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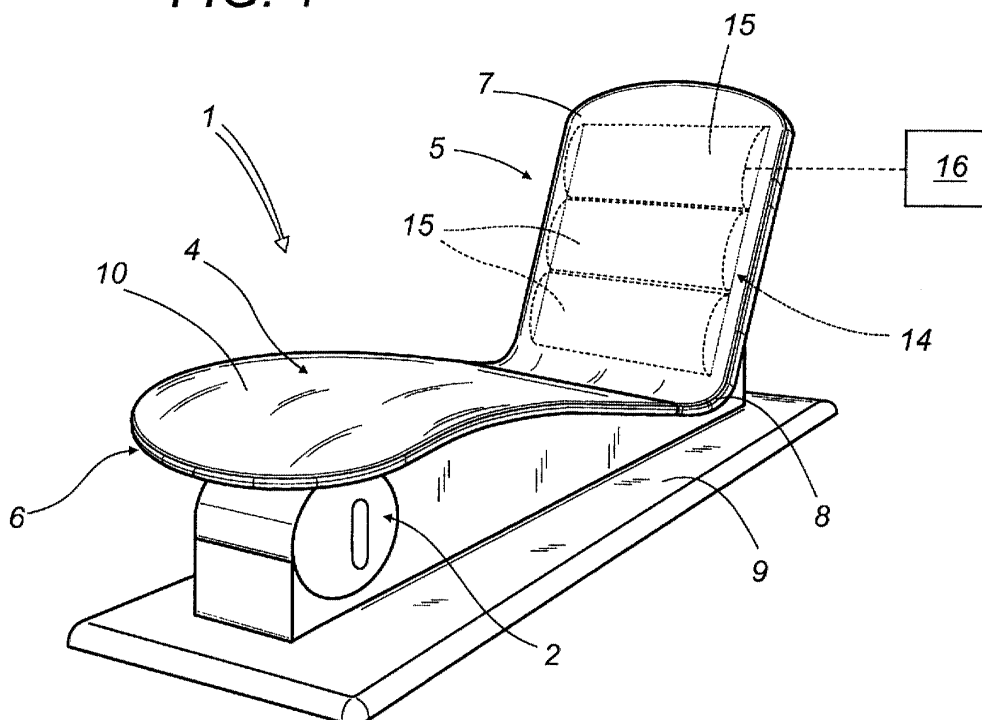
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(54) **An exercise machine**

(57) An exercise machine comprises an organ (2) able to be moved cyclically to exchange power with a user, interfacing means (3) between the movable organ (2) and the user to allow an exercise motion and means (4) for supporting the user for the exercise; the machine (1) comprises at least two portions (5, 6) connected to each other and mutually movable between two stable

configurations, respectively: non operative in correspondence with which the two portions (5, 6) define a furnishing structure to cover the movable organ (2) and the interfacing means (3) and operative, for exercising, in correspondence with which at least a portion (5, 6) makes active the movable organ (2) and the interfacing means (3).

FIG. 1



Description

[0001] The present invention relates to an exercise machine, in particular for home environments.

[0002] Currently, a series of exercise machines for physical training or re-education are available on the market, intended for use in the home environment (also known as "home fitness") or, in any case, outside the traditional gym or re-education centre.

[0003] Such machines, with particular reference to those known as cardiovascular (of particular interest in the present discussion), such as the classic "bike", the rower, the treadmill, etc., substantially descend, in their basic structure, from those made for gyms or re-education centres with few adaptations for their specific purpose, such as the possibility of removing some components or, alternatively, of reducing their bulk by means of folding one or more of the elements constituting the frame of the machine.

[0004] These structures, nonetheless, exhibit some drawbacks stemming from their poor functional and static convenience in small environments: i.e. the loss of spaces in the environments themselves (occupied by the machine) and the possible need to provide for their assembly and disassembly and/or displacement before and after the exercise session.

[0005] These drawbacks in home fitness machines determine both their limited distribution, and an inconsistent utilisation by the user, given the inconvenience of the shift from the non operative to the training configuration.

[0006] The aim of the present invention is to eliminate the aforementioned drawbacks by providing an exercise machine specifically studied for home environments, so structured as to integrate specifically in the environment whereto it is destined and with a high convenience of use for the user.

[0007] This aim is achieved thanks to a machine for physical exercise in home environment comprising an organ that is cyclically movable to exchange power with a user, interfacing means between the movable organ and the user in order to allow an exercise motion and means for supporting the user for the exercise; the machine in question comprises at least two portion connected to each other and mutually movable between two stable configurations, respectively: non operative, in correspondence with which the two portions define a furnishing structure to cover the movable organ and the interfacing means and operative, for exercising, in correspondence with which at least a portion makes active the movable organ and the interfacing means.

[0008] The technical features of the invention, according to the aforesaid means, can be clearly noted from the content of the claims set out below and its advantages shall become more readily apparent in the detailed description that follows, made with reference to the accompanying drawings, which show an embodiment provided purely by way of non limiting example, in

which:

- Figure 1 shows an exercise machine for training in home environments, in particular a bike, in a first non operative configuration and in perspective view;
- Figure 2 shows the exercise machine for training in home environments of Figure 1 in a second operative condition for exercising and in perspective view;
- Figure 3 shows the machine of the previous figures in a schematic lateral view;
- Figures 4, 5 and 6 show the machine of the previous figures in a succession of phases to allow the passage from the non operative configuration to the operative configuration, all figures are schematic lateral views.

[0009] In accordance with the figures of the accompanying drawings, and with particular reference to Figure 2, the subject exercise machine is designed for training in home environments, i.e. in environments not specifically destined for training (such as gymnasiums or re-education centres).

[0010] The subject machine, globally indicated with the reference number 1, essentially comprises an organ 2 able to be moved cyclically to exchange power with a user, interfacing means 3 between the movable organ 2 and the user in order to allow an exercise motion and, lastly, means 4 for supporting the user for the exercise.

[0011] The machine 1 illustrated in the accompanying drawings is of the "bike" type and it has been taken as an example the better to visualise the concept claimed herein, since the basic structure of the machines obtained by said concept can be of various types, such as other cardiovascular machines like step, rower, treadmill, etc.

[0012] As Figures 1 and 2 clearly show, the machine 1 structurally comprises at least two portions 5 and 6 connected to each other and mutually movable between two stable configurations, respectively:

- non operative, in correspondence with which the two portions 5 and 6 define a furnishing structure (in this case an easy chair) to cover the aforesaid movable organ 2 and interfacing means 3 and
- operative, for exercising, in correspondence with which at least one of the portions 5 and 6 makes active the movable organ 2 and the interfacing means 3.

[0013] More specifically, one of the portions, the one indicated as 5, is fixed, whilst the other portion 6 is movable between the aforementioned non operative, and respectively, operative exercising configurations.

[0014] Delving deeper into the technical details, in the case illustrated, purely by way of example, in Figures 1 through 6 the home environment bike comprises the aforementioned first portion 5 defining the support

means 4 comprising a backrest 7, a seat 8 and a base 9 for supporting said backrest 7 and seat 8.

[0015] The second portion 6 is, instead, defined by a leg rest 10 movable, through first actuating means 11, relative to the first portion 5 between the first operative configuration, in which the leg rest 10 is joined to the first portion 5 (i.e. to the seat 8 and to the backrest 7) to define, therewith, a seat - easy chair supported by the base 9 (see Figures 1, 3 and 4), and the second exercising configuration, in which the leg rest 10 is positioned away from the backrest 7 and from the seat 8 to define a free access area between the user and the aforesaid interfacing means 3 associated to the base-ment 9 (see Figures 2, 5 and 6).

[0016] The leg rest 10, moreover, can be provided with control means 12 to regulate power exchanges between the user and the aforementioned movable organ 2, which can be constituted by a mechanical brake or by an electromagnetic brake controllable by the user.

[0017] Said means 12 can be mounted or made accessible in the aforesaid exercising operative configuration of said leg rest 10.

[0018] Examining more closely the constructive details, the aforementioned interfacing means 3 can be constituted by a pair of pedals 3a (whereof one is visible in Figure 2) able to be associated to the base 9 and connectable to the aforementioned movable organ 2 in correspondence with the second operative configuration of the leg rest 10. Alternatively, the pedals 3a can be associated still to the base 9, but foldable towards it when the machine is in the non operative configuration (see arrow F of Figure 2).

[0019] Purely by way of example, the aforementioned means 11 for actuating the leg rest 10 comprise a guide 13 for the sliding of said leg rest 10 interposed and associated between the leg rest 10 and the base 9 in such a way as to allow the passage of the leg rest 10 from the non operative position, in which the leg rest 10 is in contact with the seat 8 to define an extension thereof (see Figures 1, 3 and 4), to the operative position, in which the leg rest 10 is removed and raised in substantially vertical position, subsequent to its sliding along the base 9 (see arrow F1 of Figure 5); obviously, to bring the leg rest 10 back to the non operative position it is sufficient to make it slide in the opposite direction to the one indicated with the arrow F1.

[0020] The two extreme positions assumable by the leg rest 10 can be stabilised by means of appropriate locking elements, not visible herein, to increase user safety both in the resting position on the seat - easy chair, and in the operative position for exercising.

[0021] In Figures 2 and 6, the aforementioned control means 12 are displayed with a command unit able to be associated to the upper end of the leg rest 10, in the raised position for exercising.

[0022] A further element that can be added to the machine thus structured can be that of inserting a massaging device 14, associated, for instance, to the backrest

7, in such a way as to be in contact with the user's back in positions specifically correlated with the anatomy of the latter part and to stimulate the anatomical part, or specific parts thereof, in ways that are correlated to the training exercise executable on the machine 1.

[0023] The massaging device 14 (shown only in dotted lines) can be constituted by a grid of independent pneumatic cushions 15, able to be pressurised and depressurised selectively by related operation and command means (for instance a suitable pneumatic circuitry, not shown herein), connected to appropriate command means 16 (defined by a block in the figure) or directly connected to the aforesaid means 12 for controlling the exercise machine.

[0024] An exercise machine so structured fully achieves the pre-set aims thanks to a series of components specifically designed to be easily integrated within a home environment and defining a veritable furniture item when not used for exercising purposes.

[0025] The active exercise parts are covered by actual furniture items which, during the exercising phase, also serve as auxiliary elements to enable the user to perform the exercise.

[0026] These components are easily and rapidly configurable between the non operative position and the operative position for exercising, thus allowing the user rapidly to set the machine without necessarily having to mount or displace any type of component of the machine.

[0027] The invention thus conceived can be subject to numerous modifications and variations, without thereby departing from the scope of the inventive concept. Moreover, all components can be replaced by technically equivalent elements.

Claims

1. An exercise machine (1), of the type comprising at least an organ (2) movable cyclically to exchange power with a user, interfacing means (3) between said movable organ (2) and said user in order to allow an exercise motion; means (4) for supporting said user for the exercise, said machine (1) being **characterised in that** it comprises:

- at least two portions (5, 6) connected to each other and mutually movable between two stable configurations, respectively:
- non operative, in correspondence with which said two portions (5, 6) define a furnishing structure to cover said movable organ (2) and said interfacing means (3) and
- operative, for exercising, in correspondence with which at least one said portion (5, 6) makes active said movable organ (2) and said interfacing means (3).

2. A machine as claimed in claim 1, **characterised in that** one said portion (5) is fixed and the other said portion (6) is movable between said non operative and, respectively, exercising operative configurations. 5

3. A machine as claimed in claims 1 and 2, **characterised in that** said first portion (5) defines said support means (4) comprising a backrest (7), a seat (8) and a base (9) for supporting said backrest (7) and seat (8); said second portion (6) being defined by a leg rest (10) that is movable, with first actuating means (11), relative to said first portion (5) between said first operative configuration, in which said leg rest (10) is joined to said first portion (5) to define, therewith, a seat - easy chair supported by said base (9), and said second configuration for exercising, in which said leg rest (10) is positioned removed from said backrest (7) and said seat (8) to define a free access area between said user and said interfacing means (3) associated to said base (9). 10 15 20

4. A machine as claimed in claim 3, machine (1) comprising control means (12) to regulate power exchanges between said user and said movable organ (2), **characterised in that** said leg rest (10) is provided with said control means (12) accessible in said operative exercising configuration of said leg rest (10). 25 30

5. A machine as claimed in claim 3, in which said interfacing means (3) are constituted by a pair of pedals (3a), **characterised in that** said pedals (3a) can be associated to said base (9) and connected to said movable organ (2) in correspondence with said second operative configuration of said leg rest (10). 35

6. A machine as claimed in claim 3, in which said interfacing means (3) are constituted by a pair of pedals (3a), **characterised in that** said pedals (3a) are associated to said base (9) and able to be folded towards it in said non operative configuration. 40

7. A machine as claimed in claim 3, **characterised in that** said means (11) for actuating said leg rest (10) comprise at least a guide (13) for the sliding of the leg rest (10) interposed and associated between the leg rest (10) and said base (9) in such a way as to allow the passage of said leg rest (10) from said non operative position, in which said leg rest (10) is in contact with said seat (8) to define an extension thereof, to said operative position, in which said leg rest (10) is removed and raised in substantially vertical position, subsequent to its sliding along said base (9). 45 50 55

8. A machine as claimed in claim 1, **characterised in that** it comprises at least a massaging device (14), associated to one of said portions (5, 6), in order to be in contact with one or more anatomical parts of the user in positions specifically correlated with the anatomy of his/her part placed in contact with said portions (5, 6).

9. A machine as claimed in claim 3, **characterised in that** it comprises at least a massaging device (14), associated at least to said backrest (7), in order to be at least in contact with the back of the user in positions specifically correlated with the anatomy of his/her part placed in contact with said backrest (7) and in order to stimulate said anatomical parts, or specific parts thereof, in correspondence with said operative position of said machine (1), in ways that are correlated with the training exercise executable on said machine (1).

10. A machine as claimed in claim 4, **characterised in that** said control means (12) comprise a command unit able to be associated to an end of said leg rest (10), placed in said, raised, operative position for exercising.

FIG. 1

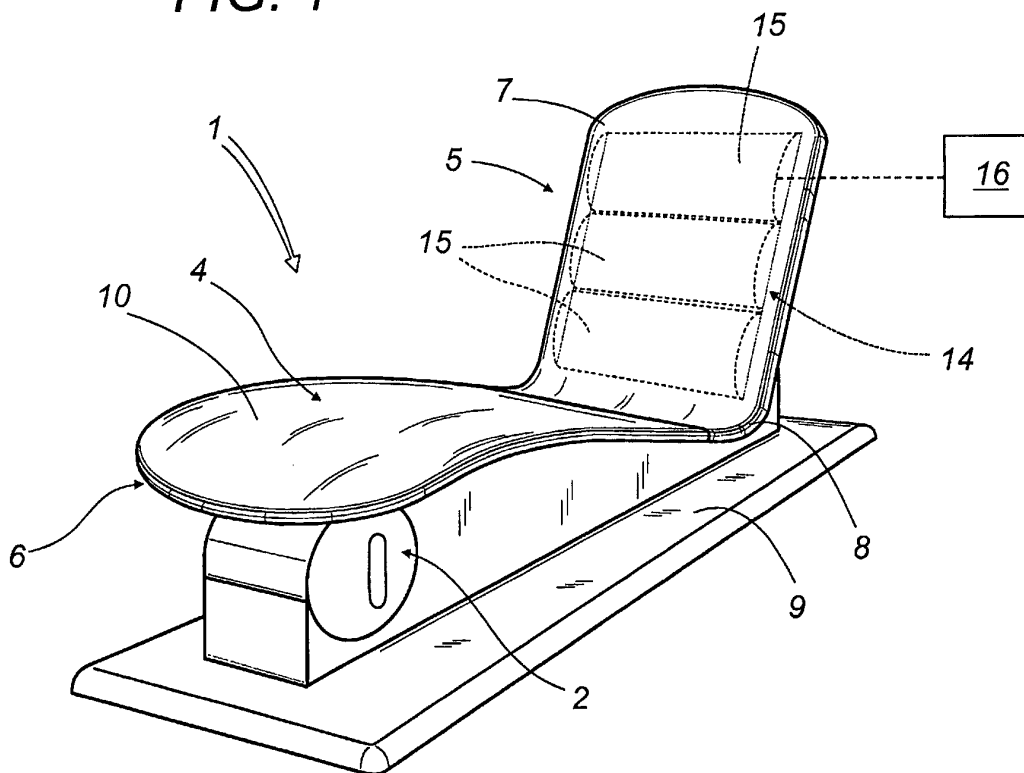


FIG. 2

