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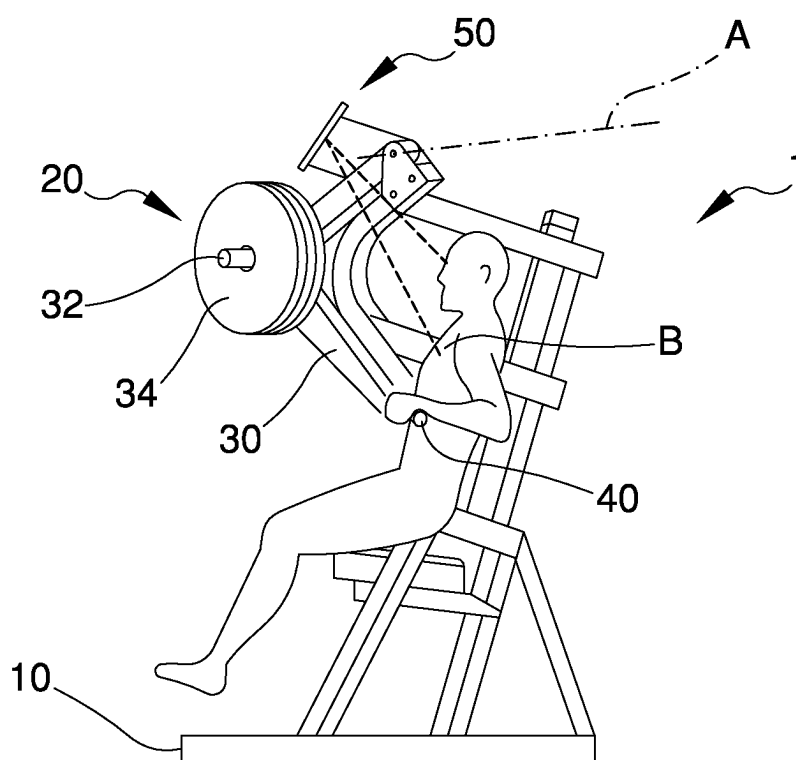
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(54) **Gymnastic machine**

(57) A gymnastic machine (1) comprising a frame (10), a load group (20) carried by the frame (10), at least an interface (30) connected to the frame (10) in a given manner to be operatable against the resistance of the load group (20) by a user positioned posturally in a given

manner to mobilise a given respective body region (B); a monitoring device (50) being carried by the frame (10) in order to allow, in use, the user to view methods of mobilising his/her own body region (B) with substantially unchanged posture, in order to optimise this method of mobilisation.

Fig. 1



Description

[0001] The present invention relates to a gymnastic machine for training at least a muscle region. In particular, the present invention relates to a gymnastic machine for training at least a muscle region through the use of a gymnastic implement. In more detail, the present invention relates to a gymnastic machine for training at least a muscle region through the use of a gymnastic implement, provided with a control device effectively usable to evaluate and if necessary correct the methods of use and of interaction with this implement.

BACKGROUND TO THE INVENTION

[0002] Each human activity is linked with the adoption of postures and with the execution of movements, some of which are executed more frequently than others and are therefore learned easily starting from infancy, so that they can even be executed absent-mindedly in a substantially automatic manner and such as to distinguish the style of a person. On the other hand, it can occur that postures and movements are not always learned in the correct manner and therefore it may be necessary to execute corrective exercises to modify one's postures and the methods with which the movement must be performed. Naturally, among the postures and the movements that it is advisable to learn and assimilate correctly there can also be those that are adopted/performed while training on gymnastic machines. It is known that these machines were originally produced for training given muscle regions through the repetition of given gestures, which are normally illustrated by trainers during the first training sessions on the machines, minimising the probabilities of injuries and which, at times, are learned by users directly with use. It should be noted that in the last years the development of the so-called functional machines has introduced training to the execution of complex movements, of the type used in sport or which simulate movements typical of given working activities, with which there is associated the involvement of a plurality of muscle regions. Naturally, these machines are particularly useful in the last phases of rehabilitation therapy following a traumatologically relevant event.

[0003] In all these cases, the effort of imitating a movement learned watching a video or by consulting specialised texts, or recommended by a physician or a specialised paramedic, or through the continuous presence of a trainer, ensures that the gymnastic exercises executed on the machines described above are performed correctly, coherently with the types of articulations and muscle regions involved, and subjected to the application of efforts that one is capable of balancing. It is easily understood that only in the case in which a trainer is constantly present it is possible to minimise and substantially eliminate the risk of torn muscles and injuries in general. On the other hand, the continuous assistance of a trainer or of an assistant is very costly and at times is unavailable

for objective reasons; therefore, not everyone is able to benefit from the vigilant monitoring of an expert.

[0004] The need to rethink the prevention of injuries among the users of gymnastic machines has led to a solution with minimum economic impact which allows these users to monitor their methods of executing each exercise, and therefore makes them more responsible, reducing learning times; this solution provides for the installation of mirrors on the walls of gyms, to allow monitoring of one's postures and of the movements executed, and the consequent feedback, in real time. On the other hand, this choice appears unsatisfactory, mainly due to the fact that in gyms the intensive use of the space available must be maximised, and therefore the gymnastic machines must be positioned both in the neighbourhood of the walls, and therefore directly facing the mirrors, and toward the centre of the fitness rooms, therefore side by side with other gymnastic machines and therefore only partly facing these mirrors, with the result that the users of these machines are decidedly at a disadvantage, and that these machines are normally avoided by those who have only recently started to train on gymnastic machines. In any case, it should not be underestimated that, at times, the orientation of the gymnastic machines is influenced by the plan shape of the machines and by the methods of access, as well as by the degree of saturation of the available space; therefore, there are frequent situations in which the mirrors facing the machines are not accessible to the view of a user training due to a lack of relative orientation.

[0005] In view of the above description, this situation also seems susceptible to improvement: furthermore, the problem of how to set up gymnastic machines inside fitness rooms to facilitate monitoring of the training methods cannot be an acceptable limitation, given that the cost of these implements is unrelated to the possibility of placing these machines in front of a mirror.

[0006] The solution of the problem described represents an interesting challenge for the applicant in order to make the positioning of gymnastic machines unrelated to the type of machines and to the installation limitations correlated with the availability of space in each gym.

[0007] In view of the above description, 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 the gymnastic machines and, in particular, make it possible for the users of each machine to monitor the method of execution of the gymnastic exercises and release the managers of gyms from the need to equip the walls of the gyms with mirrors and to position the machines as much as possible in proximity to these mirrors.

SUMMARY OF THE PRESENT INVENTION

[0008] The present invention relates to a gymnastic machine for training at least a muscle region. In particular,

the present invention relates to a gymnastic machine for training at least a muscle region through the use of a gymnastic implement. In more detail, the present invention relates to a gymnastic machine for training at least a muscle region through the use of a gymnastic implement, provided with a control device effectively usable to evaluate and if necessary to correct the methods of use and of interaction with this implement.

[0009] An object of the present invention is to provide a gymnastic 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.

[0010] According to the present invention, a gymnastic machine is provided, whose main characteristics are described in at least one of the appended claims.

[0011] A further object of the present invention is to provide a monitoring device for gymnastic machines, which is effectively usable to allow users to monitor their methods of using these gymnastic machines.

[0012] According to the present invention, a monitoring device for gymnastic machines is also provided, which is effectively usable to allow users to monitor their methods of using these gymnastic machines, and the main characteristics of said monitoring device will be described in at least one of the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] 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 at least one non-limiting example of embodiment, in which identical or corresponding parts of the device are identified by the same reference numbers. In particular:

- figure 1 is a lateral elevation view of a gymnastic machine according to the present invention;
- figure 2 is a schematic perspective view from a point of view positioned at the rear and in enlarged scale of figure 1; and
- figure 3 shows a variant of figure 2.

DETAILED DESCRIPTION OF THE PRESENT INVENTION

[0014] In figure 1, number 1 indicates, in its entirety, a gymnastic machine 1 comprising a frame 10, load means 20 carried by the frame 10, at least an interface comprising a lever 30 pivoted to the frame 10 around a pivot axis A to be operatable in a freely rotatable manner against the resistance of the load means 20 by a user posturally positioned in a given manner in order to actuate an implement 40 rigidly connected to the lever 30 to mobilise

or train a respective given body region. This machine 1 comprises a monitoring device 50 carried by the frame 10 in order to allow, in use, viewing of the methods of mobilising at least a given body region B by the user, allowing the user to perform this viewing continuously, while maintaining his or her given posture substantially unchanged. Naturally, the body region B comprises the muscle regions used in the execution of the training movement and the object of this viewing is to optimise one's method of using the machine 1 and, in particular, optimise one's method of mobilising the body region B adapting it to the teachings received. In the attached figures the present invention has been shown with reference to a machine of the plate loaded type, but only to facilitate representation. For this reason, the respective load device 20 comprises disks 34 carried by supports 32 carried by the levers 30. In particular, the machine in question is of the "chest press" type, and thus usable for training of a body region B comprising the pectoral muscles.

[0015] To this end, the monitoring device 50 comprises a display tool 52 carried by the frame 10 in a position facing the body region B, and in figure 2, by a C shaped bracket 12 carried by the frame 10 and situated in front of and above the user in order to facilitate direct viewing of the body region B. In particular, this bracket 12 supports a display element 54 in a position facing, frontally or laterally, the face of a user posturally positioned in the given manner.

[0016] This display element 54 comprises a reflecting body 54, which can be easily constructed through a mirror or a mirror polished metallic foil, if necessary provided with a visual reference 55, for instance a grid as shown in figure 2. It should be noted that this reflecting body 54 presents extension sufficient to allow viewing of the posture adopted by the user while performing the training exercise.

[0017] The bracket 12 may or may not be orientable, and this allows users of different sizes to adjust the orientation of the reflecting body 54/of the grid 55, so that the given body region B is effectively visible during execution of the gymnastic exercise. Furthermore, it should be specified that also falling within the scope of protection of the present invention are mirrors 54 carried laterally, relative to the face of a user, by the frame 10 or by a fixed projecting part applied to this latter, provided that each mirror 54 is usable to view body regions of the user in training that are relevant in order to increase the efficiency of this training.

[0018] Lastly, it is apparent that modifications and variants can be made to the gymnastic machine 1 and to the respective monitoring device 50, without however departing from the protective scope of the present invention.

[0019] For example, according to an easily constructible variant visible in figure 3, the monitoring device 50 may comprise at least a first screen 56 carried by the frame 10, and the display tool 52 may comprise a device 58 for video filming electronically connected to the first

screen 56 for transmitting information. The use of an electronic exchange 60 would allow the images filmed by the member 58 to be available remotely through at least a second screen 57, for example placed in a control booth 62 in which a single trainer could monitor the activity of a plurality of users and interact remotely with them through an audio channel managed by the same electronic exchange 60. Naturally, also included in the present invention is the case in which the electronic exchange 60 allows management on a single remote screen 64 of the images coming from a plurality of devices 58 associated with respective gymnastic machines 1, through the use of information technology of sharing the same screen 64 based on a management system known, and therefore not shown, and usable through a keyboard 65. Naturally, the grid 55 could also be obtained on at least one of the screens 56, 57 e 64.

[0020] In view of the above description, availability of gymnastic machines provided with the monitoring device 50 allows to solve the problem of how to set up fitness rooms and allow each user to monitor his or her method of training on gymnastic machines and to learn more rapidly the correct methods of using these machines and of stimulating the different muscles regions. Furthermore, it should be kept in mind that the possibility of checking the method of execution of the movement and the correct positioning of the articulations with respect to the pivots of the machine is known to increase the level of gratification and motivation of the users of gyms, and in particular of body building enthusiasts.

[0021] It is well understood that the installation of such device could define a new standard for the gymnastic machines that would allow the managers of gyms to personalise the walls of these gyms as desired without however limiting the contents made available to the users. Moreover, it should not be underestimated that the installation of mirrors of adequate size on the walls presents high costs which the use of fitness machines such as the gymnastic machine 1 described above would allow to reduce considerably.

Claims

1. A gymnastic machine (1) comprising a frame (10), load means carried by said frame (10), at least an interface (30) connected to said frame (10) in a given manner to be operatable against the resistance of said load means (20) by a user positioned posturally in a given manner to mobilise a given respective body region (B); **characterised by** comprising monitoring means (50) carried by said frame (10) to allow, in use, said user to view methods of mobilising said body region (B) with substantially unchanged posture, in order to optimise this method of mobilisation.
2. A gymnastic machine according to claim 1, **characterised in that** said monitoring means (50) comprise a display device (52) carried by said frame (10) in a given position by means of a bracket (12) to present a display element (54) in a position facing the face of a user positioned posturally in said given manner.
3. A machine according to claim 2, **characterised in that** said display device (52) comprises a reflecting body (54).
4. A machine according to claim 3, **characterised in that** said reflecting body (54) comprises a mirror (54).
5. A machine according to claim 3, **characterised in that** said reflecting body (54) comprises a mirror polished metallic foil (54).
6. A machine according to claim 2, **characterised in that** said display element (54) comprises at least a first screen (56) carried by said frame (10) and **in that** said display device (52) comprises a device (58) for video filming electronically connected to said first screen (56).
7. A machine according to claim 6, **characterised in that** said monitoring means (50) comprise at least a second screen (57) electronically connected to said device (58) for video filming to remotely monitor methods of execution of mobilisation.
8. A machine according to claim 5, **characterised in that** said reflecting body (54) presents a visual reference (55) substantially grid shaped.
9. A monitoring device for a gymnastic machine described with reference to any one of claims 1-8, said monitoring device (50) being **characterised by** being designed in such a manner as to be installed on said frame (10) so as to allow said user to monitor methods of mobilising a given body region (B) maintaining a substantially unchanged posture, in order to optimise this method of mobilisation.
10. A monitoring device according to claim 9, **characterised by** comprising a display device (52) carried by said frame (10) in a given position through a bracket (12) to present a display element (54) in a position facing the face of a user positioned posturally in said given manner.
11. A monitoring device according to claim 10, **characterised in that** said display device (52) comprises a reflecting body (54).
12. A monitoring device according to claim 11, **characterised in that** said reflecting body comprises a mirror (54).

13. A monitoring device according to claim 12, **characterised in that** said reflecting body (54) comprises a substantially mirror polished metallic foil (54).
14. A monitoring device according to claim 9, **characterised in that** said display element (54) comprises at least a first screen (56) carried by said frame (10), and **in that** said display device (52) comprises a device (58) for video filming electronically connected to said screen. 5 10
15. A monitoring device according to claim 14, **characterised by** comprising at least a second screen (57) electronically connected to said device (58) for video filming to remotely monitor methods of execution of mobilisation. 15

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Fig. 1

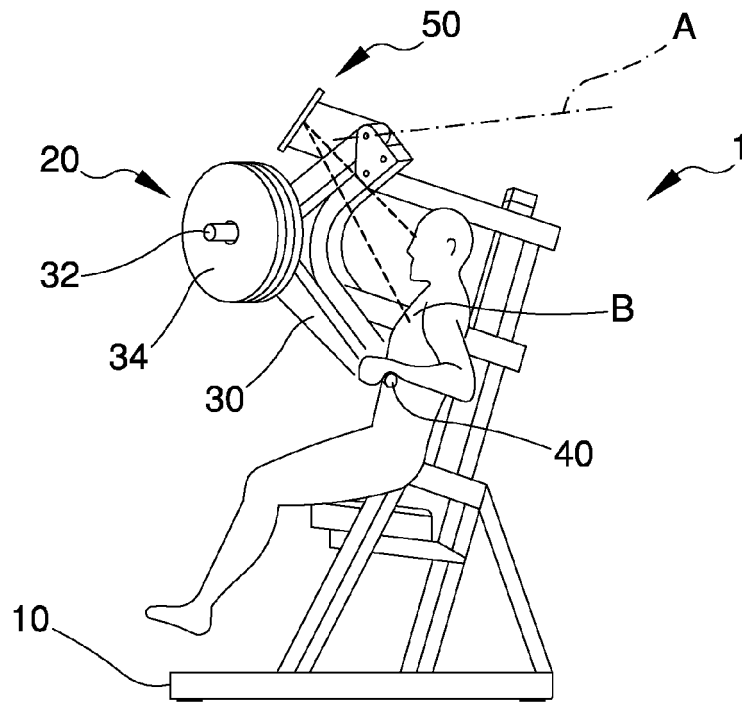
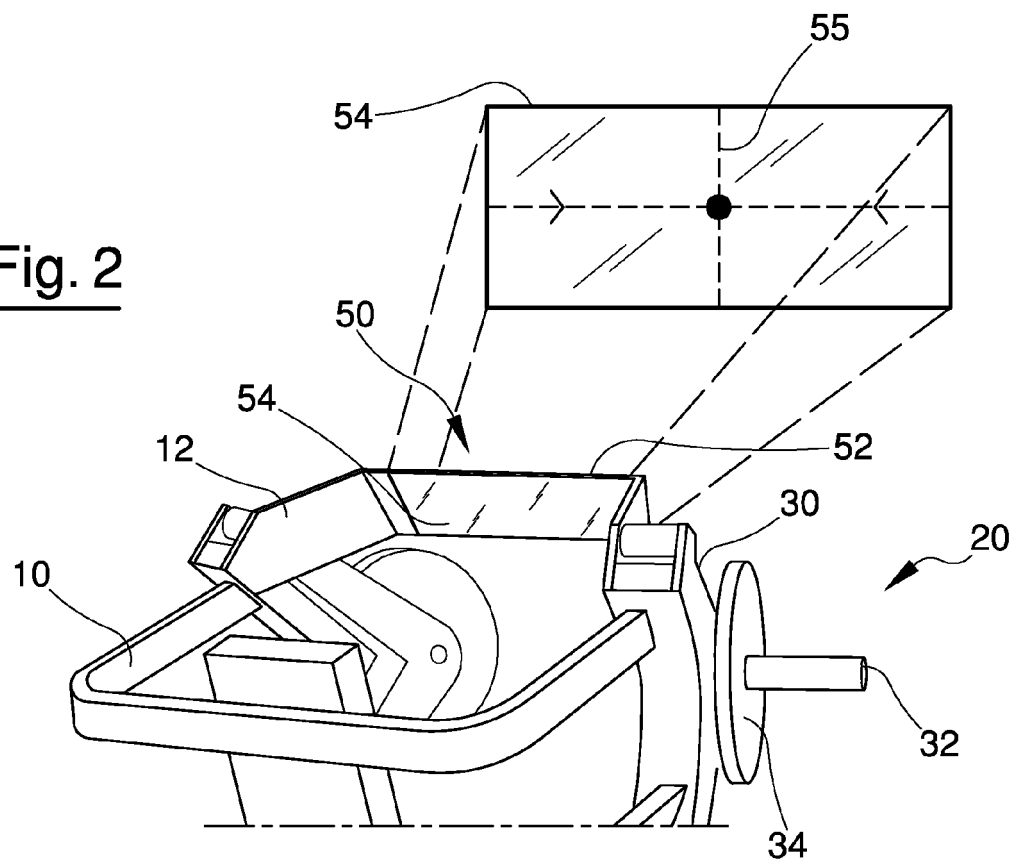


Fig. 2



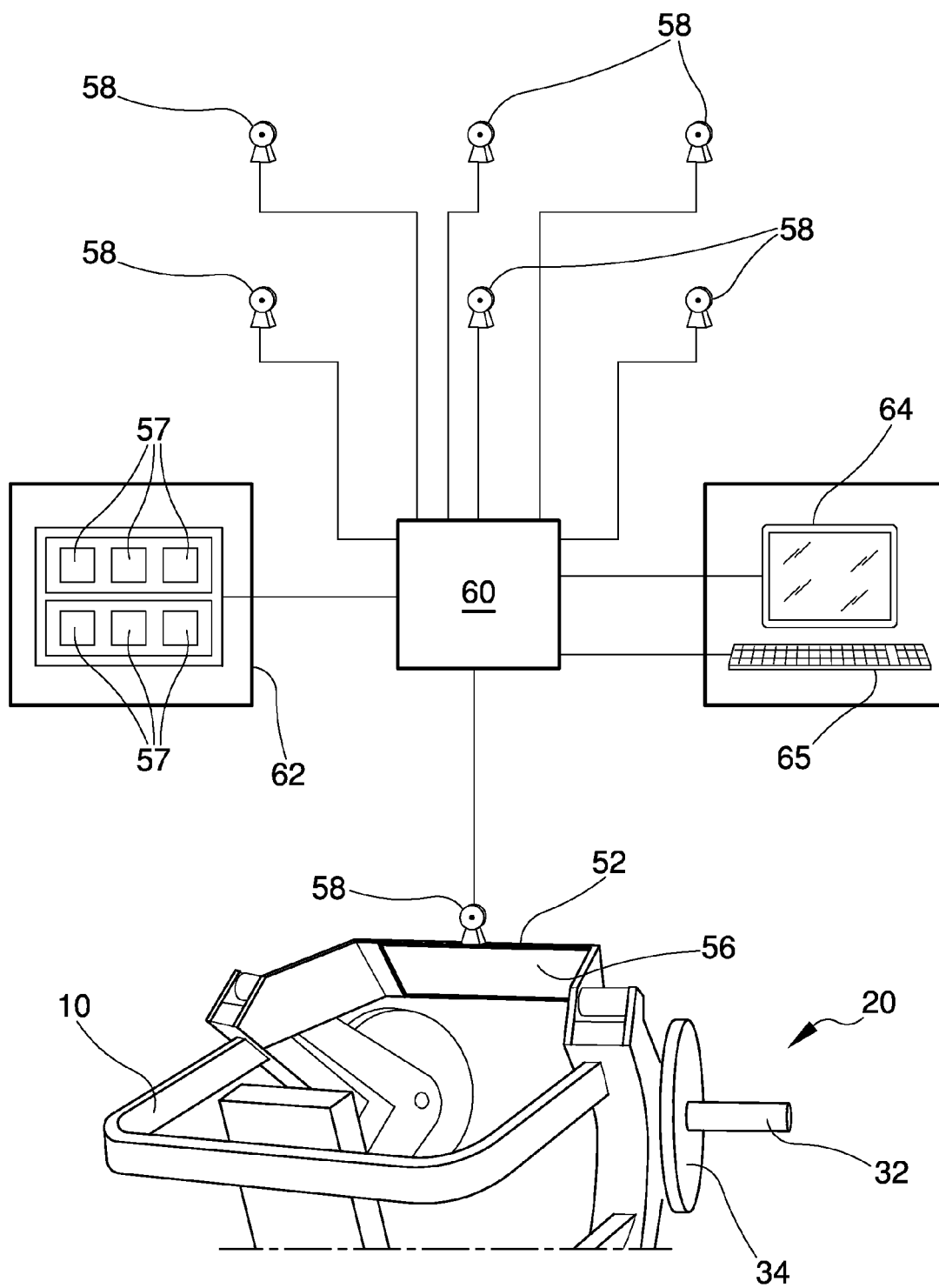


Fig. 3



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 08 15 1445

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Place of search Munich		Date of completion of the search 26 May 2008	Examiner Squeri, Michele
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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