, the interface (4) being integrated in the management means (9).

3. The exercise machine according to claim 1 or 2, **characterised in that** it comprises a support (10) for the audio/video storage and reproduction device (6), the support (10) being associated with the frame (2), preferably at the interface (4).

4. The exercise machine according to claim 3, **characterised in that** the communication means (5) can be associated with the audio/video storage and reproduction device (6) at the support (10).

5. The exercise machine according to any of the foregoing claims, **characterised in that** the interface (4) comprises a control drive (12) for remotely operating the audio/video storage and reproduction device (6) using the communication means (5).

6. The exercise machine according to any of the foregoing claims, **characterised in that** the interface (4) comprises a screen (13) sensitive to pressure applied by the user (a touch screen).

7. The exercise machine according to any of the foregoing claims, **characterised in that** the interface (4) comprises a screen (15) for displaying multimedia content reproduced by the audio/video storage and reproduction device (6).

8. The exercise machine according to claims 6 and 7, **characterised in that** the screen (15) for displaying multimedia content reproduced by the audio/video storage and reproduction device (6) consists of a

portion (15) of the touch screen (13).

9. The exercise machine according to any of the foregoing claims, **characterised in that** the interface (4) comprises at least one icon (18) forming at least one remote control for the audio/video reproduction device (6).

10. The exercise machine according to claim 9, **characterised in that** the icon (18) substantially has the same appearance as the corresponding control present in the control panel (8).

11. The exercise machine according to claim 9 or 10, **characterised in that** the icon (18) substantially has the same functions as the corresponding control present in the control panel (8).

12. The exercise machine according to any of the foregoing claims, **characterised in that** the interface (4) comprises at least one display (16) for showing the user information about audio/video storage and reproduction device (6) operation.

13. The exercise machine according to claims 6 and 12, **characterised in that** the display (16) consists of a portion (15) of the touch screen (13).

14. The exercise machine according to any of the foregoing claims, **characterised in that** the communication means (5) comprise a serial connection (5a).

15. The exercise machine according to any of the foregoing claims, **characterised in that** the communication means (5) comprise a USB connection (5a).

16. The exercise machine according to any of the foregoing claims, **characterised in that** the communication means (5) comprise a wireless connection.

FIG.1

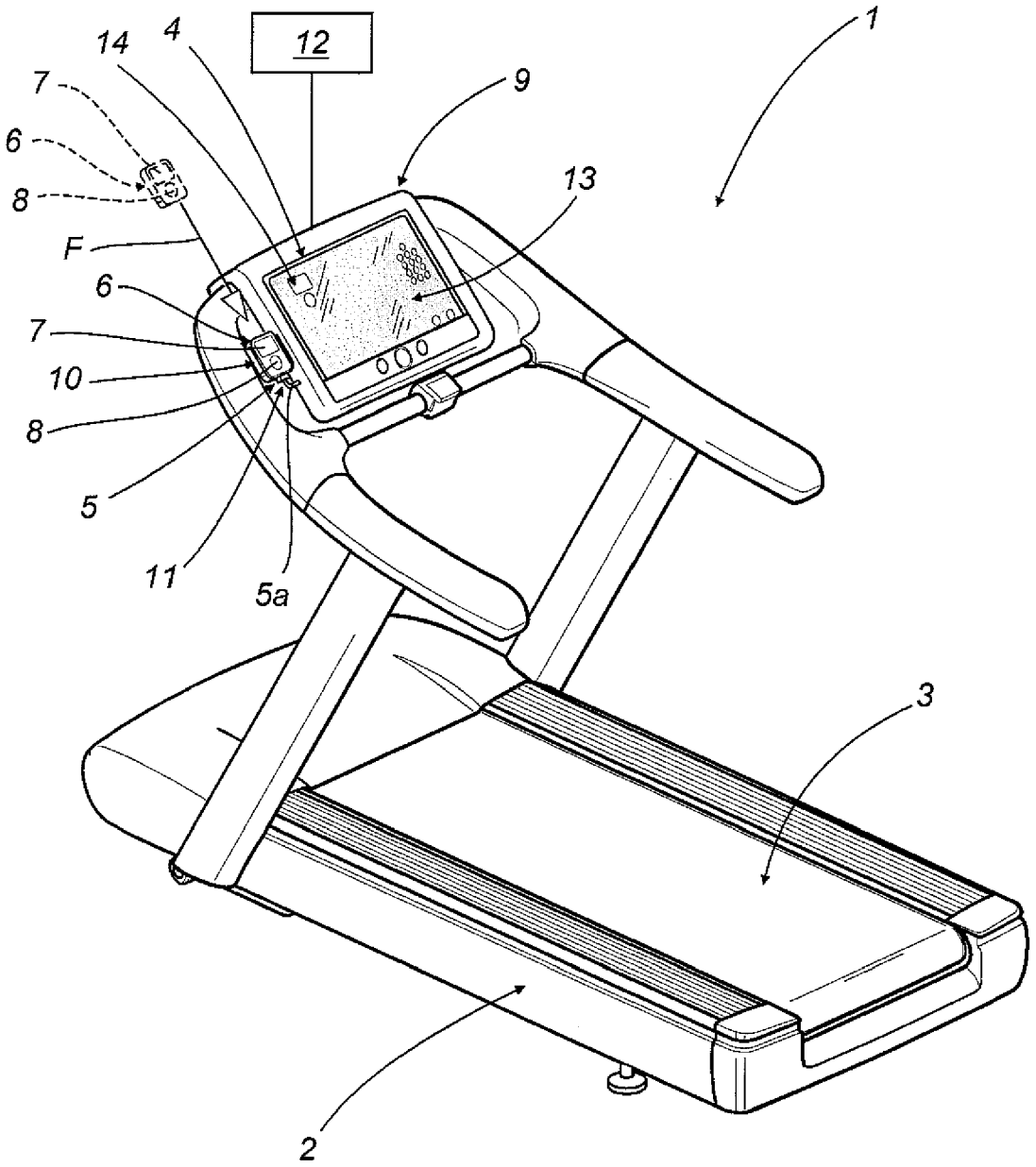


FIG.2

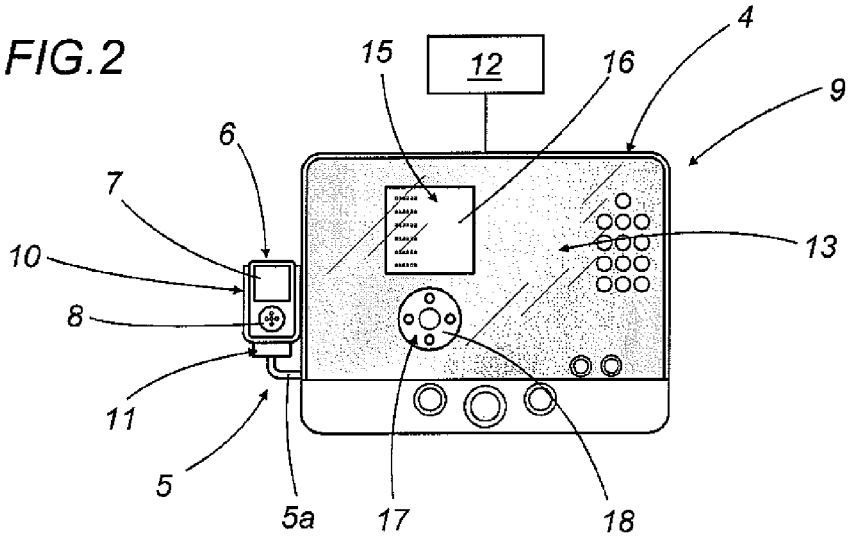


FIG.3

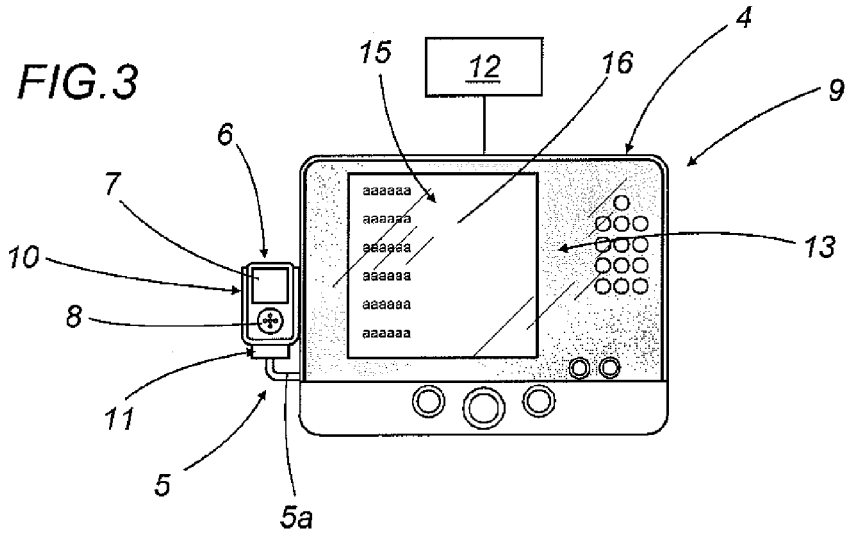
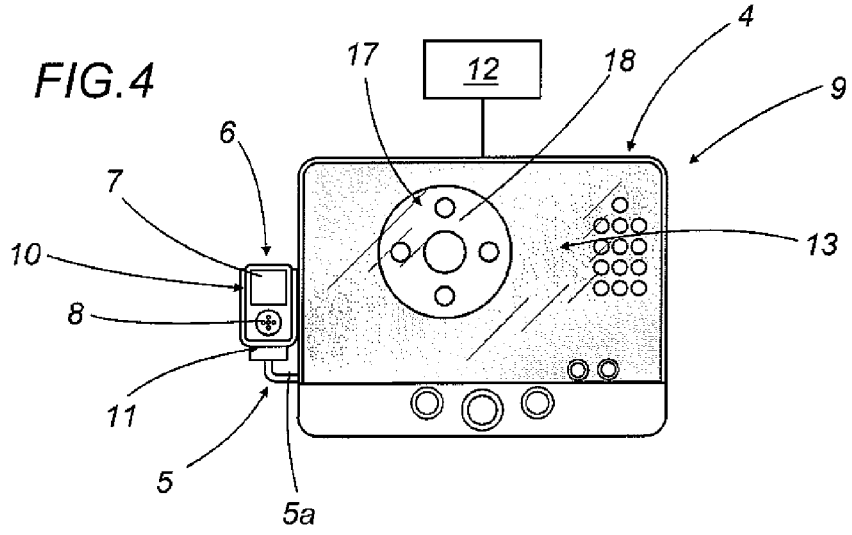


FIG.4



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EUROPEAN SEARCH REPORT

Application Number
EP 07 12 1228

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	* page 3, lines 3-5 * * page 6, lines 6-13 * * page 7, lines 9-29 * * page 8, lines 4-19 * * page 9, lines 10-13; figures *	6,8	TECHNICAL FIELDS SEARCHED (IPC) A63B
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	27 March 2008	Jones, Mark

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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