ABSTRACT

A power supply arrangement for body fitness machine is disclosed to include permanent magnets mounted on the flywheel of the body fitness machine, a rack mounted on the base frame of the body fitness machine to hold a stack of silicon steel plates, and windings mounted on the rack to act with the permanent magnets for inducing electric current for the working of the lighting circuit of the instrument panel of the body fitness machine.
POWERS SUPPLY ARRANGEMENT FOR BODY FITNESS MACHINE

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

The present invention relates to power generators and more particularly, to a power supply arrangement for body fitness machine that provides electricity to the lighting circuit of the instrument panel of the body fitness machine in an economic and efficient way.

[0002] 2. Description of the Related Art

The present invention provides an improved way to generate electricity from a human-powered body fitness machine. The present invention is different from the prior art in that it provides a more efficient and cost-effective method for generating electricity, specifically for lighting purposes.

[0003] The power supply for the lighting circuit of the instrument panel of a body fitness machine may be obtained by means: (1) power adapter, (2) battery pack, or (3) power generator. Obtaining power supply through a power adapter is not a convenient way. The arrangement of the adapter cable is also bothersome. Further, when a battery pack is used, the battery cell must be replaced with a new one when power is low. Frequently replacing the battery cell costs a lot. Further, when a power generator is used, the installation cost is high. Because conventional power generators commonly have a complicated structure and a big size, the use of a conventional power generator requires much installation space and cost.

SUMMARY OF THE INVENTION

[0004] The present invention has been accomplished under the circumstances in view. It is one object of the present invention to provide a power supply arrangement for body fitness machine that comprises permanent magnets movable with the flywheel of the body fitness machine relative windings at a stack silicon steel plates at the base frame of the body fitness machine for causing the windings to induce electric current for the working of the lighting circuit of the instrument panel of the body fitness machine.

[0005] Brief Description of the Drawings

[0006] FIG. 1 is an exploded view of the preferred embodiment of the present invention.

[0007] FIG. 2 is a perspective assembly view of the preferred embodiment of the present invention.

[0008] FIG. 3 is a schematic side view showing the power generating status of the preferred embodiment of the present invention.

[0009] FIG. 4 is a schematic front view showing the power generating status of the preferred embodiment of the present invention.

[0010] FIG. 5 shows another installation example of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0011] Referring to FIGS. 1-4, magnet holders 10 are fixedly mounted on the periphery of a flywheel 3 of a body fitness machine to hold permanent magnets 11. A rack 14 is fixedly mounted on the base frame 1 of the body fitness machine. Silicon steel plates 12 are arranged in a stack and mounted on the rack 14. Windings 13 are mounted on the silicon steel plates 12 and arranged at different elevations corresponding to the permanent magnets 11 at the magnet holders 10. The position of the silicon steel plates 12 can be adjustable relative to the rack 14 so that the gap between the windings 13 and the permanent magnets 11 is relatively adjusted.

[0012] According to the present preferred embodiment, the permanent magnets 11 are fastened to the periphery of the flywheel 3 by means of the magnet holders 10. Alternatively, the flywheel 3 may be made having recessed holes on the periphery for accommodating the permanent magnets 11.

[0013] Referring to FIGS. 1, 3 and 4 again, when the user pedals the driving wheel 2 of the body fitness machine to rotate the flywheel 3, the permanent magnets 11 are moved with the flywheel 3 relative to the windings 13 at the silicon steel plates 12, causing the windings 13 to induce electric current that is supplied to a lighting circuit of the instrument panel 4 of the body fitness machine.

[0014] If the gap between the windings 13 and the permanent magnets 11 is changed after a long use of the body fitness machine, the user can adjust the position of the silicon steel plates 12 on the rack 14 to further adjust the gap between the windings 13 and the permanent magnets 11 subject to the original design.

[0015] FIG. 5 shows another installation example of the present invention. According to this arrangement, the magnet holders 10 are fixedly mounted on one side of the flywheel 3 of the body fitness machine to hold permanent magnets 11, and the windings, referenced by 130, are arranged on the base frame 1 of the body fitness machine to act with the permanent magnets 11 at the magnet holders 10 for inducting electric current.

[0016] Although a particular embodiment of the invention has been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the spirit and scope of the invention. Accordingly, the invention is not to be limited except as by the appended claims.

What is claimed is:

1. A power supply arrangement installed in a body fitness machine having a flywheel pivotally mounted on a base frame and a driving wheel for pedaling by the user to rotate said flywheel, and adapted to generate electricity for a lighting circuit of an instrument panel of said body fitness machine, the power generating device comprising:
   a plurality of magnet holders fixedly mounted on said flywheel;
   a plurality of permanent magnets fixedly mounted in said magnet holders;
   a rack fixedly mounted on the base frame of said body fitness machine;
   a stack of silicon steel plates mounted on said rack; and
   a plurality of windings mounted on said silicon steel plates for acting with said permanent magnets to induce electric current upon rotation of said flywheel.

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