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(54) Title: RUNNING BENDED EXERCISER

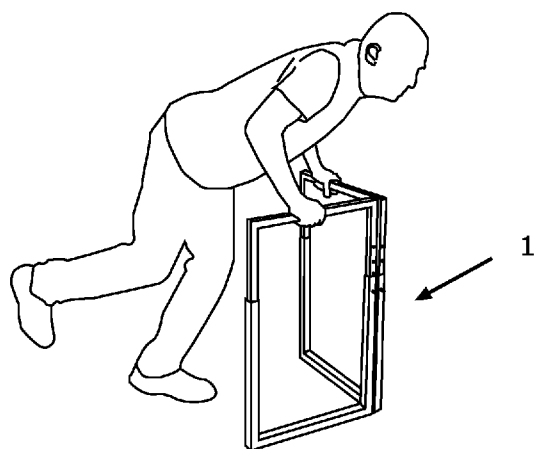


Fig. 4

(57) Abstract: Exerciser (1) which allows to perform two new exercises: 1) Leaning running in place exercise (Fig. 4) and 2) Traction in suspension exercise (Fig. 5). Two identical rectangle-shaped supports (2, 2'), hinged on two adjacent vertical sides (18, 18') permit a user to grip upper horizontal handle-bars (22, 22'). When not in use, the exerciser (1) can be folded, occupying a very small space (Fig. 3).



RUNNING BENDED EXERCISER

TECHNICAL FIELD: The invention relates to training equipments.

5 **BACKGROUND ART:** Running in place exercisers are generally meant to permit a user to run at home while a machine activates a tapis-roulant. Therefore the user runs in straight position, which increases compression of his back. Moreover, these machines are heavy and bulky and expensive. Actually there are no tools for running leaning and bended, which is an exercise of my invention (Fig. 4).
10 With regards to traction in suspension exercise (Fig. 5), it can be practiced with the parallel bars for artistic gymnastics, a very heavy and bulky exerciser.

DISCLOSURE OF INVENTION: The invention relates to an exerciser (1) comprising two identical rectangle-shaped support elements, or supports (2,2'), hinged on two adjacent vertical sides (18,18'). Each support has an upper
15 horizontal member (22,22') usable as a handle-bar (22,22'), a lower horizontal member (12,12') meant as support base, a first lateral member, a second lateral member. Each of said lateral members comprises two sliding elements for height adjusting.

With reference to support (2) first lateral member comprises element (16) and
20 element (24) housed in said element (16). Second lateral member comprises element (18) and element (26), housed in said element 18, as better disclosed below.

One of said vertical elements (18) has hinges (20) for connection with corresponding element (18') of second support (2').

25 Therefore said supports (2,2') can be rotated in an open position (when used) generating an angle-space in which a user can place himself (Fig. 1, three-dimensional view; Fig. 2, view from above), or in a folded close position (when not used) (Fig. 3, view from above). Each of said supports (2,2') can adjust the height of upper horizontal member (22,22'), usable as a handle-bar (22,22'), to
30 which a user can grab, keeping his back in a substantially horizontal position (Fig.

4). In said position the weight of the user is largely supported by his arms. Therefore, when he acts the running movements his vertebrae are not compressed, just as it happens while swimming. Arms are reinforced and circulation in legs is increased, knees are not stressed, as they carry less weight (5 running leaning bended in place exercise).

The exerciser can be used in a further way (Fig.5), if the user puts himself backwards to the hinges and bows his arms while relaxing his legs, he obtains a vertebral traction and arms training (Traction in suspension exercise).

When not in use, the exerciser can be folded occupying a small space (Fig. 3).
10 When used, said supports are open at the desired angle, comfortable for grabbing.

BRIEF DESCRIPTION OF DRAWINGS:

Fig. 1 shows a tridimensional exploded view of exerciser (1).

Fig. 2 shows a view from above when exerciser (1) is in open position.

15 Fig. 3 shows a view from above when exerciser (1) is folded in close position.

Fig. 4 shows a user of exerciser (1) practicing "Running leaning bended on site exercise".

Fig. 5 shows a user of exerciser (1) practicing "Traction in suspension exercise".

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BEST MODE FOR CARRYING OUT THE INVENTION:

Whereby each of said identical rectangle-shaped supports (2,2') is composed by two parts which fit together. With reference to first support (2) it comprises:

- a) a U shaped lower part (8)
- 25 b) An upside down U shaped upper part (10)

Said U shaped lower part (8) comprises a lower horizontal member (12) and two vertical tubular female elements (16,18), upwards directed. Said lower horizontal member (12) rests on the floor. Said vertical tubular elements (16,18) work as female sliding joints for the housing of vertical lateral male elements (24,26)
30 (disclosed below).

One (18) of vertical tubular elements has hinges (20) for connection with corresponding element (18') of second support (2').

Said upside down U shaped upper part (10) comprises an upper horizontal member (22) usable as a handle-bar and two vertical lateral male elements (24,26), downwards directed.

Said upper horizontal member (22) has a soft handle (6) sliding on said member
5 (22) and is meant to be gripped by user. Each of two vertical tubular male
elements (24,26) are slidably housed in each of said tubular female elements
(16,18). A sliding blocking device permits the adjusting of height. An embodiment
of said device consists in equipping at least one male element (26) with holes
(28), meant to house a pin (30) crossing a hole (32) located in corresponding
10 female element (18).

Other embodiment of the invention can be obtained by inverting said male and female elements.

Present description discloses only some way to realize the present invention, which is better defined by the following claims.

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CLAIMS

1. Exerciser (1) comprising a first (2) and a second (2') identical support element , or support, each substantially rectangle-shaped, vertically articulated to each other, each of said supports (2,2') comprising sliding parts to adjust height to permit
5 comfortable gripping of hands on their upper sides (22,22') used as handle-bars (22,22'); whereby it is possible to a user to rotate said supports in an open position and to grip by his hands said handle-bars (22,22') of said supports; whereby it is further possible to user to position his back in a substantially horizontal position and to imitate running movements; whereby it is possible after use to rotate said
10 supports (2,2') one close to each other obtaining a very thin device, in a close position.

2. Exerciser (1) comprising a first (2) and a second (2') identical support element , or support, each substantially rectangle-shaped, said first support (2) connected to said second support (2') at one side by hinges (20) located on adjacent vertical sides
15 (18,18'), each of said supports (2,2') comprising sliding parts to adjust height to permit comfortable gripping of hands on their upper sides (22,22') used as handle-bars (22,22'); whereby it is possible to a user to rotate said supports in an open position and to grip by his hands said handle-bars (22,22') of said supports; whereby it is further possible to user to position his back in a substantially horizontal position
20 and to imitate running movements; whereby it is possible after use to rotate said supports (2,2') one close to each other obtaining a very thin device, in a close position.

3. The exerciser of claims 1,2 wherein, with reference to said first support (2), it comprises a lower part (8), and an upper part (10); said lower part (8) substantially
25 U-shaped, having a lower horizontal member (12) and two vertical tubular female elements (16,18) upwards directed; one (18) of said female elementes having hinges arranged with their own axis in a vertical direction; said hinges for connection with adjacent female element (18') of second support (2') ; said upper part (10) substantially upside down U shaped having an upper horizontal member (22), or
30 handle-bar (22), and two vertical lateral male elements (24,26) downwards directed and slidably housed in said tubular female elements (16,18);

- 4.** The exerciser of claims 1,2 wherein, with reference to said first support (2), it comprises an upper horizontal member (22) usable as a handle-bar (22), a lower horizontal member (12) meant as support base, a first lateral member comprising
5 two sliding elements (16,24) for height adjusting, a second lateral member comprising two sliding elements (18,26) for height adjusting.
- 5.** The exerciser of claims 1,2 wherein, with reference to said first support (2), it comprises a lower part (8), and an upper part (10); said upper part (10) substantially upside down U shaped having an upper horizontal member (22) and
10 two vertical tubular female elements downwards directed; one of said female elements having hinges arranged with their own axis in a vertical direction; said hinges for connection with an adjacent female element of second support (2') ; said lower part (8) substantially U-shaped, having a lower horizontal member (12) and two vertical male elements (16,18) upwards directed and slidably housed in said
15 tubular female elements (24,26).
- 6.** The exerciser of claim 3ex2 wherein at least one (26) of said vertical elements of said upper part (10) is equipped with holes (28) for the housing of a pin (30) crossing a hole (32) located in corresponding female element (18) of said lower part (8); whereby it is possible to a user to solidly adjust the height of said handle-bar
20 (22)
- 7.** The exerciser of claim 5ex3 wherein at least one (18) of said vertical elements of said lower part (8)) is equipped with holes (28) for the housing of a pin (30) crossing a hole (32) located in corresponding element (26) of said upper part (10); whereby it is possible to a user to solidly adjust the height of said handle-bar (22)
- 8.** The exerciser of any precedent claim comprising soft handles (6,6') sliding on said handle-bars (22,22').
- 9.** The exerciser of any precedent claim comprising rubber pads (14) attached on inferior surface of said lower horizontal member (12).

AMENDED CLAIMS

received by the International Bureau on 13 February 2021 (13.02.21)

+ STATEMENT

- [Claim 1] Cancelled
- [Claim 2] Cancelled
- [Claim 3] Exerciser (1) comprising a first (2) and a second (2') identical support element , or support, each one substantially rectangle-shaped, said first support (2) comprising a lower part (8), and an upper part (10); said lower part (8) substantially U-shaped, having a lower horizontal member (12) and two vertical tubular female elements (16,18) upwards directed; one (18) of said female elements having hinges arranged with their own axis in a vertical direction; said hinges for connection with adjacent female element (18') of second support (2') ; said upper part (10) substantially upside down U shaped having an upper horizontal member (22), or handle-bar (22), and two vertical lateral male elements (24,26) downwards directed and slidably housed in said tubular female elements (16,18).
- [Claim 4] Cancelled
- [Claim 5] Exerciser (1) comprising a first (2) and a second (2') identical support element , or support, each one substantially rectangle-shaped, said first support (2) comprising a lower part (8), and an upper part (10); said upper part (10) substantially upside down U shaped having an upper horizontal member (22) and two vertical tubular female elements downwards directed; one of said female elements having hinges arranged with their own axis in a vertical direction; said hinges for connection with an adjacent female element of the second support (2') ; said lower part (8) substantially U-shaped, having a lower horizontal member (12) and two vertical male elements (16,18) upwards directed and slidably housed in said tubular female elements (24,26).
- [Claim 6] The exerciser of claim 3 ex2 wherein at least one (26) of said vertical elements of said upper part (10) is equipped with holes (28) for the housing of a pin (30) crossing a hole (32) located in corresponding female element (18) of said lower part (8).
- [Claim 7] The exerciser of claim 5 wherein at least one (18) of said vertical elements of said lower part (8)) is equipped with holes (28) for the housing of a pin (30) crossing a hole (32) located in corresponding element (26) of said upper part (10).
- [Claim 8] The exerciser of any precedent claim comprising soft handles (6,6') sliding on said handle-bars (22,22').

- [Claim 9] The exerciser of any precedent claim comprising rubber pads (14) attached on the lower surface of said lower horizontal member (12).
- [Claim 10] The exerciser of any precedent claim wherein said vertical elements have a rectangular-shaped cross section.
- [Claim 11] The exerciser of claim 10 wherein said hinges (20) are located along an axis of each of said two vertical female elements.

Statement under Article 19(1) to Amendment

Referring to amended claim 3:

Applicant sees that, as the novelty of application has been acknowledged, the rejection of invention step is to be attributed to the evaluation of obviousness in claimed features.

Said obviousness is a very difficult matter, as often even little changes produce relevant results. Significant solutions obtained by little changes are often considered obvious only after they have been disclosed.

But if they were not used in prior Art, even if furnishing advantages (in term of simplicity of use, in cheaper and faster production), one cannot affirm that they are obvious.

In this case (point 3.4) obviousness has been attributed to rectangle elements as the only difference from D1.

Applicant submits that this is not the only difference from D1's equipment. Examiner did not consider that the most important difference between my exerciser and D1's regards the number of pieces. The cost of production of my exerciser (4 U-shaped elements, 2 hinges, 2 pins) are much lower than the cost needed to produce D1, which has: 2 upper inverted U-shaped curved bars, two lower connector bars, 2 front legs, 2 rear legs, a front fork comprising several parts. Therefore, if one considers parts disclosed in D1's claim 1 one can see that their number is higher. Further more, if one considers the parts shown in the illustrations this difference is even greater.

Moreover, there is an important structural difference: D1 comprises a front fork, which is not present in my application resulting in a different shape and a different way of use.

As Applicant knows, one of the criteria for recognising an invention step towards prior art is that the new invention should comprise less elements, and this is the case.

The Examiner's consideration that "rectangular shapes are well known in prior art", cannot mean that any equipment containing rectangles does not have inventive step. It depends instead on the organization given to rectangular shapes and on the advantages of their use in a device.

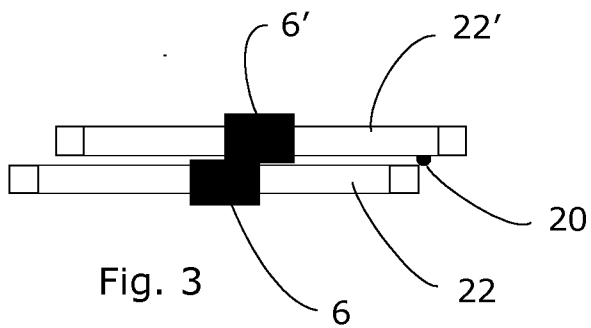
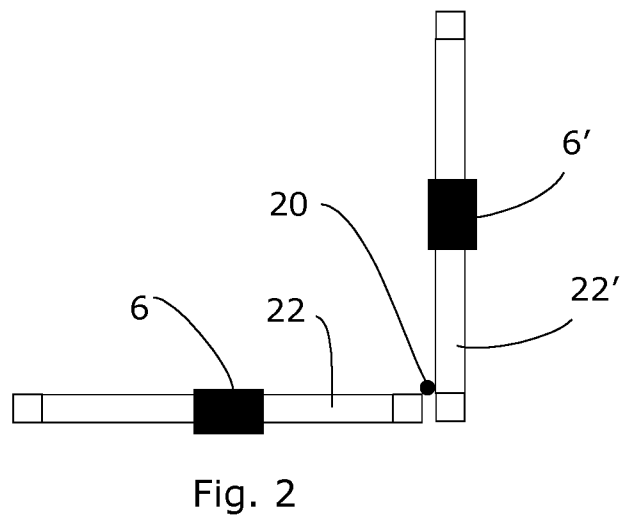
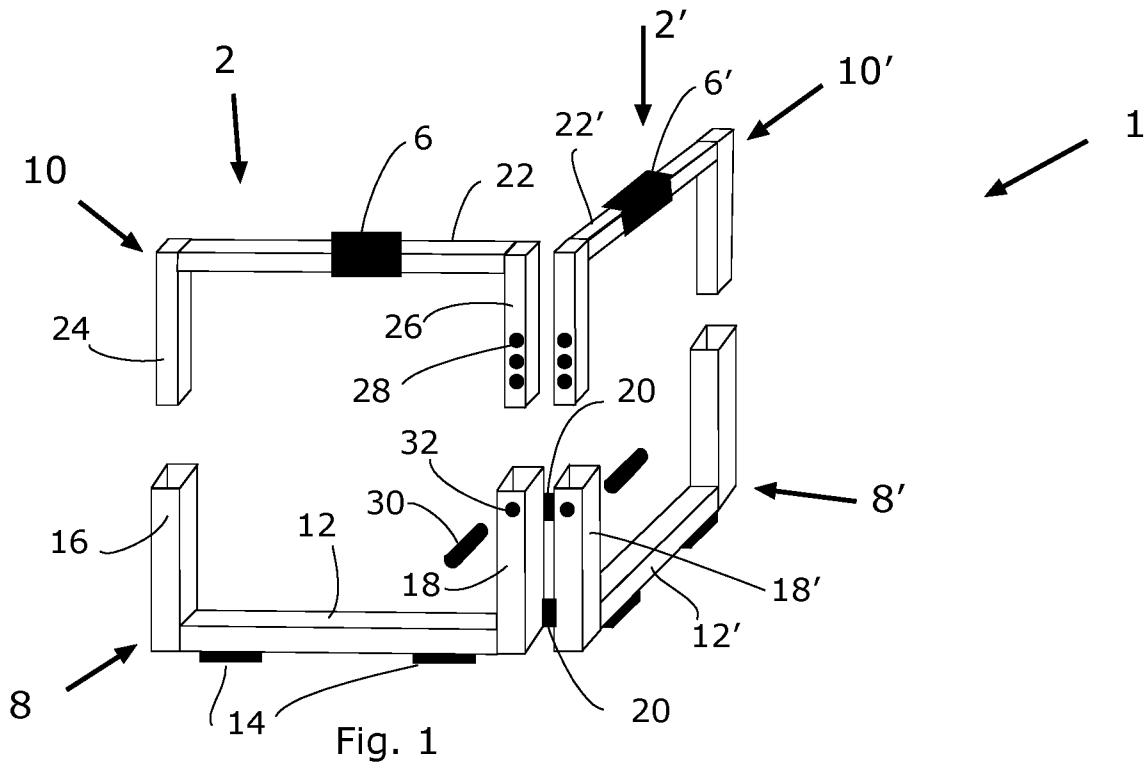
In point 4 it is said that claims 3-9 "relate to well known technical solutions".

Applicant respectfully submits that this could be said about any device, as the invention does not consist in a new technical solution, but in the results of a particular use of well known technical solutions. In this case the use of known technical solutions particularly organized produced a new device, novel in prior art with increased advantages not obtained before.

Advantages not only related to the structure of the device, but also to the particular exercises that it permits, without need to change one's clothes.

Referring to new claims 10,11:

The drawings disclose a device built in tubular rectangle-sectioned elements. The indicated position of hinges permits to contain the rotation in a range of 90 degrees, which prevents an exaggerate opening of the supports.



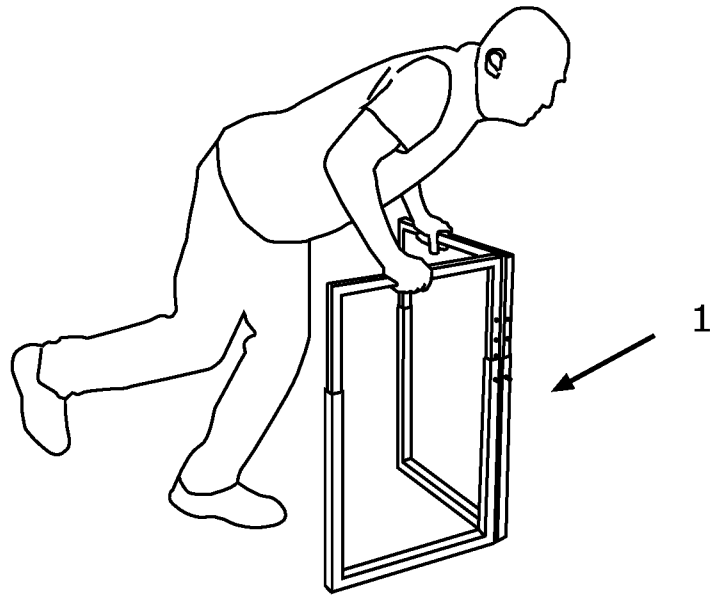


Fig. 4

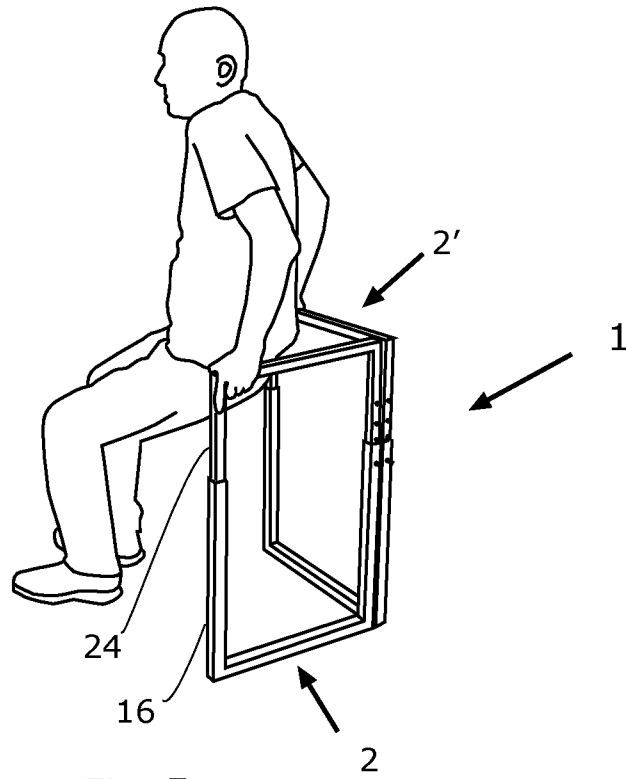


Fig. 5

INTERNATIONAL SEARCH REPORT

International application No
PCT/IT2020/050217

A. CLASSIFICATION OF SUBJECT MATTER
INV. A63B21/00 A63B21/068 A63B23/12 A63B17/04
ADD.
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
A63B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2013/324383 A1 (ROGERS KIM [US]) 5 December 2013 (2013-12-05) paragraph [0074] - paragraph [0086]; figures 35-47	1-9
A	----- US 2018/361201 A1 (DUNGEE MICHAEL [US]) 20 December 2018 (2018-12-20) paragraph [0018] - paragraph [0032]; figures 1-2	1-9
A	----- US 2015/065316 A1 (TOWLEY III CARL K [US] ET AL) 5 March 2015 (2015-03-05) paragraph [0021] - paragraph [0046]; figures 1-11	1-9

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
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- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
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Date of the actual completion of the international search 7 December 2020	Date of mailing of the international search report 17/12/2020
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IT2020/050217

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2013324383	A1	05-12-2013	NONE
US 2018361201	A1	20-12-2018	NONE
US 2015065316	A1	05-03-2015	NONE