There is provided a treadmill having an exercise motivation inducing function, which comprises: an interface to control the degree of difficulty of exercise, a driving unit to be driven according to the degree of difficulty controlled by the interface, and a control unit to control a gift provider to differentially provide a gift according to the degree of difficulty controlled by the interface. The treadmill motivates a user to receive a predetermined gift after finishing exercise, thereby inducing a positive attitude on exercise to a user disliking exercise. Furthermore, the treadmill adds the fun of exercise so that a user does exercise of her/his own free will, thereby contributing to the improvement of her/his physical constitution.
[FIG. 1]
[FIG.3]

START

SET EXERCISE ENVIRONMENT S10

WHAT GRADE THE DEGREE OF DIFFICULTY IS? S20

1st GRADE 2nd GRADE 3rd GRADE 4th GRADE \ldots \ldots Nth GRADE S25

OPERATE DRIVING UNIT S30

COMPLETE SET VALUE OF EXERCISE ENVIRONMENT? S40

Y

DOES PRESSURE SENSOR OPERATE UNTIL THE SET VALUE IS COMPLETED? S50

N

Y

PROVIDE GIFT S60

END
TREADMILL HAVING EXERCISE MOTIVATION INDUCING FUNCTION

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of Korean Patent Application No. 10-2007-0015701, filed Feb. 15, 2007, the disclosure of which is hereby incorporated herein by reference in its entirety.

BACKGROUND OF THE INVENTION

[0002] 1. Technical Field
[0003] The present invention relates to a treadmill inducing a positive attitude on exercise to a user who does not like exercise, by motivating the user to receive a predetermined gift when (s)he finishes exercise, and more particularly, to a treadmill having an exercise motivation inducing function, which comprises an interface to control the degree of difficulty of exercise, a driving unit to be driven by the degree of difficulty controlled by the interface, and a control unit to control a gift provider to differentially provide a gift according to the degree of difficulty controlled by the interface.

[0004] 2. Discussion of Related Art

[0005] It has been reported that Korean people have very increasingly died from high blood pressure, diabetes and heart disease by the hardening of the arteries (myocardial infarction), breast cancer and colon cancer. From this report, it is noted that the pattern of diseases has changed to those of advanced countries. The change in the pattern of disease is related to the tendency that an overweight population is sharply increasing as the standard of living is improved. It is not too much to say that the change in the pattern of disease is also related to lack of exercise for a long time due to the development of modern conveniences.

[0006] Further, the Korean overweight population (about 20%) is not serious compared to the western advanced countries. However, many Korean young ladies tend to excessively reduce their weight for appearance not for health and, taking advantage of such a tendency, unscientific methods which are likely to injure health have prevailed in the indifference of experts. Thus, these tendencies have become serious threats to national health. Further, the people of abdominal region fitness, which is known as a major dangerous factor of diabetes, heart disease and the like, have gradually increased, and the number of overweight children has also sharply increased. In view of these tendencies, there is a high possibility that obesity may become a major health problem of the nation in the future.

[0007] Most desirably, obesity which injures the health of modern people should be solved by exercise. However, people would neglect exercise by the reasons that exercise is hard and effects of exercise slowly progress despite of the hardness of the exercise. Therefore, the present applicant has tried to find an apparatus making it interesting to exercise.

SUMMARY OF THE INVENTION

[0008] Therefore, the present invention is directed to provide a treadmill having an exercise motivation inducing function by adding the fun of exercise to provide a reward for the extent of everyday exercise to a number of overweight patients, to solve obesity in the long term.

[0009] In accordance with an exemplary embodiment, the present invention provides to a treadmill having an exercise motivation inducing function, which comprises: an interface to control the degree of difficulty of exercise; a driving unit to be driven by the degree of difficulty controlled by the interface; and a control unit to control a gift provider to differentially provide a gift according to the degree of difficulty controlled by the interface.

[0010] Preferably, the driving unit may comprise: guide frames positioned at both lower sides of the treadmill; a belt positioned between the guide frames and rotated by a driven roller and a driving roller, along a caterpillar tread; a power unit to apply power to the driving roller; an angle controller to vary a vertical position of one side of the guide frame; a fixation frame securely interposed within the belt so as not to interfere the rotation of the driving roller and driven roller, so that both sides of the fixation frame are fixed in the guide frames; and a pressure sensor positioned on the fixation frame, to sense pressure.

[0011] Preferably, the degree of difficulty may be determined, by independently setting the rotation speed, number of rotation times, driving time, angle control of the driving unit or by setting a combination thereof.

[0012] Preferably, the gift provider may comprise a touch or non-touch type card terminal, and the gift may be provided when reaching a set value of the degree of difficulty by the interface.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The above and other features and advantages of the present invention will become more apparent to those of ordinary skill in the art by describing in detail preferred embodiments thereof with reference to the attached drawings in which:

[0014] FIG. 1 is a front view of a treadmill having an exercise motivation inducing function according to an embodiment of the present invention;

[0015] FIG. 2 is a side view of the treadmill; and

[0016] FIG. 3 is a schematic flow chart of a control unit of the treadmill.

DETAILED DESCRIPTION OF THE INVENTION

[0017] The present invention will now be described more fully hereinafter with reference to the accompanying drawings, in which preferred embodiments of the invention are shown.

[0018] FIG. 1 is a front view of a treadmill having an exercise motivation inducing function according to an embodiment of the present invention, FIG. 2 is a side view of the treadmill, and FIG. 3 is a schematic flow chart of a control unit of the treadmill.

[0019] As illustrated in FIGS. 1 and 2, the treadmill having the exercise motivation inducing function (hereinafter, referred to as the "treadmill") comprises an interface 20, a driving unit, a gift provider 30, and a control unit (not shown) to control the driving unit and the gift provider operated by the interface.

[0020] The driving unit comprises guide frames 41, a driven roller 42, a driving roller 43, a belt 44, a power unit (not shown), an angle controller (not shown), a fixation frame 47, and a pressure sensor 48 and positioned at the lower of the treadmill 10.

[0021] The belt 44 is configured to rotate about the driving roller 43 and the driven roller 42 and to make a caterpillar tread type rotation by the power unit to drive the driven roller 42. The guide frames 41 secure the driven roller 42, the
driving roller 43 and both sides of the fixation frame 47 interposed within the belt 44 and maintain the entire balance of the treadmill 10.

[0022] The fixation frame 47 is provided to prevent the belt 44 from being hung down and loosened by the gravity or the weight of a user and maintains the entire balance of the treadmill 10, works with the guide frames 41.

[0023] The angle controller uses a device which is included in an ordinary treadmill to increase the degree of difficulty of exercise by controlling an angle of inclination. The angle controller controls the degree of difficulty of exercise by varying the perpendicularity of one side of the guide frame 41 and making the angle of inclination from the ground surface by the operatively connected driving roller 43 and belt 44.

[0024] The driving roller 43 is configured to be connected to the power unit (not shown, which may be a motor). When the power unit rotates, the driving roller 43 connects to the power unit and consequently, the belt 44 is rotated by the rotation of the driving roller 43.

[0025] The interface 20 is provided with various buttons to control the rotation speed, number of rotation times, driving time and angle control of the belt 44 of the driving unit, by connectively operating to the control unit.

[0026] For example, when a speed UP button, among the speed control buttons of the interface 20, is pressed, a signal of the speed UP button is applied to the control unit, and the control unit drives the power unit of the driving unit to speed up, based on the signal. To the contrary, when a speed DOWN button, among the speed control buttons of the interface 20, is pressed, a signal of the speed DOWN button is applied to the control unit, and the control unit drives the power unit of the driving unit to speed down, based on the signal.

[0027] The interface 20 is provided with angle UP and DOWN buttons, a time setting button, a distance setting button and others, in addition to the speed UP and DOWN buttons. Accordingly, the different degrees of difficulty of exercise can be set by the control unit, by operating an individual button or a combination of buttons.

[0028] When the driving unit is operated and the pressure is applied to the belt 44, the pressure sensor 48 is operated until the operation of the driving unit stops. When the pressure is sensed, the pressure sensor 48 provides a sensed signal to the control unit.

[0029] The gift provider 30 is configured to differentially provide a gift for the degree of difficulty of exercise according to the button operation of the interface 20. The gift provider 30 comprises a touch type or non-touch type card terminal. The gift provider 30 may be configured to provide cash (gift certificate) or a wrapped gift. However, in order that the gift provider 30 provides a gift, some requirements should be satisfied by the pressure sensor 48 and the control unit.

[0030] The requirements for providing a gift will be described later. The touch type or non-touch type card terminal included in the gift provider 30 is an ordinary card terminal distributed in markets. The touch type card terminal may be a terminal to recognize magnetically recorded information of a card, which is generally used in a credit card terminal, and the non-touch type card terminal may be a terminal to recognize radio wave information using a semiconductor chip, which is used in a bus. Therefore, no further detailed description of the card terminal will be presented. The effects upon use of the card terminal will be described below.

[0031] When the treadmill 10 with the touch or non-touch type card terminal is used in a commercial place like a fitness club, only a member owning a membership card can operate the treadmill 10. When the member owns the membership card but has no record of using the treadmill 10, it is considered that the member does not use the treadmill 10. In this case, a monthly using fee for the member can be discounted, considering the reduction of electric charges, the depreciation expense and others. Otherwise, an event can be held to discount membership fee to members who own the membership card and most use the treadmill 10 for one month, to induce the health promotion of the member.

[0032] A method of operating the treadmill 10 will be described with reference to FIG. 3 below.

[0033] FIG. 3 is a flow chart of schematically showing an operational flow of the control unit of the treadmill 10. When a user sets an exercise environment by using various buttons of the interface 20 at step S10, the control unit reads the degree of difficulty of the exercise environment at steps S20 and S25 and drives the driving unit at step S30.

[0034] The degree of difficulty of the exercise environment can be variously changed as the user sets the exercise environment at step S10, for example, inclination angle: level, speed: 1 km per hour, time: 30 minutes, distance: 500 m (lowest grade), or inclination angle: 5°, speed: 3 km per hour, time 1 hour, distance: 5 km (fourth grade).

[0035] If the driving unit stops driving, the control unit determines whether a set value for the exercise environment is completed at step S40. When the set value is not completed, the control unit continuously drives the driving unit. When the set value is completed, the control unit checks whether a signal has continuously received from the pressure sensor 48 during the operation of the driving unit at step S50. When the signal has continuously received from the pressure sensor 48 during the operation of the driving unit, the control unit does not provide any gift and ends.

[0036] The treadmill having the exercise motivation inducing function according to the embodiment of the present invention provides the people disliking exercise or overweight patients with the fun of exercise and induces a positive attitude on exercise, to solve the obesity of the overweight patients in the long term.

[0037] Furthermore, the treadmill induces people to exercise who dislike exercise, to promote the physical health. In a broad view, the treadmill contributes to the improvement of the nation health. Therefore, it is obvious to derive many effects from the treadmill of the present invention. The invention has been described using a preferred exemplary embodiment. However, it is to be understood that the scope of the invention is not limited to the disclosed embodiments. On the contrary, the scope of the invention is intended to include various modifications and alternative arrangements within the capabilities of persons skilled in the art using presently known or future technologies and equivalents. The scope of the claims, therefore, should be accorded the broadest interpretation so as to encompass all such modifications and similar arrangements.

What is claimed is:
1. A treadmill (10) having an exercise motivation inducing function, comprising:
   an interface (20) to control the degree of difficulty of exercise;
a driving unit to be driven by the degree of difficulty controlled by the interface; and
a control unit to control a gift provider (30) to differentially provide a gift according to the degree of difficulty controlled by the interface.

2. The treadmill according to claim 1, wherein the driving unit comprises:
   guide frames (41) positioned at both lower sides of the treadmill;
   a belt (44) positioned between the guide frames (41) and rotated by a driven roller (42) and a driving roller (43), along a caterpillar tread;
   a power unit to apply power to the driving roller (43);
   an angle controller to vary a vertical position of one side of the guide frame (41);

   a fixation frame (47) securely interposed within the belt (44) so as not to interfere the rotation of the driving roller (43) and driven roller (42), so that both sides of the fixation frame (47) are fixed to the guide frames (41); and
   a pressure sensor (48) positioned on the fixation frame (47) so as to sense pressure.

3. The treadmill according to claim 2, wherein the degree of difficulty is determined by independently setting the rotation speed, number of rotation times, driving time and angle control of the driving unit or by setting a combination thereof.

4. The treadmill according to any one of claims 1 to 3, wherein the gift provider (30) comprises a touch or non-touch type card terminal, and the gift is provided when reaching a set value of the degree of difficulty by the interface (20).

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