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(54) **Collapsible physical exercising machine.**

(57) The machine is provided for many types of physical exercises to be performed and includes a column (1) that works with a beam (5) pivoted to it and allows the column to be stably positioned to enable the exercises to be performed, the machine comprising lines attached to resisting means, which lines are attached to a top rod (12), a yoke (15) passing through a pivoting part (14), which can be manually pulled by the user overcoming the resistance of the resisting means, and likewise comprising a grip (18) linked to such lines, which pass through different pulleys relating the said resisting means (23) which comprise a rubber stay replacing the classic weights fitted in gymnastics machines of this kind. The column (1) is moreover fitted with a seat to which a front rod (10) is pivoted, through which the line (17) ending at the lower end grip (18) passes.

## OBJECT OF THE INVENTION

The invention relates to a collapsible physical exercising machine and in particular to what is known as a gymnastics apparatus with which a large number of physical exercises can be performed, namely muscular development of the biceps, strengthening of the legs, including press-ups, sit-ups and push-ups.

## BACKGROUND OF THE INVENTION

There are many types of gymnastics apparatus designed to allow the user to perform a wide assortment of physical exercises, among which there are apparatus that enable the user to perform various types of exercises by merely changing his position, grasping a particular lever and so forth.

Now then, this type of gymnastics apparatus relies upon the resistance that must be overcome to lift a number of weights mounted upon a column and attached to stays running through pulleys and that are in turn connected to the various means the user must grasp or lean upon to perform the physical exercises.

The said weights can obviously vary in number in order for the apparatus to offer a greater resistance to be overcome, which means that the mounting column for the weights must be large, and protected with a frame or suitable means preventing manipulation of the weights whilst exercising, in order to prevent accidents.

This drawback is further complicated by the fact that the apparatus is altogether very heavy, structurally complex and large, which in addition to the high economic cost, means that it may only be kept inside gymnasiums and like locations, for at home it would be necessary to have large spaces that would obviously reduce the house's living space, which means that an amateur user of this type of apparatus must usually go to a gymnasium to exercise himself as above.

## DESCRIPTION OF THE INVENTION

The apparatus or machine subject hereof has been designed to fully overcome these problems, and therefore being of a simple construction, little weight and in addition collapsible, it allows many types of exercises to be performed and can moreover be used at home because of the little space it takes up which is indeed less when the apparatus is folded or in a position of non-use, allowing the same to be stored anywhere at home without taking up too much space.

Furthermore, an essential feature of the apparatus or machine is that instead of the weights that constitute the resistance the user must overcome in exercising, a rubber stay is provided, together with means with which to adjust the tension of the rubber stay and hence adjust its resistance that must be overcome by

the user when exercising. One of the ends of the rubber stay is attached to a line whose other end leads to the means allowing the tension of the rubber stay to be adjusted, whereas the other end of the said rubber stay carries a pulley through which another line is piloted, the two ends of which carry user grasping means which allow the user to perform various exercises as described hereinafter. Both lines are obviously linked to each other inasmuch as one of the lines passes through a pulley provided at one of the ends of the tightening means or rubber stay and the other is connected to the opposite end of the said rubber stay.

Structurally, the apparatus has a column that when in use is slightly inclined backwards, being fitted with a padded body acting as a user backrest, and having a pivoting handle at the rear which is the means allowing the column to be held in the working position without any support means other than a pair of small downwardly projecting and divergent branches in opposition to the pivoting means on the support branch.

The top portion of the column is fitted with a sort of overhead projection from which an arched rod is suspended that ends in two handgrips and shall reach the height of the user's hands when the user is sitting upon a seat provided on a front projection and close to the lower end of the column itself, moreover particular in that under such overhead projection there is a V-shaped part crossed by a sort of yoke that also ends in grips for the user's hands, in order for the latter to be able to perform other exercises by upwardly and downwardly pivoting the said yoke.

From the front end of the projection constituting the seat support there emerges a pivoted rod whose lower end carries a crosspiece with padded surfaces for the instep of the feet to be supported, and the said pivoted rod is at the same time traversed by the line crossing through the set of pulleys and through the pulley provided at the end meeting the rubber stay, and runs along the inside of the apparatus column, ending at the above-mentioned top arched rod.

The machine or apparatus described herein can be used to exercise sitting down, with the hands holding either the yoke with grips reaching approximately down to the user's waist, or holding the top rod that lies above the user's head, all so that resting the feet upon the lower crosspiece on the pivoted rod projecting from the seat support, it is possible to perform various exercises, just as this can be done pulling from a grip provided at the end of the line crossing precisely this lower pivoted rod fitted in front of the seat, which rod can be driven by the actual user's feet, using the hands and from different positions, in order to allow various exercises to be performed.

The apparatus takes up very little space, weighs very little, can be handled by only one person, and can be folded to be stored without taking up too much

space, which means that it can be used at home.

## DESCRIPTION OF THE DRAWINGS

In order to provide a fuller description and contribute to the complete understanding of the characteristics of this invention, a set of drawings is attached to the specification which, while purely illustrative and not fully comprehensive, shows the following:

Figure 1.- Is an overview of the physical exercising collapsible machine or apparatus made in accordance with the object of the invention, ready to be used.

Figure 2.- Is another overview of the same machine as the above figure, now folded.

Figure 3.- Is finally a diagram showing the staying means that the user must overcome in performing the exercises, showing the rubber stays connected to the lines joined to the elements driven by the user to perform the physical exercises, and the means allowing the tension of the staying assembly to be adjusted.

## PREFERRED EMBODIMENT OF THE INVENTION

In the light of the above figures it is clear that the collapsible apparatus or machine subject hereof includes a general column (1) that can be seen as being V-shaped and rectangular, and having considerable length and little thickness or width, its top end having an overhead forward projection (2) and its lower end having a pair of small diverging forward extensions (4) being the means supporting the column (1) together with the crosspiece (4) provided on a beam (5) pivoted to the rear portion of the column (1), specifically below its midpoint, the pivot being numbered (6).

Between the lower end of the column (1) and the beam (5) pivoting area (6) there is provided a forward projection (7) constituting a support for a seat (8) upon which the user can be comfortably seated to perform different types of physical exercises, and hence the user can lean his back against a rest (9) provided to such end upon the column (1) as such, which rest comprises a padded body having more or less the same width as the column.

Pivoted to the front end of the seat (8) support or projection (7) there is provided a rod (10) projecting forwards and downwards that ends in a crosspiece having two padded bodies (11) for the actual user to rest his or her feet or their instep.

Suspended from the overhead projection (2) there is a rod (12) ending in grips (13) and under the overhead projection (2) there is a part (14) traversed by a sort of yoke (15) at whose ends there are also grips (16), the latter reaching down approximately to the same level as the user's waist when the user is seated upon the seat (8), whereas the grips (13) on the rod (12) lie above the user's head, when the user is sitting down.

The apparatus is internally provided with two lines, one of which is numbered (17) and appears at the lower end of the column (1) going through the pivoted rod (10) attached to a front transverse handgrip (18). Now then, this line, supported upon a pulley (19) provided inside the pivoted rod (10), the pivot being numbered (20) in figure 3, goes through another pulley (21) provided at the lower end of the column (1) and then through a pulley (22) attached at the end of a rubber stay (23), the line (17) then going through another pulley (24) located at the bottom portion of the pulley (21) and moving up, always inside the column (1), to reach a pulley (25) and move from the latter to a pulley (26) provided inside the overhead projection (2), to end at the rod (12) suspended from the overhead projection (2).

At the other end of the rubber stay (23) there is pivoted a second line (17') that passes through a pair of pulleys (27) and then through another pulley (28) associated to the part (14) upon which the yoke (15) is mounted, this line (17') finally ending at a means (29) with which the rubber stay (23) tension is controlled, which control is driven by a lever (30) that can take up several stable positions, each of which shall define a degree of tension in the rubber stay (23) and hence a degree of resistance of the assembly that shall have to be overcome by the user in physically exercising himself.

According to the above, the user can arrange himself seated upon the seat (8), grasp the rod (12) through its handgrips (13) and pull the rod (12) overcoming the rubber stay (23) resistance, and the user can therefore rest his feet against the padded means provided on the lower pivoted rod (10) crosspiece, or leave his feet free. The user can also grasp the grip (16) on the yoke (15) and tilt the same and hence tilt the part (14) likewise against the resistance of the rubber stay (23).

The user can also either pull the grip (18) provided on the front lower portion with his hands or push the same with his feet, etc. That is to say, the user can perform a great many gymnastic exercises in different positions, and in these exercises the direction of the strength to be used is defined by the arrows (31-31'-31'') shown in figure 3, and at all times against the resistance offered by the rubber stay (23).

## Claims

1.- A collapsible physical exercising machine constituting a gymnastics apparatus allowing many types of physical exercises to be performed by the user, with the user either sitting down or in any other position, and being based upon lines connected to user driving elements to overcome a resistance forming part of the machine as a whole, characterised in that the means constituting the resistance to be over-

come by the user in physically exercising himself comprise a rubber stay (23) connected with respective lines (17) and (17') passing through different pulleys and connected to a front top rod (12), to a yoke (15) likewise located at a top position, to a lower front grip (18) and to means (29) with which the tension of the rubber means (23) constituting the staying means to overcome can be adjusted.

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**2.-** A collapsible physical exercising machine, as in claim 1, characterised in structurally comprising an elongate column (1) having small lower branches (3) and a crosspiece (4) on a beam (5) pivoted to the rear of the column (1), and establishing a stable position of the machine to be used, the top end being provided with a forward overhead projection (2) from which a rod (12) is suspended, which rod is attached to one of the ends of the stay (17) while its other end, after passing through the respective pulleys and through a pulley (22) provided at one of the ends of the rubber stay (23), reaches the lower grip (18) that passes through a rod (10) pivoted to a projection (7) acting as a support for a seat (8), the latter located on the front portion and at an area comprised between the beam (5) pivot and the lower portion or end of the column (1) as such.

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**3.-** A collapsible physical exercising machine, as in the above claims, characterised in that the top front overhead projection (2) on the column (1) is fitted with a pivoted part (14) traversed by the yoke (15), which pivoted part supports a pulley (28) through which the second line (17) attached to the other end of the rubber stay (23) and to the actual tightening means (29) passes, being particular in that the grips (13) on the rod (12) are located above the user's head when the user is seated, whereas the grips (16) on the yoke (15) lie almost at the waist of the user when seated.

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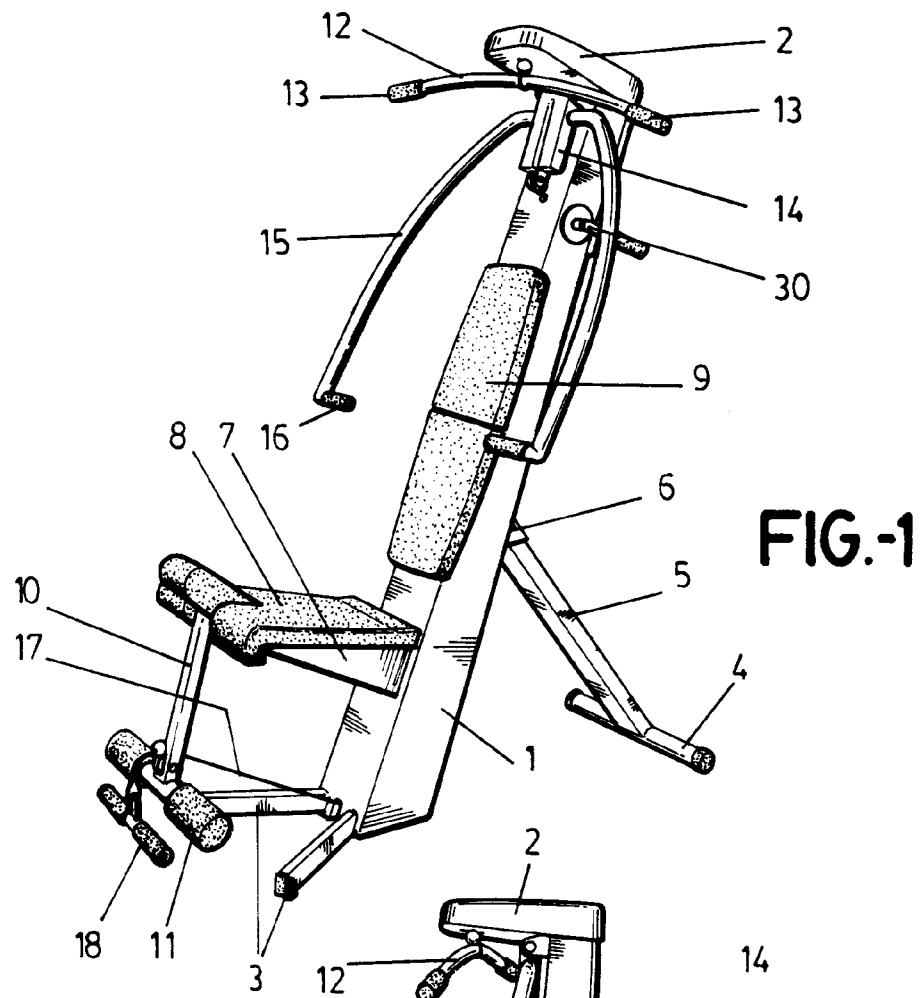
**4.-** A collapsible physical exercising machine, as in the above claims, characterised in that the adjuster (29) is attached to a lever (30) that can take up several end positions, each of which will define a degree of tension for the rubber stay (23).

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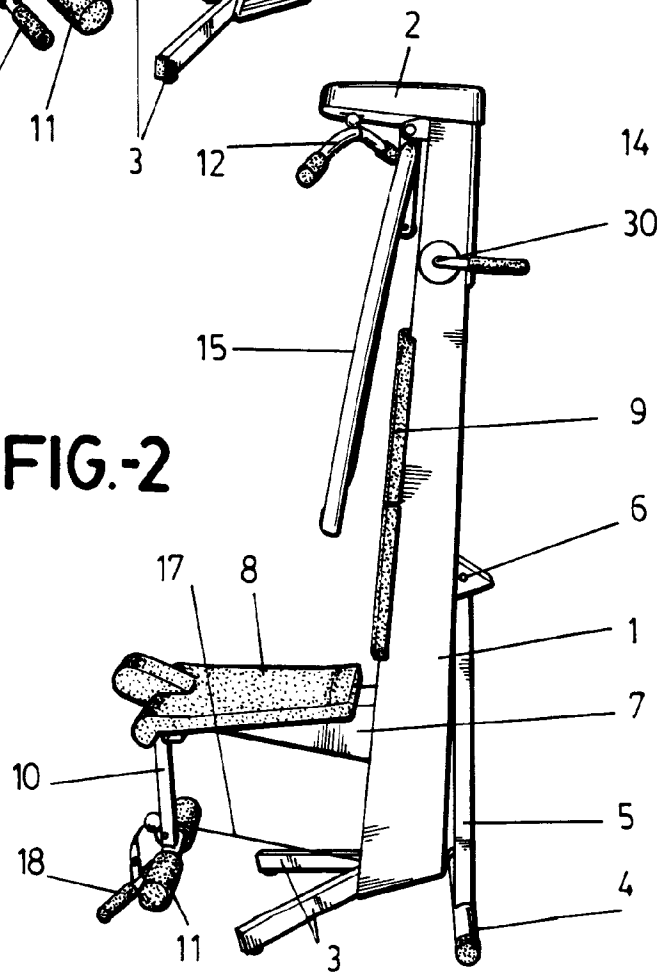
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**FIG.-2**



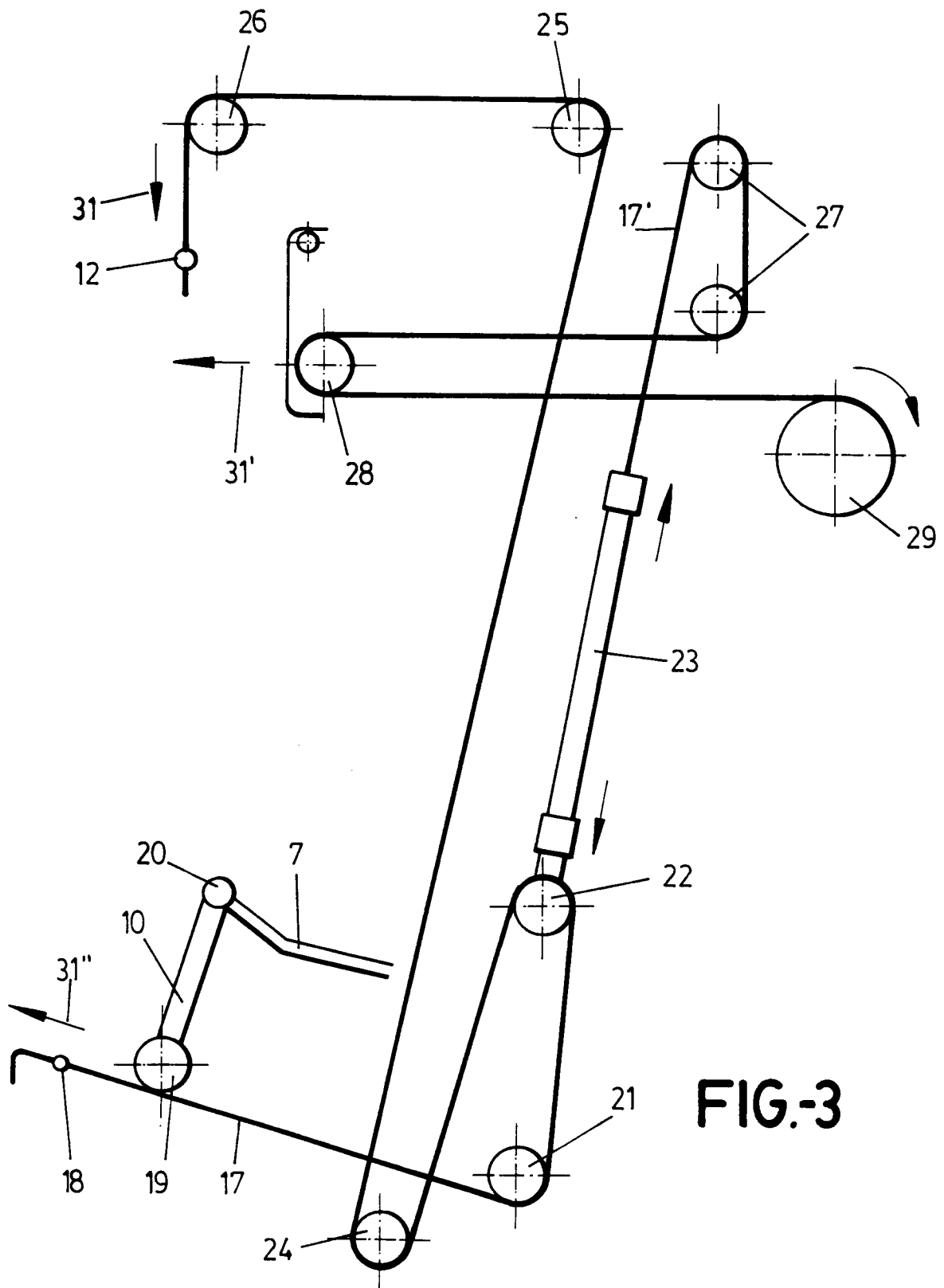


FIG. 3



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 94 50 0046

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
X	US-A-3 207 512 (KINSEY) * the whole document *	1	A63B21/04 A63B21/055
A	----	2	
Y	DE-A-41 01 803 (TUNTURIPYOERAE OY) * column 1, line 25 - column 2, line 9 * * column 3, line 26-36; figure *	1	
Y	US-A-5 135 451 (CHEN) * claim; figures *	1	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.5)
			A63B
Place of search		Date of completion of the search	Examiner
THE HAGUE		1 June 1994	Giménez Burgos, R
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>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</p> <p>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</p> <p>&amp; : member of the same patent family, corresponding document</p>			

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