(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 947 224 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
06.10.1999 Bulletin 1999/40

(51) Int Cl.[6]: **A63B 22/08**

(21) Application number: **99500050.2**

(22) Date of filing: **29.03.1999**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **02.04.1998 ES 9800904**

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(54) Exercise bicycle

(57) Exercise bicycle comprised of a tubular structure (1,2) which at the bottom ends in two support crossbars (5), with the bushings (14) allowing mounting of ball bearings (17) of the pedal shaft (18) being mounted between three pairs of flat bars (13, 15, 16) which are joined to these on one end, while on the other end they are joined to the structure, from which structure extends vertically a mast (6) which is used as a support for the seat (7) and from which projects an overhanging crossbar (8) on the free end of which is the support (11) for handlebar (32, 33) with a telescoping arm.

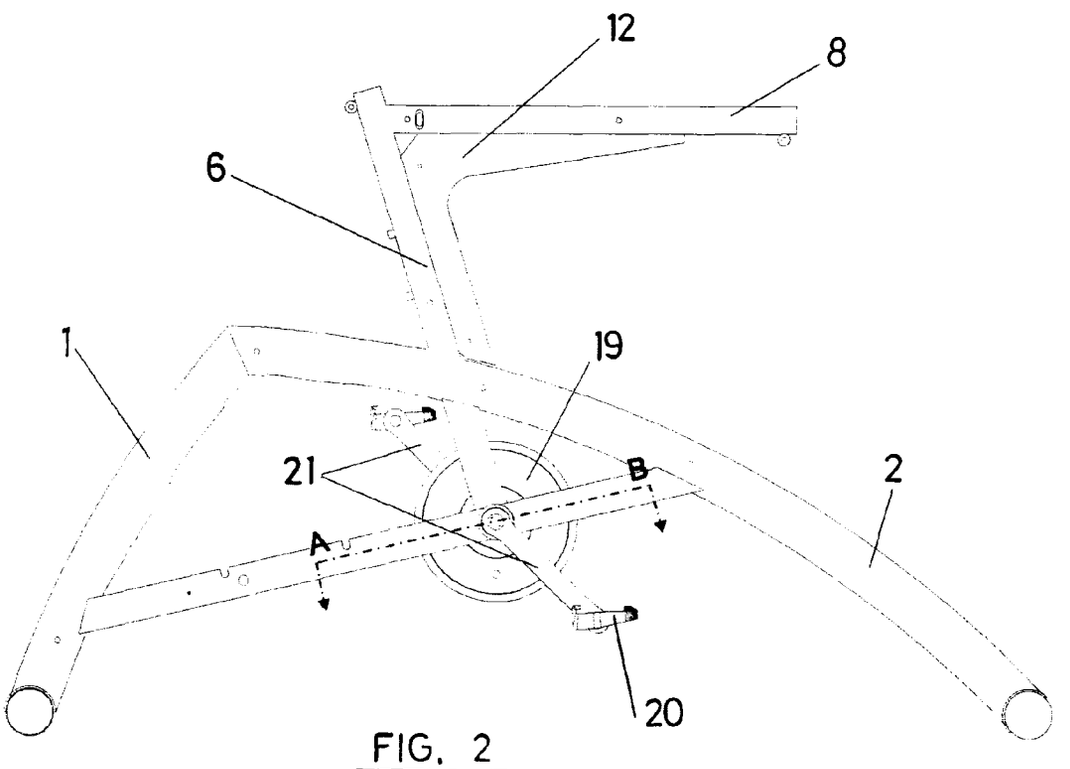

FIG. 2

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Description

OBJECT OF THE INVENTION

[0001] The present invention relates to a exercise bicycle, that is, a bicycle of the type used in gyms or private homes, allowing similar use and exercise as a conventional road bicycle.

[0002] The object of the invention is to obtain a exercise bicycle which closely approximates the functional simulation of a conventional road bicycle.

DESCRIPTION OF THE INVENTION

[0003] To achieve this, more specifically, the bicycle consists of a frame made from two tubes joined at their ends, which form an angle which is placed considerably higher than the ends, on which ends transverse support tubes are placed, on the end of which are stands or suction cups for support to the floor, while inside the aforementioned angle is a crossbeam, formed from two lateral flat bars, between which is placed the pedal shaft with appropriate ball bearings and with the classical drive pulley, to which any available variable braking mechanism will be connected in order to control the effort required on the pedals, this crossbeam also being stiffened by another two ascending flat bars which also emerge from the support bushings for the aforementioned ball bearings, and which reach the anterior longitudinal arm of the frame, extending to the other side as a tubular mast designed to place the traditional seat on its end so that it's position can be adjusted, and meeting a crossbeam near its top end which extends forward, thus stiffening the mast, together with a reinforcement angular bracket, also with a tubular structure, inside which is an arm which ends in a double handlebar which telescoping inside the bracket and which may be locked in any position, so that the handlebar can be adjusted in many ways.

[0004] The main tubes of the frame can be connected to the leg-like crossbars rigidly or jointedly, in which latter case between each tube and the corresponding crossbar are placed a pair of lateral shock absorbers against which it is possible to swing the frame side to side, so as to simulate the classical movement of a road bicycle as the body rises from the seat as when climbing hills or sprinting. In this case the stands must be the aforementioned suction cups to minimise the risk of the bicycle falling sideways.

[0005] It only remains to point out that two covers forming a cowling will be affixed to the sides, hiding the moving parts of the bicycle and the bridge support structure which supports them for cosmetic reasons; for this same reason the mast and upper crossbar shall also be hidden by similar lateral covers.

DESCRIPTION OF THE DRAWINGS

[0006] In order to complement the description being made and to aid a better understanding of the characteristics of the invention, according to a preferred embodiment of the same as an integral part of said description is attached a set of drawings, where with an illustrative and non-limiting nature the following is shown:

[0007] Figure 1.- Shows, in a perspective sketch, the frame or basic structure of the exercise bicycle which comprises the object of the present invention, without the moving mechanisms or the handlebar.

[0008] [0008] Figure 2.- Shows a side elevation of the objects shown in the above figure, on which the pedal shaft and accessories have been installed.

[0009] Figure 3.- Shows an enlarged cross section of the objects shown in the previous figure, along the A-B line of said figure.

[0010] Figure 4.- Shows a side elevation of the objects of figure 1, in the specific case where the structure is able to rock laterally.

[0011] Figure 5.- Shows an enlarged posterior elevation of the objects of the previous figure, according to an embodiment in which the frame is jointed with the supports.

[0012] Figure 6.- Shows a similar view to figure 5 but corresponding to an embodiment in which the frame is joined to the transverse supports by elastic elements.

[0013] Figure 7.- Shows an enlargement in side elevation of the back part of the objects in figure 4, with the frame swinging side to side, allowing to see the slot which makes one shock absorber disconnected while the other supports the oscillation.

[0014] Figure 8.- Shows a posterior elevation enlargement of the set shown in the previous figure, in the same position.

[0015] Figure 9.- Shows, finally, a general perspective of the finished bicycle, that is, with the handlebar and cosmetic covers.

PREFERRED EMBODIMENT OF THE INVENTION

[0016] In view of these figures, it can be seen how the exercise bicycle proposed is structured by a frame on which two longitudinal tubes (1) and (2) are placed along the vertical, longitudinal and horizontal plane of the bicycle, which are welded to each other at one of the ends (3) forming a slightly obtuse angle, of unequal arms, slightly arched and concave fkom the bottom, these tubes (1) and (2) ending in their free lower ends in respective grooved baseplates (4), for coupling to the corresponding crossbars (5) which form the bicycle stand on the floor, being of a sufficient length to make the bicycle stable.

[0017] Both tubes (1) and (2) and crossbars (5) may be cylindrical, as shown in the figures, or have any other cross section.

[0018] In any case, from tube (2) of the frame relative-

ly near its posterior end begins a mast (6), slightly inclined backwards, also tubular, intended to receive on its upper end the traditional seat (7), which telescopes and can be adjusted in position, and joined to this mast (6), a bar (8) which extends forward horizontally also tubular and inside which telescopes an arm (9) which can be set in any position by conventional clamping devices (10), and to which arm (9) is joined support (11) of the handlebar, which will be dealt with below.

[0019] Crossbar (8) and the mast (6) are stiffened by a reinforcement bracket (12) of angular construction, joined to its anterior-lower generatrix, and also joined by its lower end to the anterior tube of the frame.

[0020] Under tube (2) and as a lower extension of mast (6) are a pair of parallel flat bars (13), which are welded on their lower ends to corresponding bushings (14), to which in turn are welded another two flat bars (15) extending forward horizontally, and another pair of flat bars (16) extending backwards, and which respectively are joined to anterior tube (2) and posterior tube (1), forming a vertically stiffened transversal bridge in the heart of the frame, which ensures the correct functional rigidity for said bushings (14) in which are housed ball bearings (17) for the pedal shaft (18) on which the drive pulley (19) is mounted, against which will act pedals (20) by the respective shafts (21).

[0021] The structure described corresponds to a rigid bicycle, in which frame (1-2) is not able to rock sideways, and in which crossbars (5) acting as stands end in decorative elements (22) seen in figure 9, but there also exists the option of frame (1-2) being able to swing side to side as in figures 4 to 8, in which case the grooved baseplates (4) are eliminated and replaced by either joints (23) between triangular flat bars (24) and (25) as shown in figure 5, or by elastic elements (26) as shown in figure 6.

[0022] In any case crossbars (5) will end in suction cups (27) instead of stands (22), in order to improve the stability of the bicycle by the grip of said suction cups (27) to the floor, and also in any case each joint (23) or (26) will be connected to a pair of lateral shock absorbers (28), jointed at their ends (29) and (30), respectively, to frame (1-2) or crossbar (5), as shown in all of figures 5, 6 and 8.

[0023] These shock absorbers (28) are meant to act only when the frame rocks against them, for which the upper end (29) of each moves in a groove (31) of frame tube (1-2) itself, which allows said end (29) to move down along tube (1-2) when it swings in the opposite direction, as shown in figure 8, without resulting in an excessive extension of the shock absorber.

[0024] Returning to the bicycle handlebar, attached to the aforementioned support (11) are two different handlebars, to be used indifferently, a U-shaped handlebar (32) on whose lateral arms are segments which first descend and finally bend forward, and an annular handlebar (33) which is also basically U-shaped and whose side ends are attached to the middle section of the first handlebar (32), said side ends converging from the middle to the far ends, as well as being bent, and having relatively near their start short auxiliary and lateral flat bars (34) on which are placed corresponding support pads (35) for the user's forearms.

[0025] The structure described is complemented by two symmetrical covers (36) and (37) which are attached to the top of tubes (1) and (2) of the frame, thus creating side panels which cover the bridge structure which supports the pedal shaft, making a cosmetic cowling out of which remain only shafts (21) and pedals (20), as seen in figure 9, while the other two symmetrical lateral covers (38) and (39) cover mast (6), crossbar (8) and reinforcement bracket (12) completing the lower cowling and giving the bicycle a pleasing finish.

[0026] It is not considered necessary to extend this description further for any expert in the matter to understand the scope of the invention and the advantages derived thereof.

[0027] The materials, shape, size and arrangement of the elements will be subject to variations as long as this does not cause an alteration of the essence of the invention.

[0028] The terms of this memory must always be taken in a wide and non limiting sense.

[0029] The described bicycle shall be provided with means to regulate the effort required to act on the pedals, these means not being represented as their constitution is known in itself and in this type of bicycle.

Claims

1. Exercise bicycle, characterised in that it is made from two tubular profile bars (1,2) preferably slightly arched, welded together at an end (3), defining a slightly obtuse angle which is located on the vertical, longitudinal and mid plane of the bicycle, these tubes creating a frame which at the bottom ends in support crossbars (5), inside which is placed the stand for the pedal shaft (18) and from which a mast (6) rises to which the seat is directly connected, which is connected near its upper end to a horizontal crossbar (8) which extends forward, inside which telescopes an arm (9) associated to the support of the handlebar (11).

2. Exercise bicycle, as claimed in claim 1, characterised in that the pedal shaft (18) is mounted through ball bearings on bushings (14) connected to a bridge structure made from two pairs of lateral flat bars (15, 16) which extend from the anterior tube (2) to the posterior tube (1) of the frame and which work together with another pair of flat bars (13) which rise vertically from said bushings (14) clearly placed coaxially to the upper mast (6), the drive pulley being joined to the pedal shaft (18) placed between the two sets of flat bars (13, 15, 16) on the

longitudinal, vertical and mid plane of the bicycle.

3. Exercise bicycle, as claimed in previous claims, characterised in that the upper mast (6) and the crossbar (8) emerging from its front are stiffened by an angular reinforcement bracket (12) joined by its anterior and lower side, whose lower side ends at the anterior tube (2) of the frame, which is also stiffened by said bracket (12).

4. Exercise bicycle, as claimed in previous claims, characterised in that the anterior-upper crossbar (8) has locking devices (10) to the arm (9) which bears support (11) of handlebar (32,33), two types of handlebar (32,33) having been projected to rest on said support, with pads (35) for resting the forearms, allowing different body positions while pedaling.

5. Exercise bicycle, as claimed in previous claims, characterised in that the lower ends of the tubes which make up the frame end in corresponding grooved baseplates (4), by which said frame is attached rigidly to crossbars (59 which make up the stand for the bicycle, the free ends of crossbars (5) ending in cosmetic supports (22).

6. Exercise bicycle, as claimed in claims 1 to 4, characterised in that the frame is joined to the lower crossbars (5) so that it may oscillate side to side, in order for which between tubes (1,2) of said frame and crossbars (5) are placed corresponding pairs of lateral shock absorbers (28, 29), in which case the support crossbars (5) end in suction cups for adherence to the floor.

7. Exercise bicycle, as claimed in claim 6, characterised in that frame (1, 2) is connected to the support crossbars (5) by jointed couplings (23, 24, 25) or by elastic elements (26).

8. Exercise bicycle, as claimed in claims 6 and 7, characterised in that shock absorbers (28) which are jointed to frame (1, 2) and lower crossbars (5) are joined to frame (1, 2) through vertical grooves (31) which allow for each shock absorber (28) the frame to swing in the opposite sense without said shock absorber being affected by this motion and without it being extended.

9. Exercise bicycle, as claimed in previous claims, characterised in that frame (1, 2) is aided by a cowling comprised of two lateral covers (36, 37) which are connected to the top of the obtuse angle of frame tubes (1, 2), hiding flat bars (13,15,16) which make up the rigid structure housed inside the frame, and another two side covers (38,39) also symmetrical, which cover the upper mast (6), the crossbar (8) associated to it and the stiffening bracket (12).

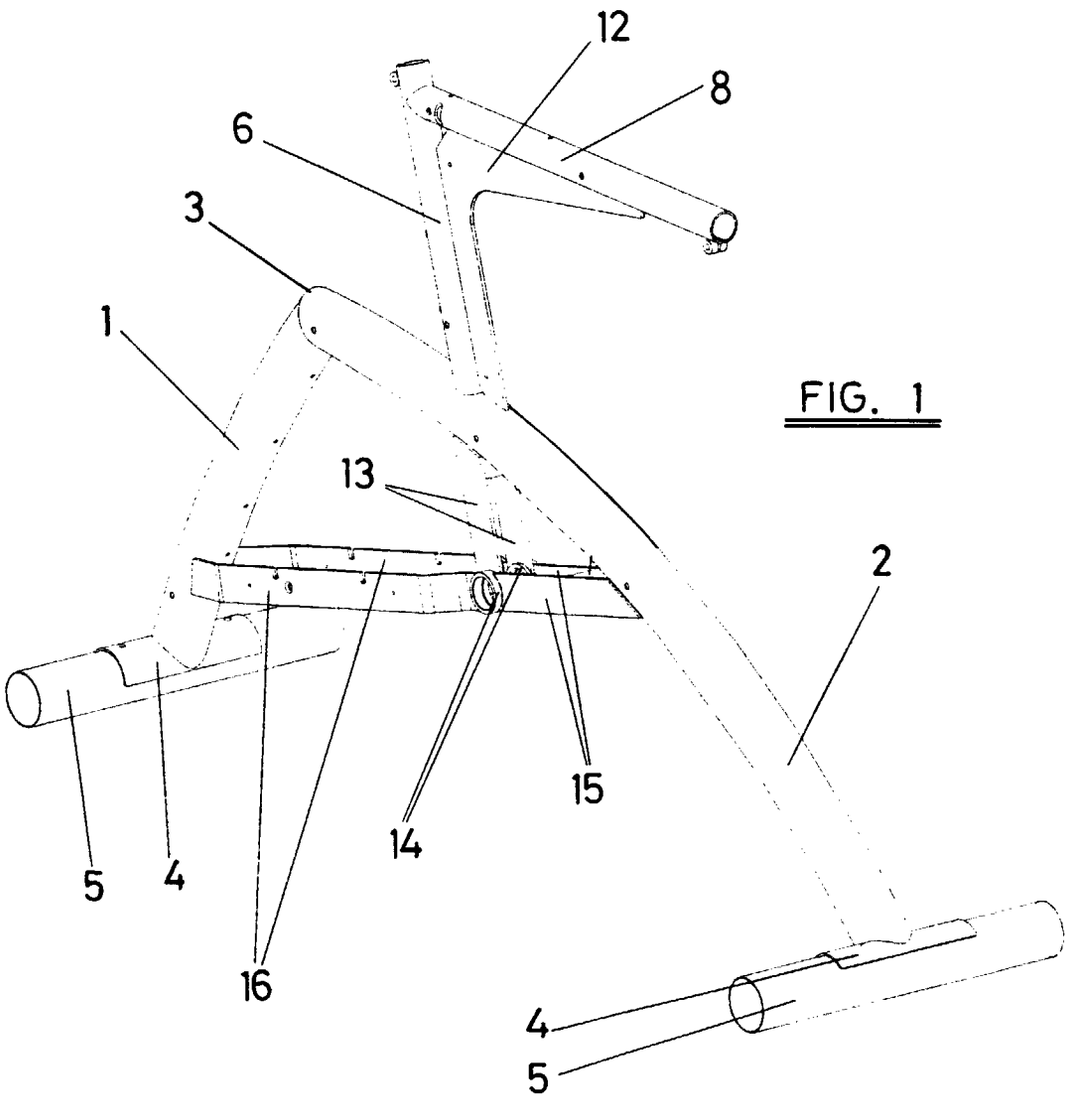


FIG. 1

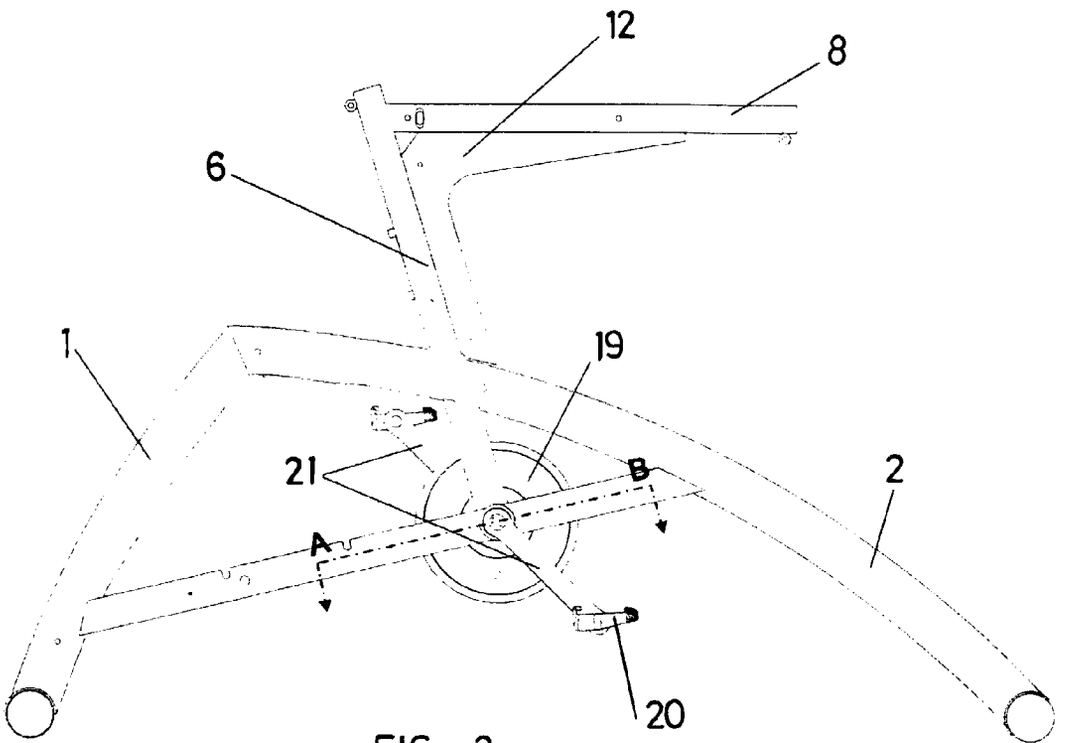


FIG. 2

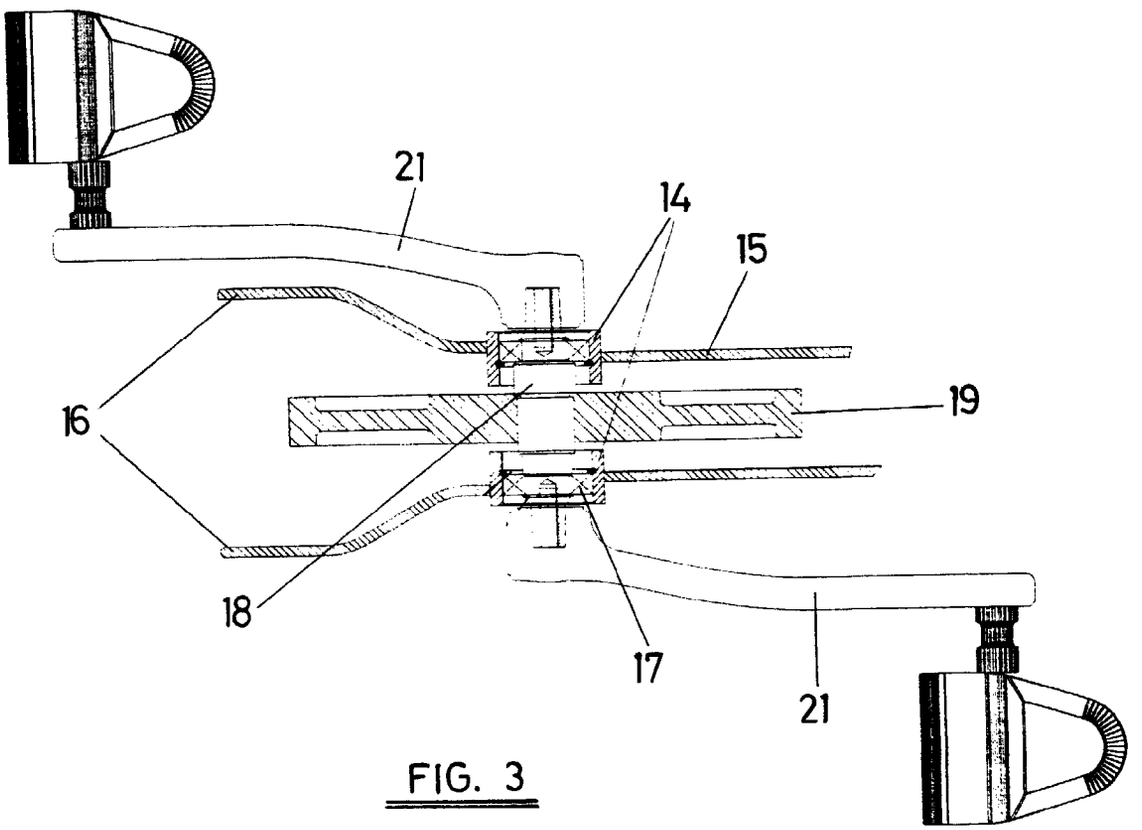


FIG. 3

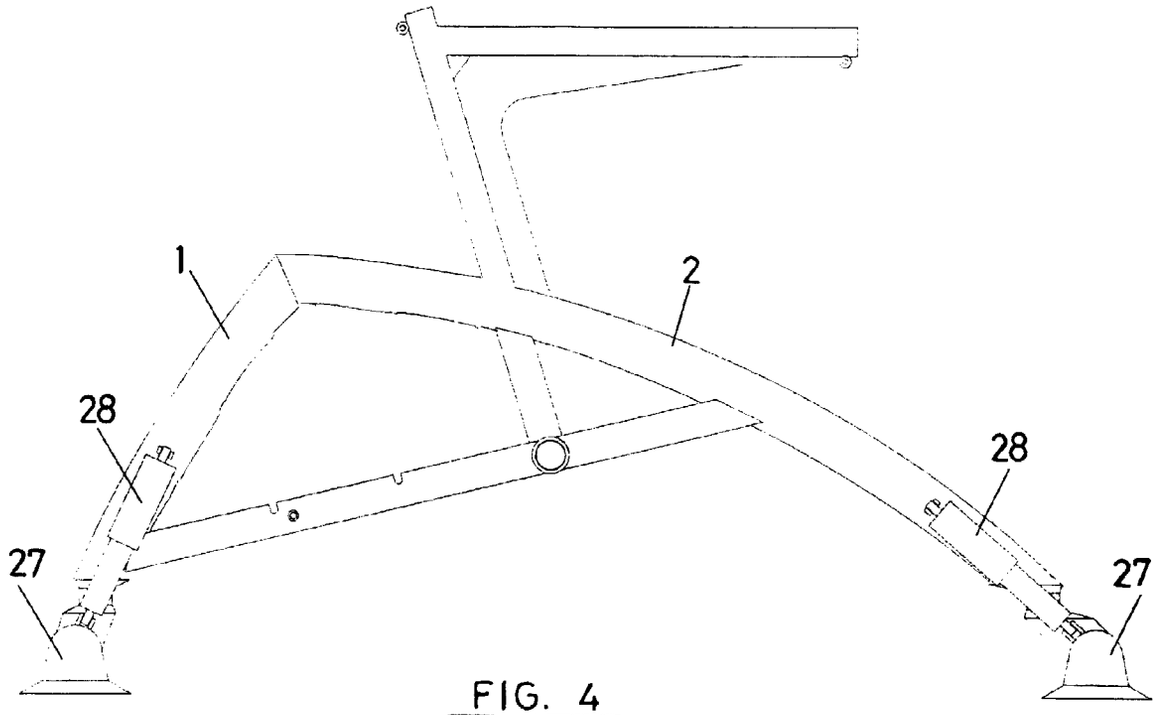


FIG. 4

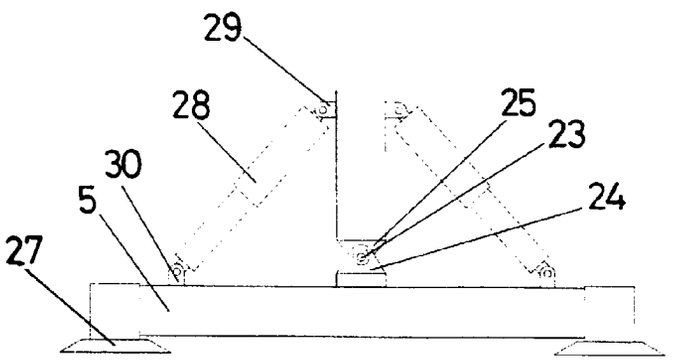
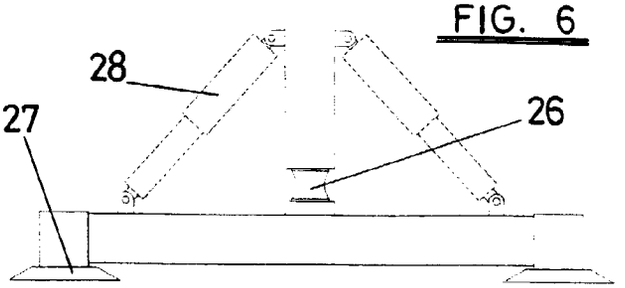


FIG. 5

FIG. 6



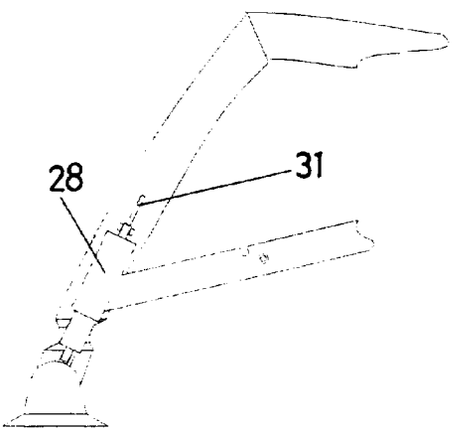


FIG. 7

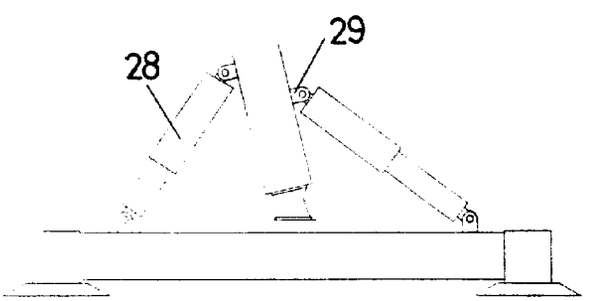


FIG. 8

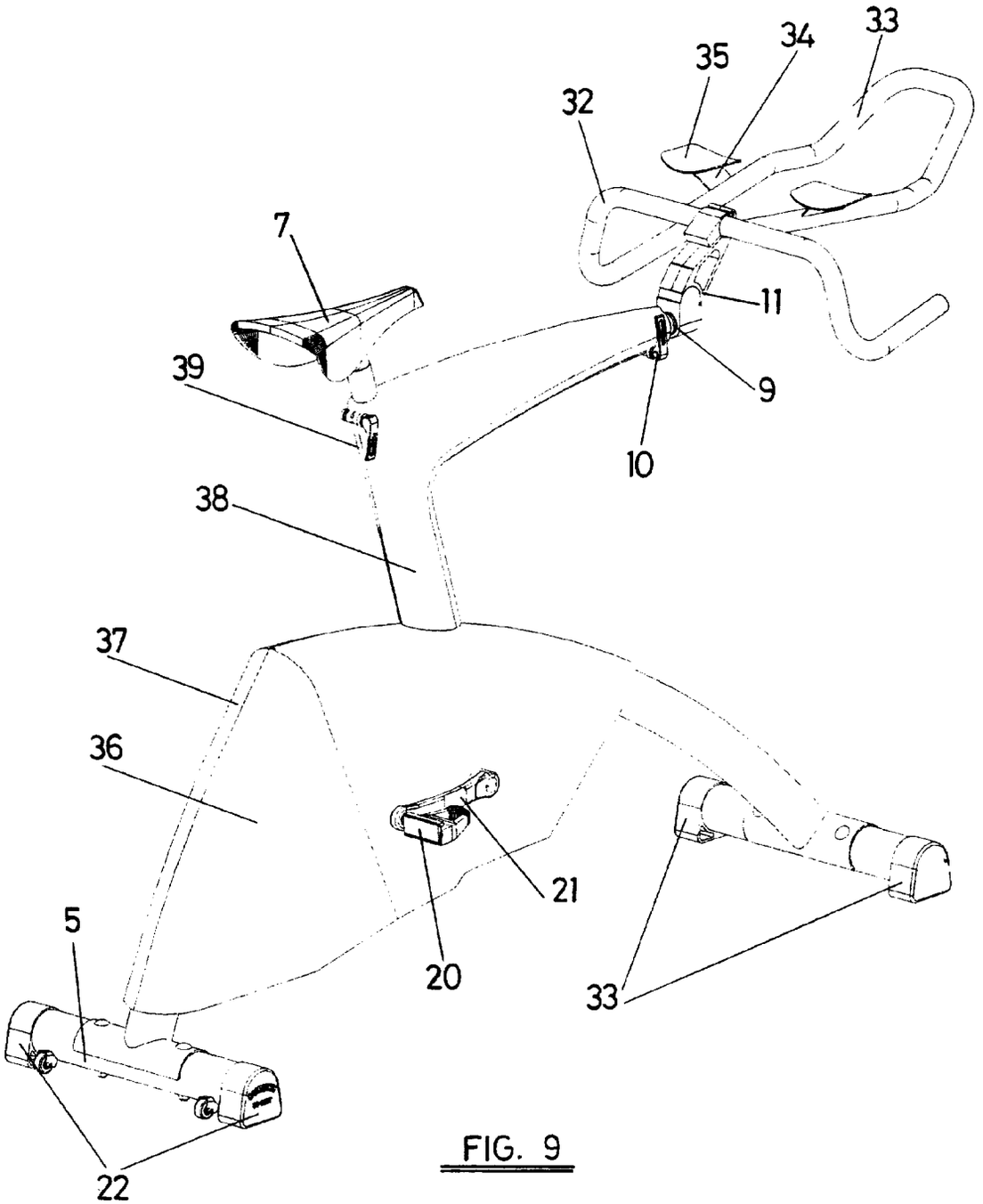


FIG. 9