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(54) Eletronic watch for sports apparatus

(57) The present invention relates to an electronic watch for sports apparatus in which the international standard weight and heartbeat reference data are saved. After input of personal data of the body weight and height, the microprocessor will calculate the difference between the real body weight and the corresponding standard weight. Thereafter, the built-in program decides an optimal exercise mode in accordance with the weight difference. Then, the exerciser is activated to execute the result. In addition, the age and the sex can be given in order for the microprocessor to calculate an optimal exercise heartbeat range in taking the international standard weight and heartbeat reference data and the difference between the real body weight and the corresponding standard weight into account. Thereafter, the built-in program decides an optimal exercise mode in accordance with the optimal exercise heartbeat range. Then, the exerciser is activated to execute the result.

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Description

BACKGROUND 0F THE INVENTION

1. Fields of the Invention

[0001] The present invention relates to an electronic watch for sports apparatus, and more particularly, to an electronic watch through which an optimal exercise mode is automatically decided according to the parameter of difference between body weight and standard weight.

2. Description of the Prior Art

[0002] At present, many sports apparatuses (e.g. treadmill, etc.) utilize a smart electronic watch with built-in control program for automatically controlling the exercise modes thereof. For example, a microprocessor automatically controls the exercise time, speed, resistance or slope, etc.). It's convenient and practical.

[0003] However, the built-in control program is in form of universal control mode and not necessarily meets the needs of all users. Therefore, a few personal details of the operator, such as age, sex, etc. can be fed into the console of the conventional electric treadmill before he takes the exercise session. Even, the desired duration of the exercise session or the desired consumption of calories can also be fed in the console, and the built-in program can calculate the optimal exercise session in accordance with the fed-in data. Therefore, it's a user-oriented design.

[0004] In choosing the automatic control mode of the desired consumption of calories, the personal weight has to be given in order for the microprocessor to compute the calorie consumption value according to the exercise time and speed. However, the parameters of age, sex or calories represent great variables for different people. In brief, two persons with the same age and sex do not necessarily have the same or similar physical state. Thus, it doesn't meet the personal needs when one standard is applied to every operator.

[0005] The so-called optimal "calorie consumption value" is a reference value suggested by the physicians or fitness trainers in accordance with the personal height and weight. However, the height and especially the weight of a person are not a constant value. Unless the user always takes care of the change of his height and weight or constantly gets the new suggestion of the optimal "calorie consumption value" from the physicians or fitness trainers, the optimal "calorie consumption value" will lose its reference value.

[0006] In addition, another conventional electronic watch is provided with a heartbeat sensor. When the real heartbeat number sensed by the heartbeat sensor is greater than the preset maximal heartbeat value, a command is given to decelerate the motor to prevent from danger since the heartbeat number of the user is too high. However, the maximal heartbeat value is based on the age and the sex of a person or is a reference value suggested by physician which is variable according to the personal body type and, therefore, loses its reference value.

SUMMARY 0F THE INVENTION

[0007] It is a primary object of the present invention to eliminate the above-mentioned drawbacks and to provide an electronic watch for sports apparatus through which an optimal exercise mode is automatically decided according to the parameter of difference between body weight and standard weight in taking the current height and weight into account. Accordingly, the personal need in every exercise session is completely fulfilled.

[0008] It's another object of the present invention to provide an electronic watch for sports apparatus through which the optimal exercise heartbeat range of the user is automatically decided in taking the age and the sex of the user together with the standard heartbeat list and the weight difference into account. Thereafter, an optimal exercise program runs automatically in accordance with the parameters.

DESCRIPTION 0F THE INVENTION

[0009] The present invention features:

1. The international standard weight and heartbeat reference data are built-in the microprocessor of the electronic watch. After input of personal data of the body weight and height, the microprocessor will calculate the difference between the real body weight and the corresponding standard weight. Thereafter, the built-in program decides an optimal exercise mode in accordance with the weight difference. Then, the exerciser is activated to execute the result.

2. The international standard weight and heartbeat reference data are built-in the microprocessor of the electronic watch. After input of personal data of the body weight, height and age, the microprocessor will calculate an optimal exercise heartbeat range in taking the international standard weight and heartbeat reference data and the difference between the real body weight and the corresponding standard weight into account. Thereafter, the built-in program decides an optimal exercise mode in accordance with the optimal exercise heartbeat range. Then, the exerciser is activated to execute the result.

3. The international standard weight and heartbeat reference data are built-in the microprocessor of the electronic watch. After input of personal data of the

body weight, height, age and sex, the microprocessor will calculate an optimal exercise heartbeat range in taking the international standard weight and heartbeat reference data and the difference between the real body weight and the corresponding standard weight into account. Thereafter, the built-in program decides an optimal exercise mode in accordance with the optimal exercise heartbeat range. Then, the exerciser is activated to execute the result.

[0010] In brief, the electronic watch of the present invention is almost an accompanying fitness trainer giving every user to an optimal exercise suggestion and the most proper exercise session. Meanwhile, the optimal exercise heartbeat range is taken into account in order to ensure the safety of the user during the exercise session.

[0011] Since the international standard weight and heartbeat reference data are derived from the international medical reports. Thus, its reference value admits of no doubt. Therefore, no further description thereof is given hereinafter.

[0012] In all of the conventional electronic watches, they only take the body weight value into account to calculate the calorie consumption value during the exercise session. However, the present invention is based on the medical theory. The body height and weight are taken into account to learn about the body type of the user by means of the weight difference. An optimal personal exercise session is therefore decided. Accordingly, the practical value and the body building effect of the present invention can't be reached by the same type products.

[0013] Many changes and modifications in the above-described embodiment of the invention can, of course, be carried out without departing from the scope thereof. Accordingly, to promote the progress in science and the useful arts, the invention is disclosed and is intended to be limited only by the scope of the appended claims.

Claims

1. An electronic watch for sports apparatus comprising a microprocessor in which the international standard weight and heartbeat reference data are saved so that, after input of personal data of the body weight and height, said microprocessor will calculate the difference between the real body weight and the corresponding standard weight, whereupon a built-in program decides an optimal exercise mode in accordance with the weight difference and, then, the exerciser is activated to execute the result.

2. The electronic watch for sports apparatus as recited in claim 1, wherein the age and the sex of the personal data are given to obtain a better reference value of the weight difference.

3. An electronic watch for sports apparatus comprising a microprocessor in which the international standard weight and heartbeat reference data are saved so that, after input of personal data of the body weight, height and age, the microprocessor will calculate an optimal exercise heartbeat range in taking the international standard weight and heartbeat reference data and the difference between the real body weight and the corresponding standard weight into account, whereupon the built-in program decides an optimal exercise mode in accordance with the optimal exercise heartbeat range and, then, the exerciser is activated to execute the result.

4. An electronic watch for sports apparatus comprising a microprocessor in which the international standard weight and heartbeat reference data are saved so that, after input of personal data of the body weight, height, age and sex, the microprocessor will calculate an optimal exercise heartbeat range in taking the international standard weight and heartbeat reference data and the difference between the real body weight and the corresponding standard weight into account, whereupon the built-in program decides an optimal exercise mode in accordance with the optimal exercise heartbeat range and, then, the exerciser is activated to execute the result.

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EUROPEAN SEARCH REPORT

Application Number
EP 02 01 2268

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 0 842 635 A (SEIKO EPSON CORP) 20 May 1998 (1998-05-20) * the whole document *	1-4	A63B24/00 A63B71/06
Y	US 5 853 351 A (ONO AKIKO ET AL) 29 December 1998 (1998-12-29) * the whole document *	1-4	
Y	US 2002/019585 A1 (DICKINSON ELISABETH N) 14 February 2002 (2002-02-14) * the whole document *	1-4	
A	US 6 277 080 B1 (NISSIL AUML SEPPO ET AL) 21 August 2001 (2001-08-21) * the whole document *	1-4	
A	EP 1 092 453 A (POLAR ELECTRO OY) 18 April 2001 (2001-04-18) * the whole document *	1-4	
A	EP 0 199 442 A (TSUYAMA MFG CO LTD) 29 October 1986 (1986-10-29) * the whole document *	1-4	TECHNICAL FIELDS SEARCHED (Int.Cl.7) A63B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	11 December 2002	Knoflacher, N

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
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E : earlier patent document, but published on, or after the filing date
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L : document cited for other reasons

& : member of the same patent family, corresponding document

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 02 01 2268

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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11-12-2002

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0842635 A	20-05-1998	EP 0842635 A1	20-05-1998
		US 6241684 B1	05-06-2001
		WO 9737588 A1	16-10-1997
US 5853351 A	29-12-1998	JP 6154355 A	03-06-1994
		JP 6190079 A	12-07-1994
		DE 4338958 A1	19-05-1994
US 2002019585 A1	14-02-2002	NONE	
US 6277080 B1	21-08-2001	FI 961148 A	12-12-1997
		DE 19781642 T0	11-03-1999
		GB 2326240 A ,B	16-12-1998
		HK 1016857 A1	04-05-2001
		WO 9733512 A1	18-09-1997
EP 1092453 A	18-04-2001	FI 992206 A	14-04-2001
		EP 1092453 A2	18-04-2001
		US 2002091329 A1	11-07-2002
		US 6428476 B1	06-08-2002
EP 0199442 A	29-10-1986	JP 61238260 A	23-10-1986
		CA 1240051 A1	02-08-1988
		EP 0199442 A2	29-10-1986

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82