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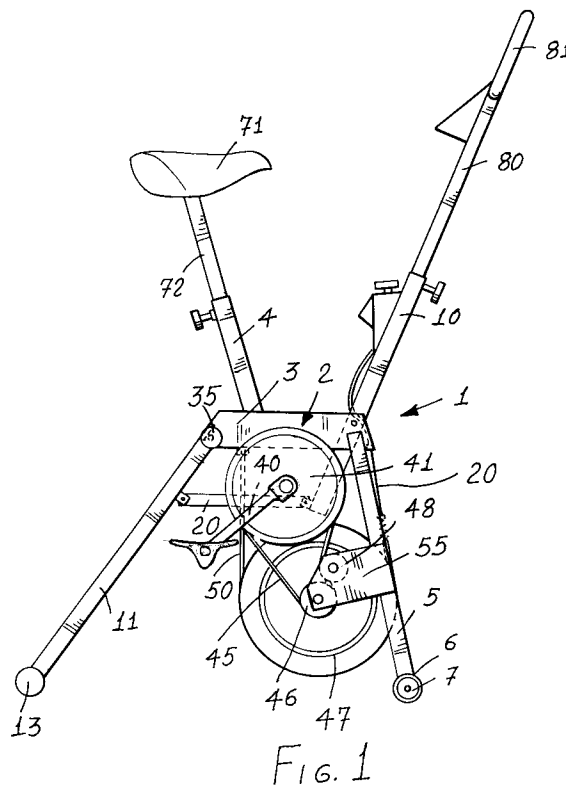
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(54) **Compact room bicycle.**

(57) A compact bicycle for indoor exercise characterised in that said bicycle comprises a folding frame having a central body (2) from which extend an upright saddle support (4) and a front downwards leg support (5) both being solid with the central body, and two other articulated elements, one functioning as a handle upright (10) and pivoting around a bearing at the front end of the central body, the second functioning as rear legs support (11) and being pivotally connected to the rear part of the central body; the handle upright extending below the central body bearing to be pivotally connected at its end by a tie rod to a pivot on the central section of the rear leg element, so that a rearwards movement of the handle upright causes the forward rotation of the rear leg element in a folding movement.



BACKGROUND OF THE INVENTION

The present invention relates to a room bicycle which is provided with a folding frame in order to reduce the bicycle size.

As is known there are already available room bicycles which conventionally comprise a ground bearing frame thereon there is articulated a pedal assembly which, through a belt system, causes a flywheel to turn, the flywheel being usually arranged laterally of the pedals and at the rear thereof.

A drawback of these prior bicycles is that they have a comparatively large size since the construction of the several elements of the bicycle does not provide the possibility of folding the bicycle frame to a compact stored condition.

Actually, even if some foldable frame room bicycles have been designed, they have still a comparatively large size in their folded condition.

SUMMARY OF THE INVENTION

Accordingly, the aim of the present invention is to overcome the above mentioned drawbacks by providing a compact room bicycle including a bicycle folding frame which can be easily and quickly folded in order to provide the bicycle with a very compact size in a stored condition thereof.

Within the scope of the above mentioned aim, a main object of the present invention is to provide such a bicycle construction which can be folded so as to reduce both its length and its height.

Another object of the present invention is to provide such a room bicycle which can be easily transported on a pair of wheels and which is very reliable and safe in operation.

Yet another object of the present invention is to provide such a room bicycle which can be easily made starting from easily available elements and materials and which, moreover, is very competitive from a mere economic standpoint.

According to one aspect of the present invention, the above mentioned aim and objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by a compact room bicycle characterized in that said bicycle comprises a folding frame having a central body therefrom there extend a saddle upright and a front bearing element, rigid with said central body, to which there are articulated a handle upright and a rear bearing element, which are connected to one another by an articulated tie rod, adapted to cause, as said folding frame is folded, said handle upright to move toward said saddle upright and said rear bearing element to move toward said front bearing element.

BRIEF DESCRIPTION OF THE DRAWINGS

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

Figure 1 is a side elevation view of the room bicycle according to the invention, in its use condition;

Figure 2 is a further side elevation view of the room bicycle, in a not use or folded condition thereof;

Figure 3 is a front view of the room bicycle according to the invention; and

Figure 4 is a schematic perspective view illustrating the room bicycle according to the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to the above mentioned drawings, the compact room bicycle according to the present invention, which has been generally indicated at the reference number 1, comprises a bicycle frame which includes a central body 2 which is advantageously constituted by two adjoining metal plates 3 which are connected to a saddle upright 4, advantageously made as a square cross-section tubular element, and a front bearing element, also constituted by square cross-section tubular elements.

The upright 4 and front bearing element 5 are rigidly connected to the bicycle frame and project from said frame at two opposite sides and are advantageously parallel to one another.

More specifically, and as is shown, the front bearing element 5 ends at the bottom thereof with a front cross element 6 which, preferably, is provided with ground bearing wheels 7.

To the central body 2 there is articulated, at the front portion thereof, a handle upright, indicated at 10, whereas to the rear end portion of the central body 2 there is pivoted a rear bearing element 11.

Advantageously, both the upright 10 and the rear bearing element 11 are made of square cross-section tubular elements.

Moreover, the rear bearing element ends with a rear cross element 12 which, at the end portions thereof, is provided with bearing pads 13.

The handle upright 10 is interconnected with the rear bearing element, through a tie-rod 20, which is articulated between an intermediate position of the rear bearing element 11 and the bottom end of the upright 10 so as to cause, as the frame is folded, the rear bearing element 11 and the upright 10 to simultaneously turn, thereby causing the upright 10 to move to-

ward the upright 4 and the rear bearing element 11 to move toward the front bearing element 5.

The driving gear of the room bicycle comprise pedal assemblies 40, to which there is connected a central pulley 41, and which are rotatably supported with respect to the central body 2.

On the central pulley 41 there is entrained a driving or transmission belt 45 which further extends on a roller 46 coaxial and rigid with a flywheel 47.

There is moreover provided a belt tension element indicated at the reference number 48.

On the periphery of the flywheel 27 there is entrained a braking strip element 50, which has a fixed point at its rear end portion and, at its front end portion, is connected through the interposition of a spring 51 and a flexible tie-rod, provided for adjusting the friction in order to allow the pedalling force to be adjusted.

The above mentioned flywheel 47 is supported by plates 55 which are rigid with the front bearing element 5.

The bicycle further comprises a protecting casing generally indicated at the reference number 70.

The bicycle saddle 41 is connected by means of a telescopic column 72 which allows the size of the bicycle to be further reduced, in its not use condition, since the telescopic column 72 can be fully withdrawn within the upright 4.

Likewise, the handlebar 80 is connected, by means of a telescopic handlebar column 81, to the handlebar upright 10 so as to provide a desired height adjustment as well as to further reduce the bicycle size in its folded or collapsed condition.

From the above disclosure it should be apparent that the invention fully achieves the intended aim and objects.

While the invention has been disclosed and illustrated with reference to a preferred embodiment thereof, it should be apparent that the disclosed embodiment is susceptible to several modifications and variations all of which will come within the spirit and scope of the appended claims.

Claims

1. A compact room bicycle, characterized in that said bicycle comprises a folding frame having a central body therefrom there extend a saddle upright and a front bearing element, rigid with said central body, to which there are articulated a handle upright and a rear bearing element, which are connected to one another by an articulated tie rod, adapted to cause, as said folding frame is folded, said handle upright to move toward said saddle upright and said rear bearing element to move toward said front bearing element.

2. A bicycle according to Claim 1, wherein said central body comprises a pair of plates rigidly connected to said saddle upright and front bearing element, which extend with a parallel relationship on opposite sides of said central body.

3. A bicycle according to Claim 1, wherein the front bearing element is connected to a front cross element provided with sliding wheels.

4. A bicycle according to Claim 1, wherein in said saddle upright there is telescopically engaged a saddle supporting column.

5. A bicycle according to Claim 1, wherein said tie rod is connected to an intermediate portion of said rear bearing element and to a bottom end portion of said handle upright.

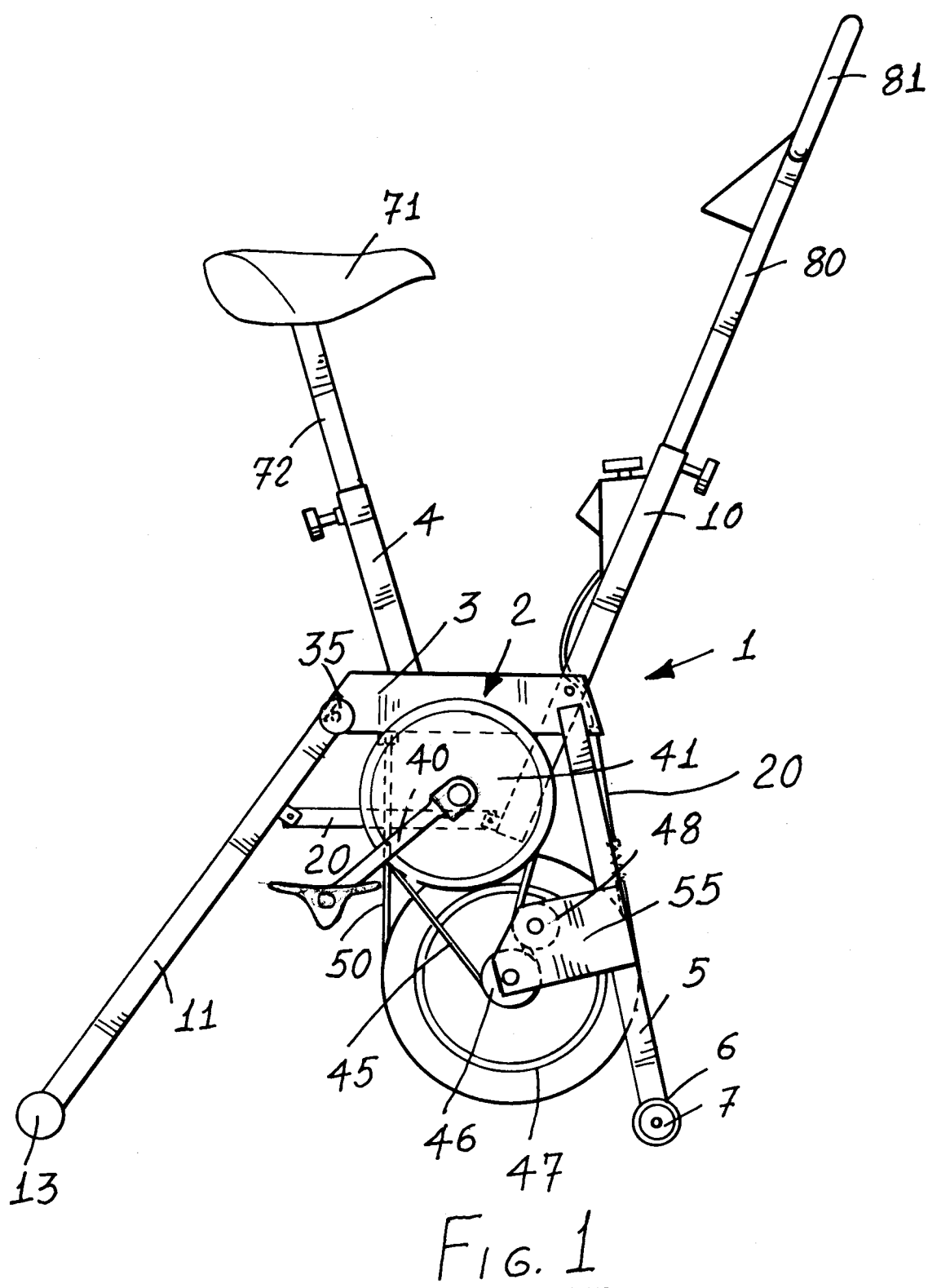
6. A bicycle according to Claim 1, wherein said bicycle further comprises a telescopic handle column which is telescopically engaged in said handle upright.

7. A bicycle according to Claim 1, wherein said rear bearing element ends with a rear cross element provided with bearing pads.

8. A bicycle according to Claim 1, wherein said bicycle further comprises a pair of pedal assemblies each associated with a central pulley rotatably supported at a bottom portion of said central body, a driving belt being entrained on said pulley, said driving belt being further entrained on a sprocket rigid with a flywheel arranged at a lower position with respect to said central pulley.

9. A bicycle according to Claim 8, wherein said bicycle further comprises a friction strip entrained on a peripheral portion of said flywheel and fixedly connected at one end and having the other end thereof coupled to a tie rod through the interposition of a spring, there being moreover provided adjustment means for adjusting a force provided by said tie rod and, accordingly, a friction of said friction strip.

10. A bicycle according to Claim 1, wherein said central body is provided, at a rear portion thereof, with limit hook elements which can be engaged with corresponding projections formed on said rear bearing element, a clamping grip element being moreover provided for locking at a set position said rear bearing element.



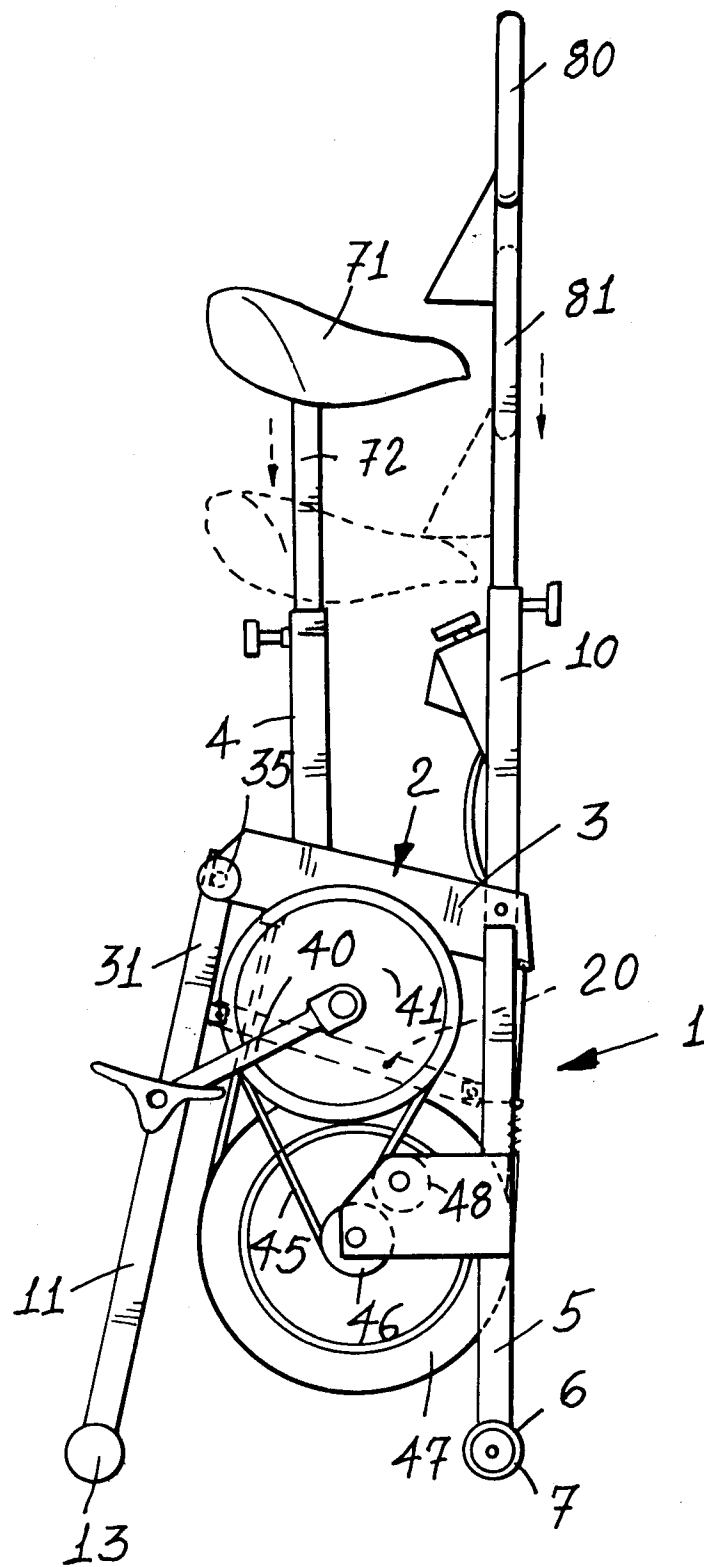
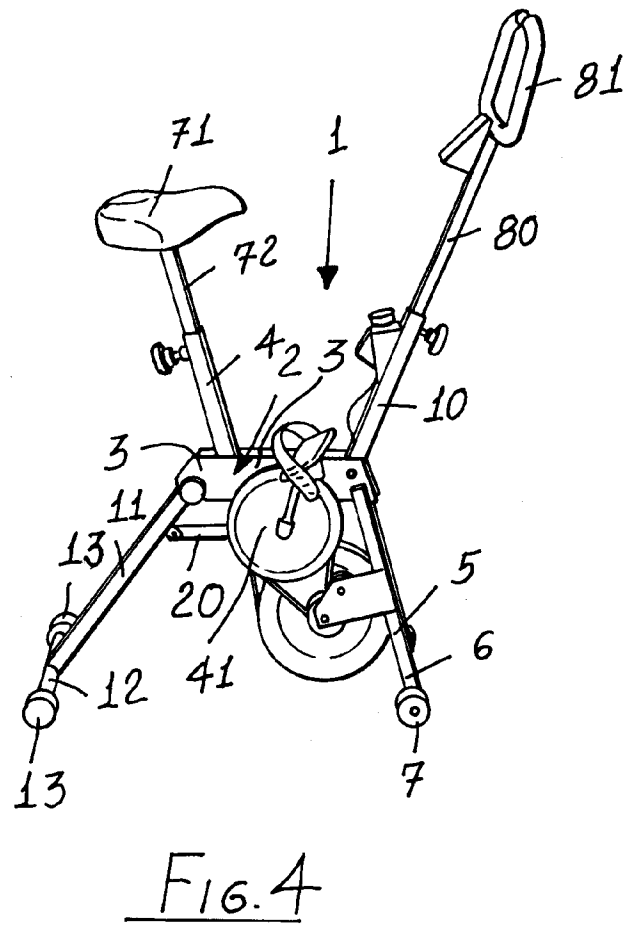
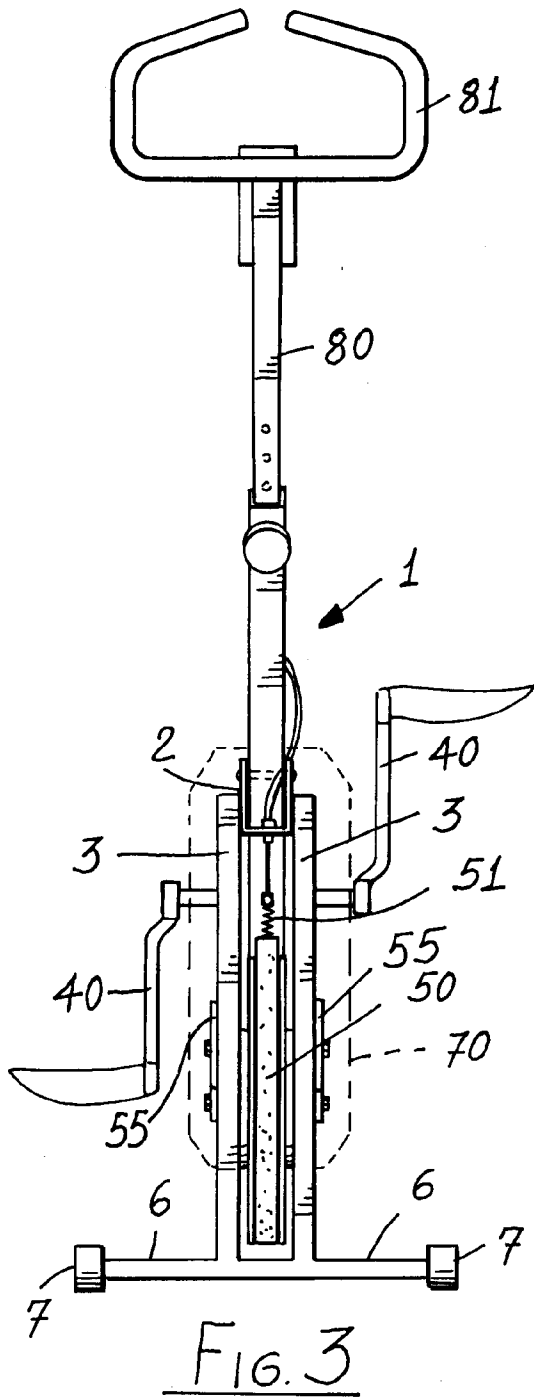


FIG. 2





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 92 83 0291

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)
A	US-A-3 578 800 (DI NEPI) * abstract; figures 1-2 * ---	1	A63B23/04
A	DE-U-8 504 432 (H.K.METALLFABRIK) ---	1	
A	DE-A-3 339 707 (H.K.METALLFABRK) * abstract; figure 1 * -----	1	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A63B
Place of search THE HAGUE		Date of completion of the search 05 NOVEMBER 1992	Examiner PAPONE F.
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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