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(54) **Exercise bench**

(57) Home Fitness Equipment can be used for doing exercises either weight lifting on bench with structure in

horizontal position or exercises for the development of abdominal muscles on bench with tilted structure.

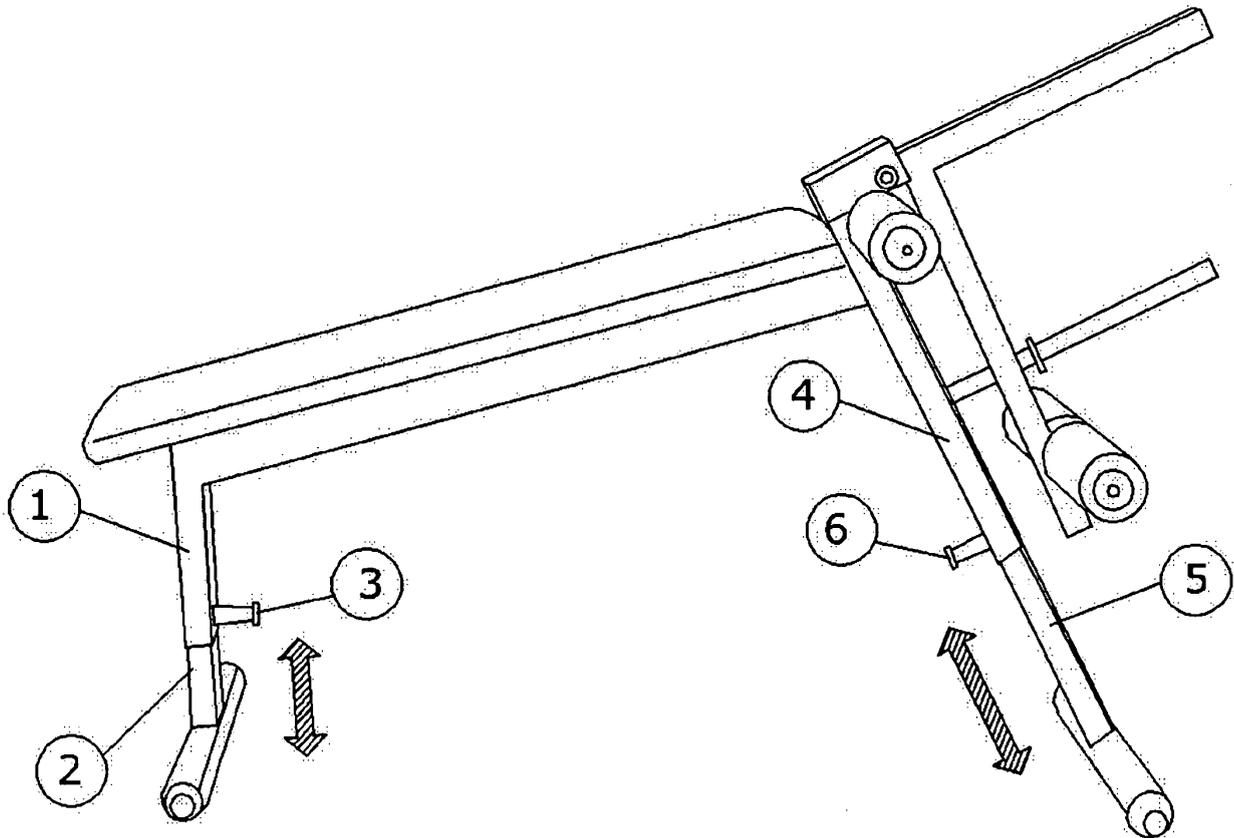


fig. 2

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Description

[0001] Fitness means always health and body activities. Fitness doesn't mean only to be in shape but also and mainly to think of own health. As regards of all wellness studies, nobody can refute that it's of vital importance body activities in our daily life and how fitness is today a necessary life style. Otherwise Fitness is one of the most principal ways against obesity increase and concerning illness' that increased considerably in the west of Europe in the last years. Doing Fitness activities with specific equipments and without exaggerations, starting gradually most of all for sedentary people, is the most important thing to not risk damages to articulation or muscular rips.

[0002] The main and most common exercises are those for the development of muscles of the arms, back, abdominal, chest and shoulders. At the present to develop all these parts of the body is necessary to have a lot of equipments/tools.

[0003] At the present there are two kind of tools: multi-functional structures and single fitness tools.

[0004] The first type, multi-functional tools, have iron or steel structures very big and weight (about 150-200 kg) and they are useful to do a lot of development exercises for chest, arms and for legs but not for the abdominal exercises on bench with tilted structure which are developed on different benches.

[0005] These tools need a lot of space, usually gyms or rooms used for fitness in Hotels and sport structures and they are seldom in normal apartments. Second type of Home Fitness structures can be used for specific exercises which help to develop single parts of the body. These structures have been made with iron or steel but they are different from the first ones because are light and not so big (about 15-50 Kg). They can be used especially for some exercises like as lift exercises on horizontal bench for chest muscles, arms, shoulders and legs.

[0006] Otherwise there are specific structures for the development of abdominal muscles on tilted bench, which is the greatest problem of a lot of people that doesn't make usually Fitness activities.

[0007] These structures can be put in little spaces in apartments and houses with the minimum space required.

[0008] At the present there are no single structures can allow, at the same time, to do either weight lift exercises on horizontal structure bench (arms, chest and shoulders muscles development) or exercises for abdominal on tilted bench.

[0009] The principal reason for this difficult is to assure stability of the supporting tool because if it's leaned, it needs a perfect balance between maximum weight's user and the maximum angle-shot of the structure which has used to make exercises.

[0010] Otherwise at the present benches Home Fitness use small thicknesses tubes of the tool that allow

an easier transport of the structure but in the same time they don't allow the study of a single element that has the same peculiar features of two structures weight lift bench (flat bench) and abdominal bench (tilted bench).

[0011] The present invention, as a new multi-functional structure, with dimensions and weights like the best mono-structures, will have a strong impact for the Home Fitness market development (growth forecast is about 7-8%) because the most important problem for the sales of these tools has ever been the very few space in apartments.

[0012] This invention will be presented for all Europe, as market-research made in 2005/2006 has put high capacity in evidence in some European markets. After these market analysis and business objectives estimated, production and sales of this product will be made in Italy and Germany (country with the greatest request of Home Fitness structures), France, Spain, Switzerland and Great Britain where there are important Partner for distribution and sale to final user.

[0013] Advantages and/or purposes of this Invention:

[0014] This new multi-functional structure, build in iron and steel tubes with big thickness wich stands up to maximum use allowing all principal exercises for the muscles development. In this way this tool guarantees the possibility to do either weight lift exercises, on bench with horizontal position or exercises for abdominal muscles with tilted bench until 35° from horizontal plan, supporting the weight of a person until 100 kg.

[0015] To do what above mentioned, with this invention, it has been studied a new mechanism, and with it the tool, being provided with a specific mechanic fix pivot that modifies angles of structure easily and quickly.

[0016] The studies on the structures and angle-shot, have permitted to realize and fix the proportion between the maximum user's weight and the angle that this structure can support before its overturning. The above described invention, thanks to a reduced scale, and being a single structure, could be put in little places in small apartments and houses.

[0017] Further characteristics and advantages of the present invention will become more apparent hereinafter from the following detailed disclosure of a preferred, though not exclusive, embodiment of the invention, which is illustrated, by way of an indicative, but not limitative example, in the accompanying drawings, where:

figure 1 showing a traditional flat bench to do lift weight exercises.

figure 2 showing a bench where is possible to do exercises on tilted bench to development abdominal muscles. In particular (fig. 2), tubular leg of the bench (ref. 2, fig. 2) runs inside the structures tubular (ref. 1, fig. 2) producing a first part of the slope of the bench structure. Afterwards this tubular leg of the bench (ref. 5, fig. 2) running inside the structure tubular (ref. 4, fig. 2) produces the second slope of the bench structure. This result, double slopes, allows

to make two different exercises, one after other one.

Claims

- 5
1. The above mentioned mechanism is **characterized in that** to allow traditional lift weight exercises on flat bench (fig.1) and exercises for abdominal development on tilted bench (fig.2). In particular tubular leg of the bench (ref. 2, fig. 2) runs inside the structures tubular (ref. 1, fig. 2) producing a first part of the slope of the bench structure. Afterwards this tubular leg of the bench (ref. 5, fig. 2) running inside the structure tubular (ref. 4, fig. 2) produces the second slope of the bench structure. This result, double slopes, allows to make two different exercises, one after other one.
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2. fixing structure (ref. 1 and 4, fig. 2) with legs' bench (ref. 2 and 5, fig. 2) is **characterized in that** will take place by two fix pivots (ref. 3 and 6, fig. 2) which block the running during the use of the structure. This mechanism allows to change the position of the structure easily and quickly.
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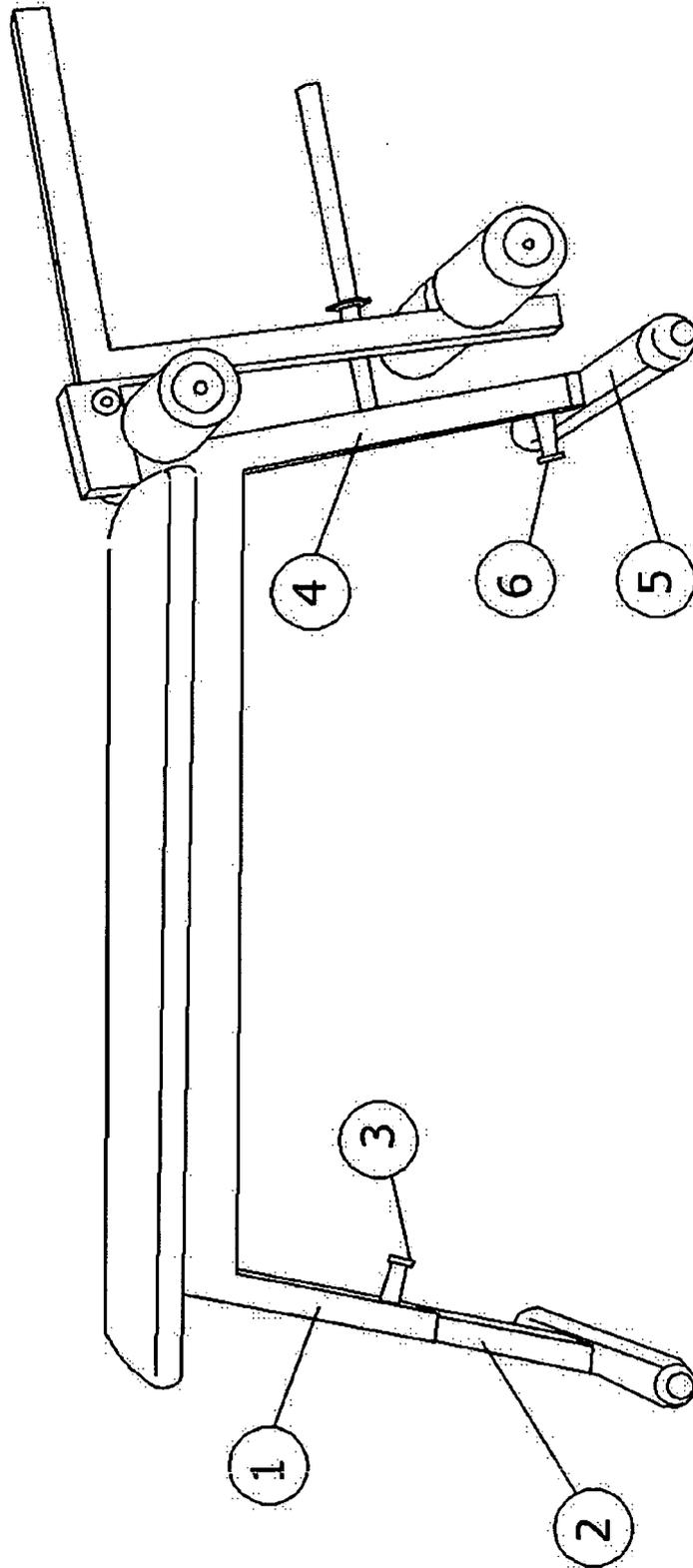


fig. 1

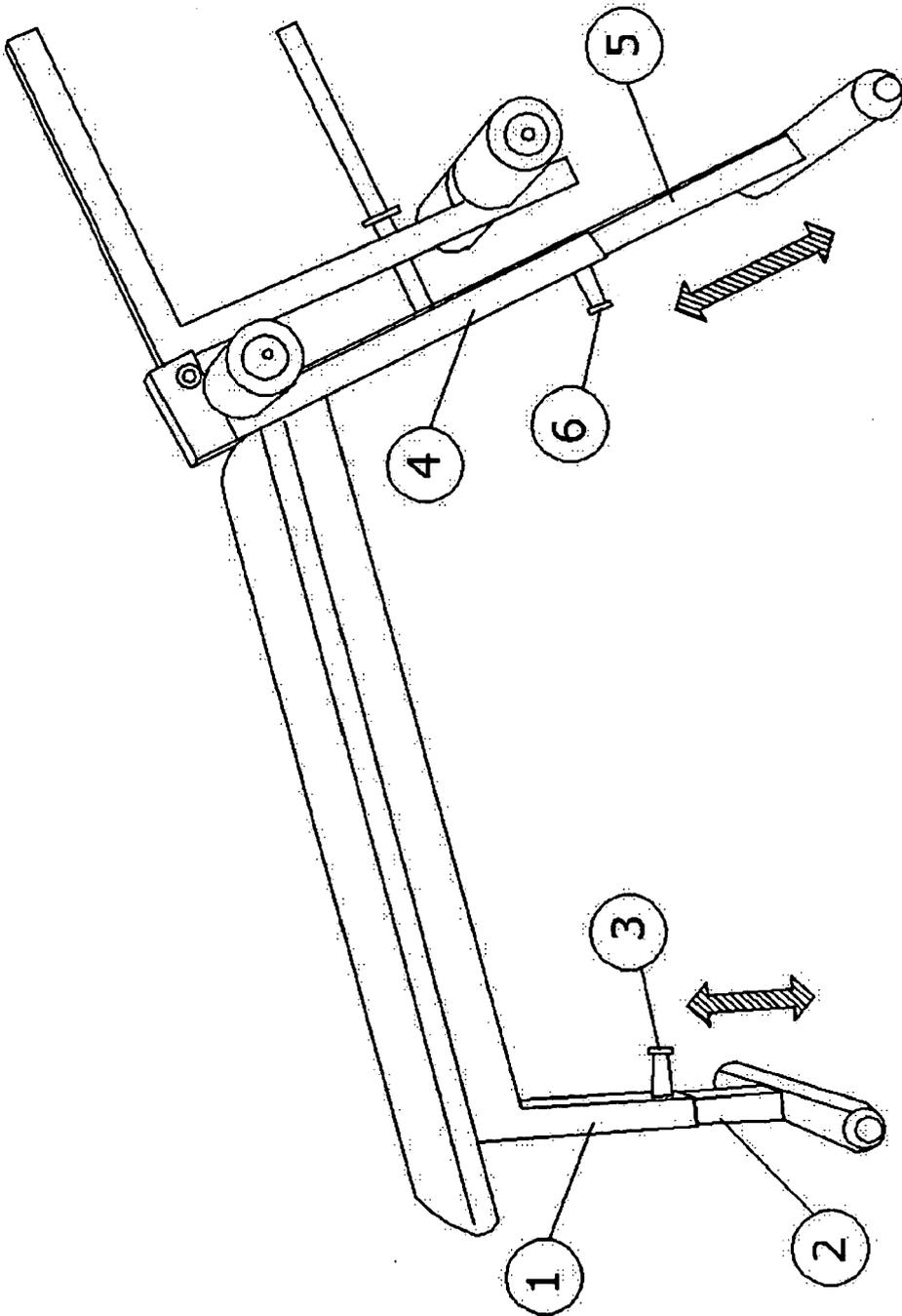


fig. 2



European Patent Office

PARTIAL EUROPEAN SEARCH REPORT

Application Number

which under Rule 45 of the European Patent Convention EP 06 42 5542 shall be considered, for the purposes of subsequent proceedings, as the European search report

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	CA 1 212 971 A1 (KECALA IHOR G) 21 October 1986 (1986-10-21) * the whole document * -----	1,2	INV. A63B23/00
X	US 5 472 401 A (ROUILLARD MARK A [US] ET AL) 5 December 1995 (1995-12-05) * abstract; figure 5 * -----	1,2	
X	DE 37 14 249 A1 (BECKER HERMANN JOSEF [DE]) 26 January 1989 (1989-01-26) * the whole document * -----	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			A63B
INCOMPLETE SEARCH			
<p>The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for these claims.</p> <p>Claims searched completely :</p> <p>Claims searched incompletely :</p> <p>Claims not searched :</p> <p>Reason for the limitation of the search: see sheet C</p>			
Place of search		Date of completion of the search	Examiner
Munich		12 December 2006	Jekabsons, Armands
CATEGORY OF CITED DOCUMENTS		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	
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			

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EPO FORM 1503 03.82 (P04C07)



Claim(s) searched incompletely:
1,2

Reason for the limitation of the search:

The present claims land 2 encompasses compounds defined only by their desired function, contrary to the requirements of clarity of Article 84 EPC (see also G-C-III; 4.6), because the result-to-be-achieved type of definition does not allow the scope of the claim to be ascertained. The fact that any compound could be screened does not overcome this objection, as the skilled person would not have knowledge beforehand as to whether it would fall within the scope claimed, except for the compounds disclosed in the description, see page 4 . Undue experimentation would be required to screen compounds randomly. This non-compliance with the substantive provisions is to such an extent, that a meaningful search of the whole claimed subject-matter of the claims could not be carried out (Rule 45 EPC).

The search of claims 1,2 was consequently restricted to: a bench for weight lift and abdominal exercises having tilting mechanism with two pivots for changing position(tilt) of the bench.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 06 42 5542

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

12-12-2006

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
CA 1212971	A1	21-10-1986	NONE

US 5472401	A	05-12-1995	NONE

DE 3714249	A1	26-01-1989	NONE

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82