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

(11) **EP 1 958 674 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
20.08.2008 Bulletin 2008/34

(51) Int Cl.:
A63B 23/02 *(2006.01)* ***A63B 69/00*** *(2006.01)*
A63B 71/06 *(2006.01)*

(21) Application number: **08151416.8**

(22) Date of filing: **14.02.2008**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
Designated Extension States:
AL BA MK RS

(30) Priority: **16.02.2007 IT RA20070009**

(71) Applicant: **Technogym S.p.A.**
47035 Gambettola (Forli Cesena) (IT)

(72) Inventors:
- **Casagrande, Simone**
  47900, Rimini (IT)
- **De Angelis, Marco**
  67100, L'Aquila (IT)
- **Fabbri, Gianmatteo**
  47900, Rimini (IT)

(74) Representative: **Regnault de la Mothe, Hélène et al**
Roncuzzi & Associati S.r.l.
Via Antica Zecca, 6
48100 Ravenna (IT)

(54) **Gymnastic machine**

(57) A gymnastic machine (1) comprising a frame (10); load means (20) carried by the frame (10); at least an interface (30) designed to train at least a first body region (B1) of a user; a positioning device (40) being provided for placing and maintaining a second body region (B2) of the user in a given position (P1) relative to each interface (30) in order to optimise training of each first body region (B1) ; the positioning device (40) comprising at least a reference element (41) rigidly positioned with respect to the frame (10) to indicate univocally the given position (P1) for the given second body portion (B2).

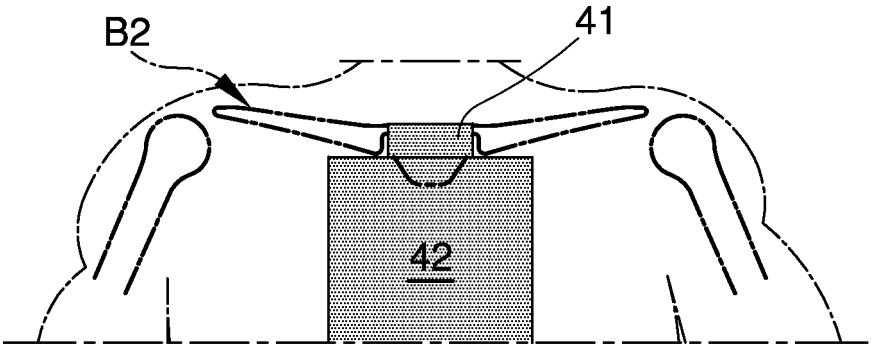

Fig. 3

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Description

[0001] The present invention relates to a gymnastic machine designed to train at least a given body region. In particular, the present invention relates to a gymnastic machine comprising at least a support member for supporting a body region. In more detail, the present invention relates to a gymnastic machine comprising at least a support member for supporting a body region and a positioning device for correct positioning of this body region with respect to the support member.

BACKGROUND TO THE INVENTION

[0002] In the field of gymnastic machines of the isotonic type, usable for training given body regions through involvement of given muscle groups, it is well known that the effectiveness of the performed exercise depends upon the posture of the user during the preparatory phase and during the execution of the exercise. Each machine is provided with regulating members for adjusting the position of seats and/or of supports for the breastbone and/or of other support members for supporting given body regions, and with graduated scales associated with these regulating members; however, only the most experienced users remember the reference values of the regulating members exactly and although the presence of mirrors in a gym or on the machine itself allows to monitor the progress of the exercise, it does not fully replace the use of a reference table or the advice of a fitness trainer to allow to assume the correct postures on the machines to be used during a training session.

[0003] It is well understood that an inexperienced user or a user not provided with the table with the notes drawn up by a trainer, or simply an experienced user who approaches a new machine, could have operating problems and could risk injuries for having incorrectly set the adjustments of the seats or of the different supports.

[0004] In view of the above description, this situation does not appear satisfactory; furthermore, the problem of allowing a precise adjustment also in the absence of information supplied by third parties who assist the user in given times shall be solved in an organic manner, so that even when changing implements and therefore relative references, each user is capable of adjusting each gymnastic machine he or she intends to use. This would contribute toward removing the barriers that make it difficult to set up gym circuits equipped with machines of different type, which would facilitate spreading of the practice of sporting activities also among those who are obliged to move from one town to another in their daily work.

[0005] In view of the situation described above, it would be desirable to have available a gymnastic machine which, in addition to enabling to limit and possibly to overcome the typical drawbacks of the art illustrated above, could define a new standard for gymnastic machines of the isotonic type, regardless of whether these are machines with a weight stack or with free weights.

SUMMARY OF THE PRESENT INVENTION

[0006] The present invention relates to a gymnastic machine designed to train at least a given body region. In particular, the present invention relates to a gymnastic machine comprising at least a support member for supporting a body region. In more detail, the present invention relates to a gymnastic machine comprising at least a support member for supporting a body region and a positioning device for positioning this body region correctly, relative to the support member.

[0007] The object of the present invention is to provide a machine that allows the disadvantages described above to be solved, and which is suitable to satisfy a plurality of requirements that to date have still not been addressed, and therefore, suitable to represent a new and original source of economic interest and capable of modifying the current market of gymnastic machines.

[0008] According to the present invention, a gymnastic machine is provided, whose main characteristics are described in at least one of the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] Further characteristics and advantages of the gymnastic machine according to the present invention will be more apparent from the description below, set forth with reference to the accompanying drawings, which illustrate some nonlimiting examples of embodiment, in which identical or corresponding parts of the device are identified by the same reference numbers. In particular:

- figure 1 is a schematic front view of a gymnastic machine according to the present invention;
- figure 2 is a rear view of figure 1 in use in enlarged scale with some parts removed for the sake of clarity;
- figure 3 is a rear view of a variant of figure 1 in use in enlarged scale with some parts removed for the sake of clarity;
- figure 4 shows a variant of figure 1 in enlarged scale with some parts removed for the sake of clarity; and
- figure 5 shows a detail extracted from figure 4 in side elevation view in two distinct conditions of use.

DETAILED DESCRIPTION OF THE PRESENT INVENTION

[0010] In figure 1, number 1 indicates, in its entirety, a gymnastic machine 1 comprising a frame 10; a load group 20 carried by the frame 10; at least an interface 30 designed to train at least a given first body region B1 of a user; a positioning device 40 designed for placing and maintaining a second body region B2 of the user in a given position P1, in which this body region B2 is arranged, with respect to each interface 30, in such a way

as to enable the user to optimise the training of each first body region B1; the positioning device 40 comprising at least a reference element 41 rigidly positioned relative to the frame 10 in order to indicate univocally the given position P1 that the second body region B2 shall assume and maintain during training.

[0011] For the sake of convenience, the present invention is illustrated with reference to a gymnastic machine with free weights of the chest press type, because of its high structural simplicity, without this being considered an implicit expression of a desire to limit the scope of the present invention. Moreover, to fortify the idea that the following can be applied to any gymnastic machine of the isotonic type with a weight stack or with free weights, the body regions to be trained and that of reference for the exercise, have always been defined generically, and indicated in the figures with B1 and B2 respectively, without entering into the detail of the nature of these parts, even in the case of the chest press of the accompanying figures, in which the pectoral and lumbar regions are represented.

[0012] This positioning device 40 comprises a bearing member 42 carried rigidly by the frame 10 and provided with a reference element 41 for the second body region B2; furthermore, the positioning device 40 comprises a bearing member 44 coupled to the frame 10 in a selectively adjustable manner along at least one given direction D1 and arranged to position and maintain the respective second body region B2 facing and/or in contact with the reference element 41. In particular, the bearing member 42 comprises a backrest 42 carried rigidly by the frame 10, and the bearing member 44 comprises a seat 44 carried by the frame 10, the direction D1 is usually oriented vertically and therefore the seat 44 is carried by the frame 10 in a vertically adjustable manner. This allows the second body region B2 to be placed rigidly in a neighbourhood of given width of the reference element 41, as shall become more readily apparent from the description below. In fact, the seat 44 is carried by the frame 10 by means of a bar 60 provided with a plurality of abutments positioned stepped so that the position of the seat 44 is vertically adjustable according to multiples of a linear step LS of given extension L. In this regard, the reference element 41 presents vertical extension L1 which approximates in excess the given extension L of the step LS. Otherwise it would be impossible to make the position of the second body region B2 coincide with the correct level of the reference element 41.

[0013] According to figure 1, each reference element 41 comprises a label 41 with different chromatism from the colour of the bearing member in order to be visually recognisable; in particular, each label 41 is yellow. It should be noted that each label 41 shall be visible by the user who is already sitting on the seat 44, and therefore it shall be positioned in an adequate manner to project from the part on which the second body region B2 rests on the backrest 42 as shown for example in figure 1. Figures 2 and 3 show examples of seats 42 provided with labels 41 positioned in different points based on the need to refer different second body regions B2.

[0014] In figure 4 a different embodiment of the reference element 41 is visible, according to which each reference element 41 comprises a retractable member 50 carried movable by the bearing member 42 between an extracted position PE (visible in figure 5), in which the retractable member 50 is suitable to define a projection that can be felt by the body region B2 for the purpose of facilitating optimisation of the positioning thereof, and a back position PA (visible in the same figure 5), in which it is fully contained inside the bearing member, and therefore cannot be felt by the second body portion B2 which will be deprived of a physically detectable reference.

[0015] It should be specified that the retractable member 50 is delimited longitudinally by a feeler 52, operatable through an actuating device 46 of the mechanical, electromechanical and/or electromagnetic type based on design choices that lie outside the content of this patent application, and which are purposely omitted. Furthermore, the commutable nature of the retractable member allows to repeat at will the phase of positioning the second body region B2, phase during which the retractable member 50 is in the respective extracted position, for example in the case of wishing to check whether the positioning of the second body region B2 is still correct following a first part of the training.

[0016] Operation of the gymnastic machine 1 is easily understood from the description above and requires no further explanations. Nonetheless, it should be advisable to specify that through the gymnastic machine 1 it is possible to implement a training method in which the phase of correctly setting one's position on the machine to be used in a training session is facilitated, due to the alternative or combined presence of the label 41 and/or of the feeler 52.

[0017] In particular, the method comprises a phase of carrying the second body region B2 to face or into contact with the reference element 41, and a subsequent phase of adjusting in height the seat 44 so as to maintain the second body region B2 stably facing and/or in contact with the reference element 41. The phase of carrying the second body region B2 to face and/or in contact with the reference element 41 comprises a phase of carrying the feeler 52 in a respective extracted position PE by means of a linear actuating device 46 in such a way as to make the feeler 52 detectable by the second body region B2. Furthermore, the phase of carrying the feeler 52 in a respective extracted position is followed by a phase of carrying the feeler 52 in a back position PA by means of the linear actuating device 46.

[0018] Lastly, it is apparent that modifications and variants can be made to the gymnastic machine 1 and to the respective positioning device 40, without however departing from the protective scope of the present invention.

[0019] In view of the above description, each reference element 41, and therefore the yellow label 41 or the feeler

52, respectively becomes the only universal reference for adjusting the position of the second body region B2 of users of different sizes. This allows to eliminate from the machines all graduated scales for adjustment in height of seats or other support members and to keep in mind the reference value to be set on each of the gymnastic machines to be used in succession during a training session.

[0020] In view of the above description, the gymnastic machine 1, and in particular the particular embodiments of the reference elements 41, allows to adjust exactly the position of the body region B2 even in the absence of information supplied by third parties who assist the user in given times; this allows always to position the respective first body region B1 in the most correct position for the execution of a given gymnastic exercise, regardless of the machine with which one decides to operate.

Claims

1. A gymnastic machine (1) comprising a frame (10); load means (20) carried by said frame (10); at least an interface (30) designed to train at least a given first body region (B1) of a user; positioning means (40) provided for placing and maintaining a second body region (B2) of said user in a given position (P1) relative to each interface (30) in order to optimise training of each said given first body region (B1); **characterised in that** said positioning means (40) comprise at least a reference element (41) rigidly positioned with respect to said frame (10) to indicate univocally said given position (P1) for said given second body region (B2).

2. A machine according to claim 1, **characterised in that** said positioning means (40) comprise a bearing member (42) carried rigidly by said frame (10) and presenting said reference element (41).

3. A machine according to claim 2, **characterised in that** said positioning means (40) comprise a bearing member (44) coupled to said frame (10) in a selectively adjustable manner along at least a given direction (D1) and arranged to position and maintain said respective second body region (B2) facing and/or in contact with said reference element (41).

4. A machine according to claim 3, **characterised in that** said bearing member (42) comprises a backrest (42) carried rigidly by said frame (10); said bearing member (44) comprising a seat (44) carried by the frame (10) in a vertically adjustable manner, so that said second body region (B2) can be placed rigidly vertically in a neighbourhood of said reference element (41).

5. A machine according to claim 4, **characterised in that** said seat (44) is carried by said frame (10) in a manner adjustable according to multiples of a linear step (LS) of given width (L) and **in that** said reference element (41) presents vertical extension which approximates in excess said given extension (L) of said step (LS).

6. A gymnastic machine according to any of claims 2-5, **characterised in that** said reference element (41) comprises a label (41) chromatically different from said bearing member in order to be visually recognisable.

7. A machine according to claim 6, **characterised in that** said label (41) is yellow.

8. A gymnastic machine according to any of claims 2-5, **characterised in that** said reference element (41) comprises a retractable member (50) carried movable by said bearing member (42) between a forward position, in which it is suitable to define a projection, and a back position, in which it is fully contained inside said bearing member, in such a way as to act as reference selectively physically detectable through contact by said second body region (B2) for the purpose of facilitating optimisation of the positioning thereof.

9. A machine according to claim 8, **characterised in that** said retractable member (50) is operatable by means of a mechanically operatable actuating device (46).

10. A machine according to claim 8, **characterised in that** said retractable member (50) is operatable by means of an electromechanically and/or electromagnetically operatable actuating device (46).

11. A machine according to any one of claims 8-10, **characterised in that** said retractable member (50) is longitudinally delimited by a feeler (52).

12. A method for positioning and maintaining stably a third body region (B2) in a given position (P1) relative to a reference element (41) fixed in the gymnastic machine (1) described with reference to any one of claims 1-11, which is designed for training a given fourth body region (B1); said method being **characterised by** comprising a phase of carrying said given third body region (B2) to face and/or into contact with said reference element (41), and a subsequent phase of adjusting in height said seat (44) so as to maintain said third body region (B2) stably facing and/or in contact with said reference element (41).

13. A method according to claim 12, **characterised in that** said phase of carrying said third given body region (B2) to face and/or into contact with said refer-

ence element (41) comprises a phase of carrying a feeler (52) in a respective extracted position (PE) by means of a linear actuating device (46) in such a way as to make said feeler (52) detectable by said third body region.

14. A machine according to claim 13, **characterised in that** said phase of carrying said feeler (52) in a respective extracted position is followed by a phase of carrying said feeler (52) in a back position (PA) by means of said linear actuating device (46).

Fig. 2

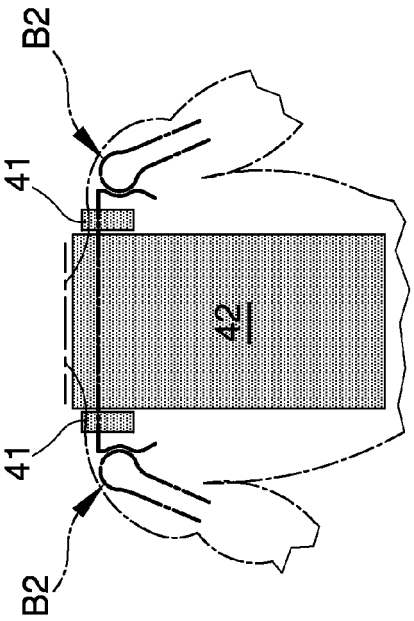


Fig. 3

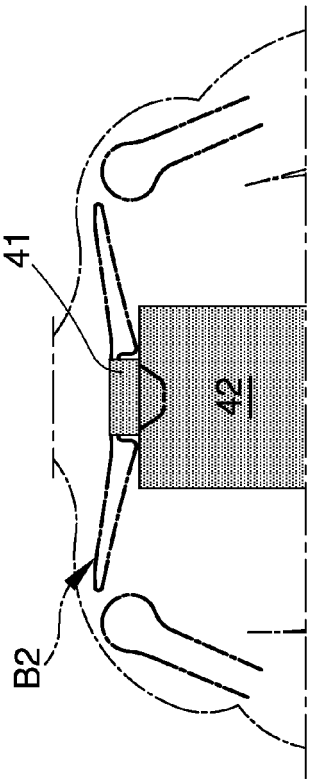
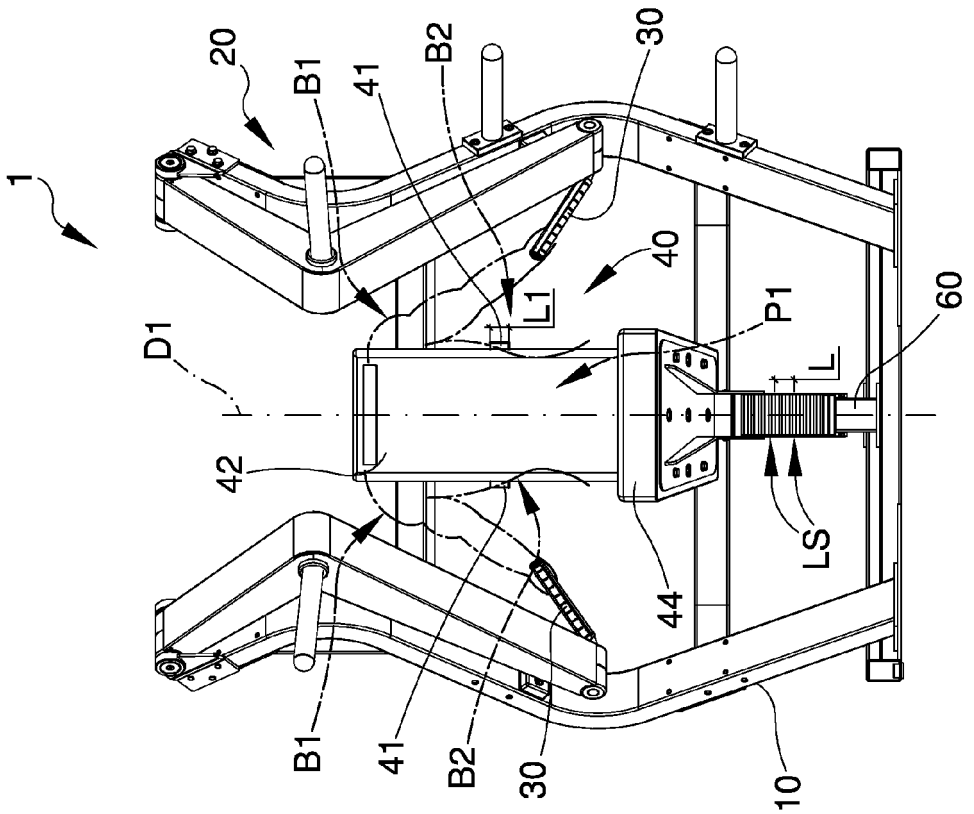


Fig. 1



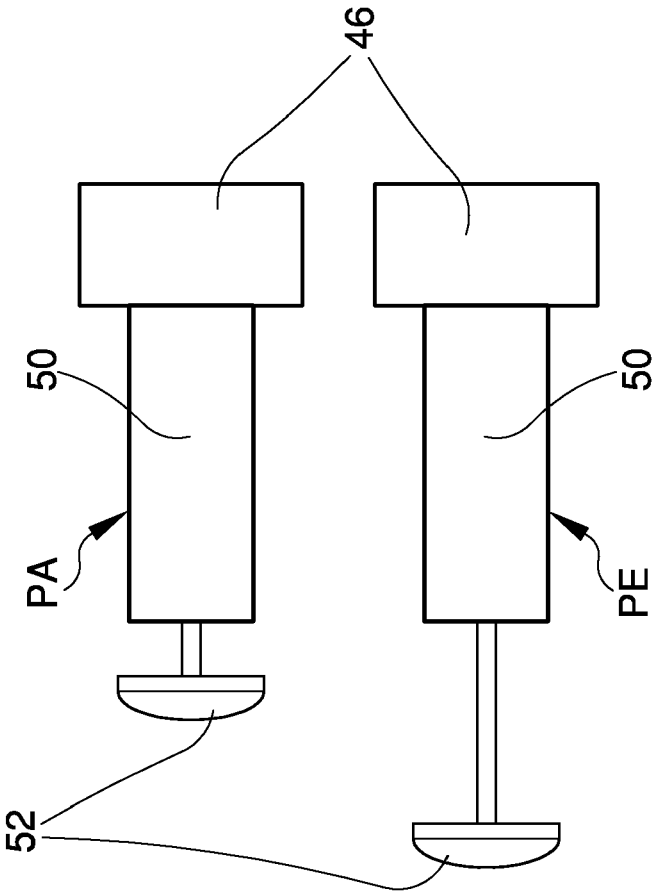


Fig. 5

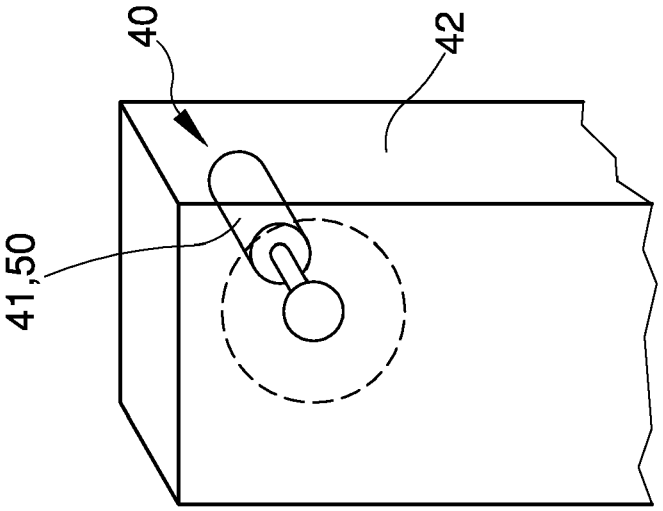


Fig. 4

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 08 15 1416

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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
Munich	19 June 2008	Squeri, Michele

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 08 15 1416

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