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(54) **OVAL ORBIT EXERCISE BIKE**

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(57) **ABSTRACT**

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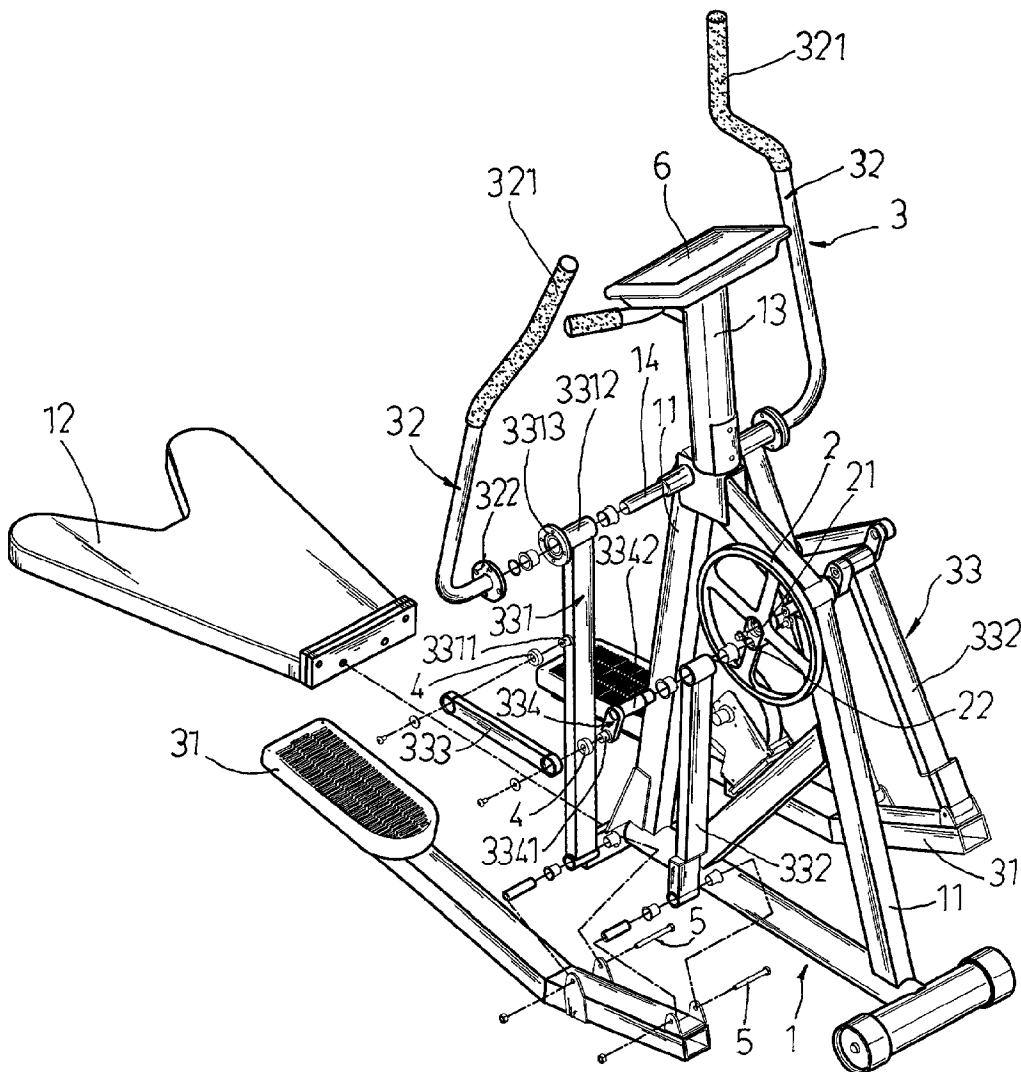
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An oval orbit exercise bike comprises a flywheel locked to an upright post of a front portion of a base frame by an axle through central bore. On both sides of the base frame, there are two sets of exercise devices, each of which comprises a pedal, handlebar and linkage mechanism composed of the first and second link active link rods, fixed link rod and crankshaft. When the pedal is pushed downward, force applied reacts on the first and second active link rods, causing the flywheel to rotate around the central bore. Simultaneously, the crankshaft and fixed link rod pivoted on the first active link rod cause the handlebar to produce back and forth swings. The pedal, with the first and second active link rods pivoted on it, makes movement around an oval orbit, causing the handlebar to swing, thus providing human body with relaxation and comfort.



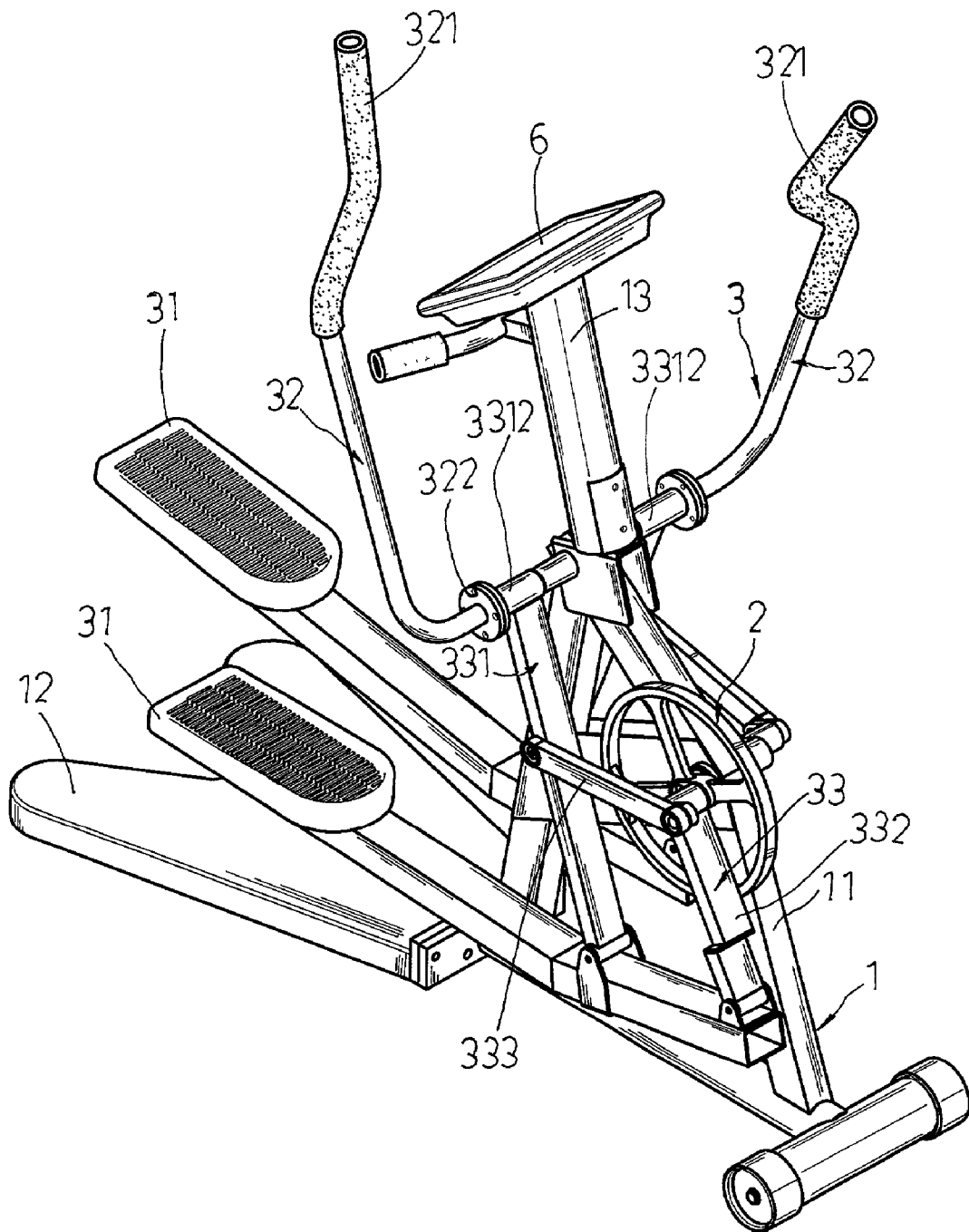


FIG.1

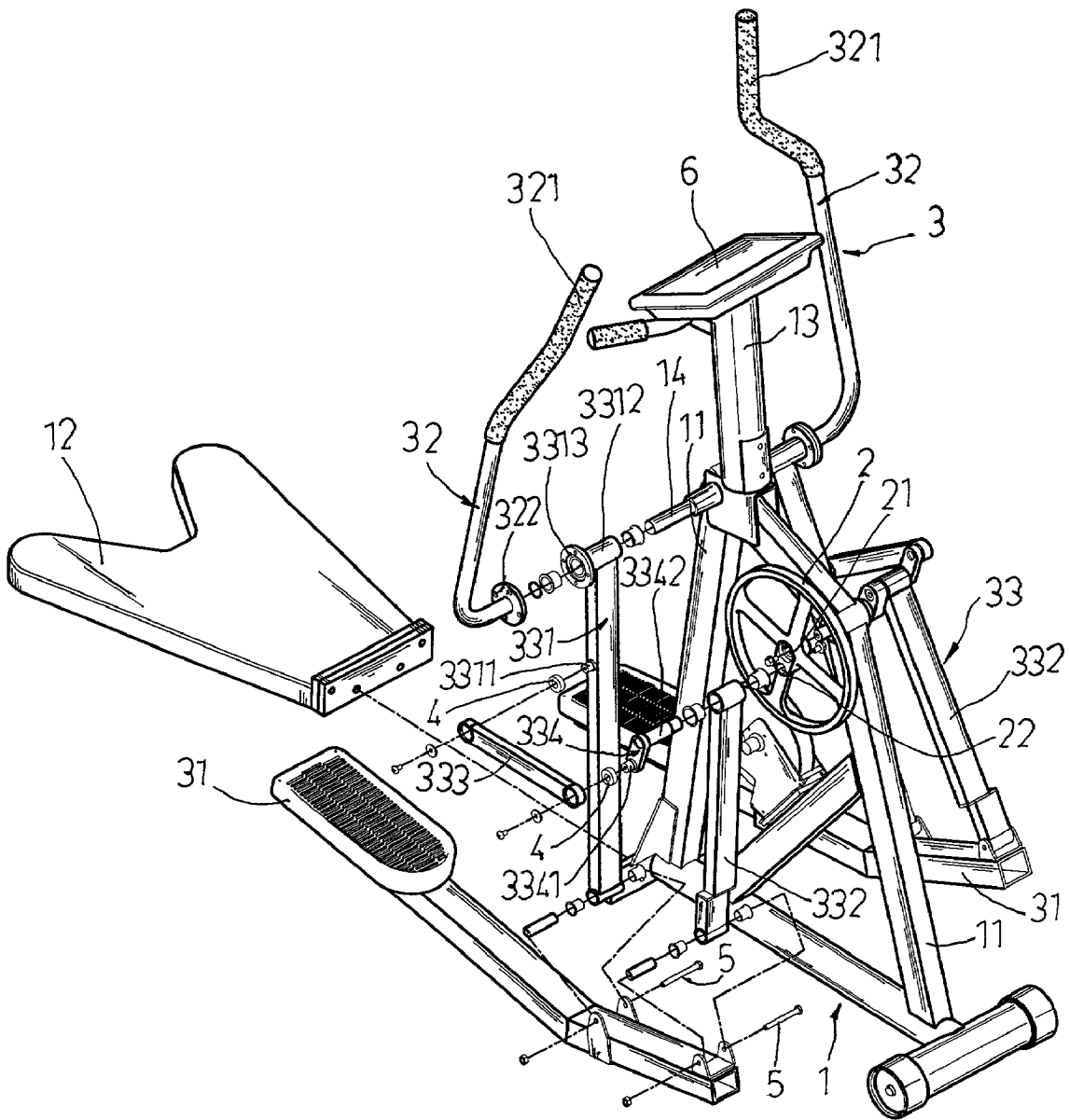


FIG 2

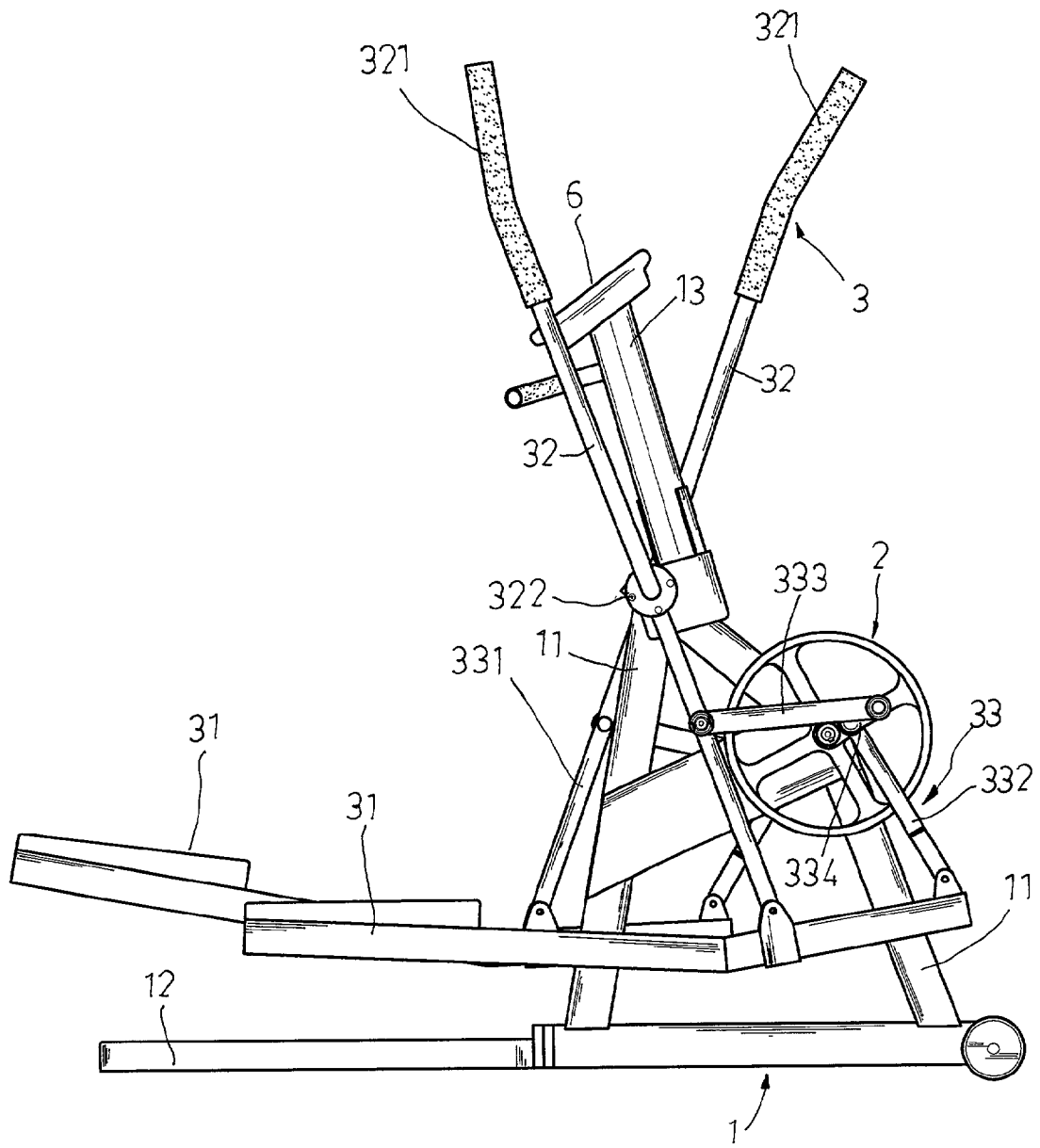


FIG. 3

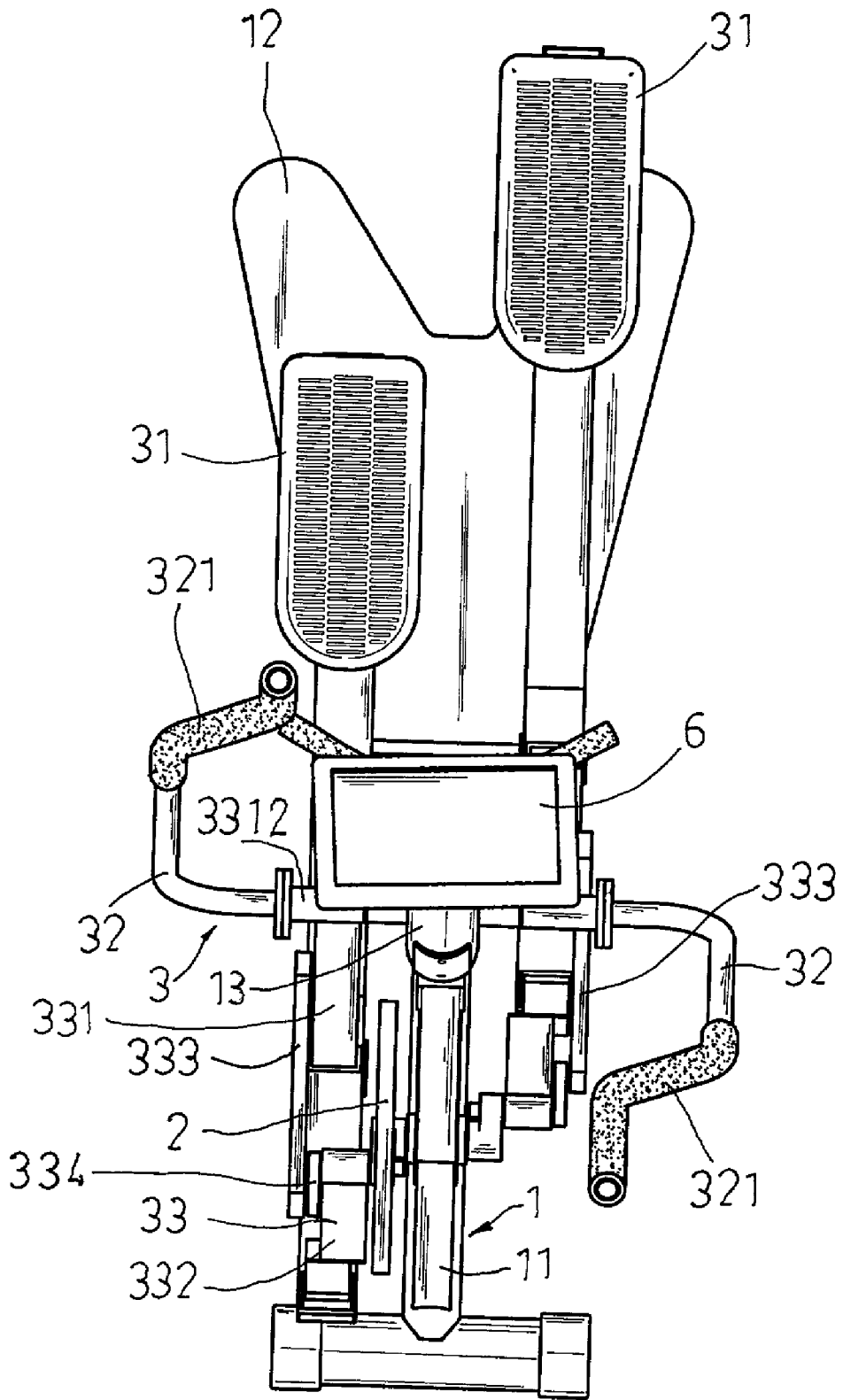


FIG. 4

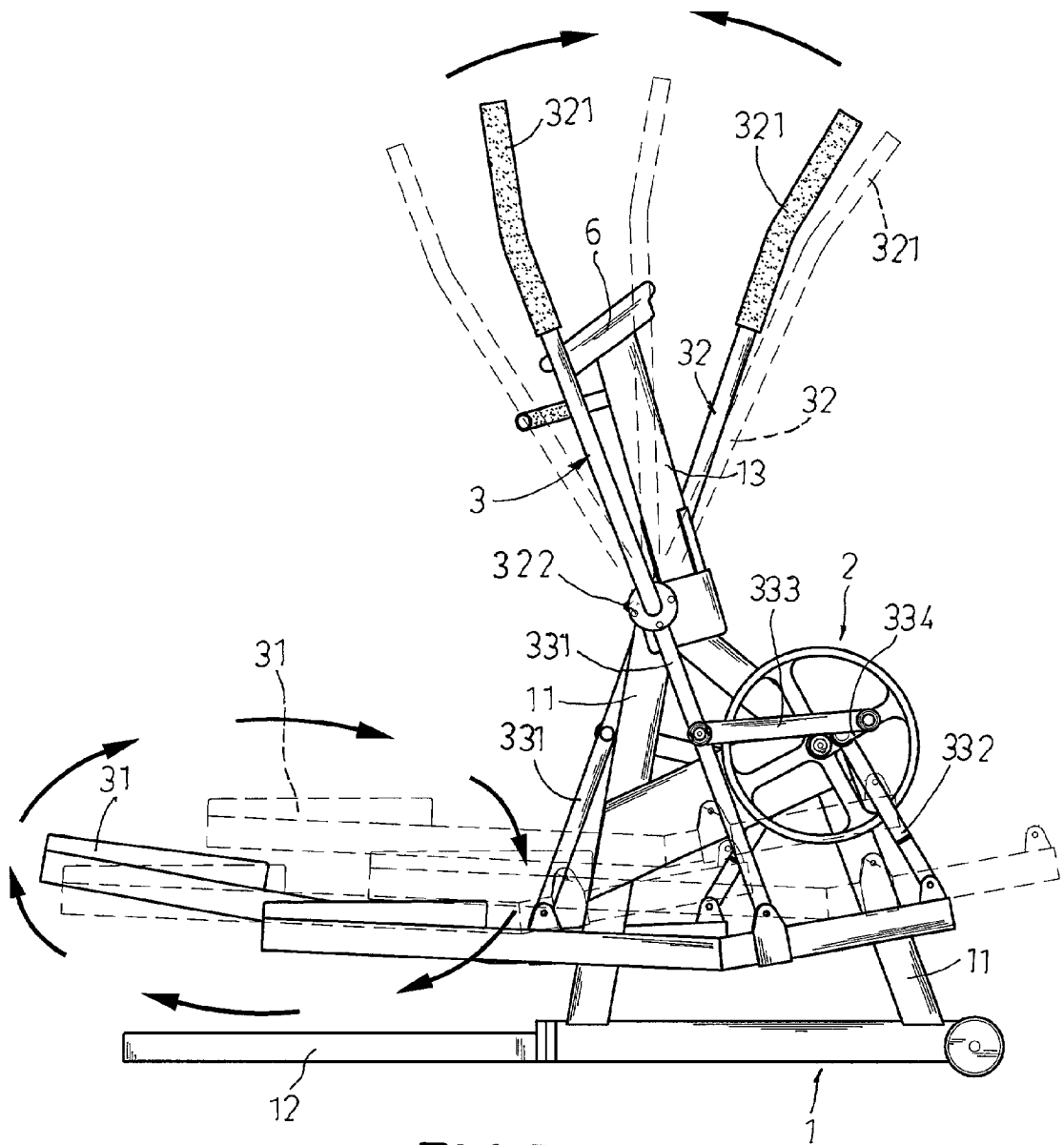


FIG. 5

OVAL ORBIT EXERCISE BIKE

FIELD OF THE INVENTION

[0001] This invention relates to an oval orbit exercise bike, which in particular achieves variable performance in health care. The feet move around an oval orbit and the pace speed is adjustable dependent on individual physical condition.

BACKGROUND OF THE INVENTION

[0002] As scientific advances and social prosperity boost greatly the living standard for the people, high quality of tourism, sports, meals, and audio and video enjoyment have become indispensable to their leisure time. For sports, there are indoor sports and outdoor sports. For indoor sports, there are numerous kinds of exercise equipment, such pulling machines, chest expanders, abdominal beds and the universal gyms. However, in all cases, every equipment responds a recoil action to correspond with the force applied. In most cases, the recoil action is derived from the multiple mechanisms. Such mechanisms are not only complicated in construction, but also frustrating in use.

[0003] For these reasons, the inventor has been working hard on meticulous study for years and come up with an oval orbit exercise bike to emphasize the exercise on the feet in an effort to gain more relief and comfort on body and to train the feet on continuous walking.

SUMMARY OF THE INVENTION

[0004] The main object the invention intends to achieve is to take advantage of the eccentric arrangement organized by the second active link rod and the flywheel, where the second active link makes circular movement around the central bore of the flywheel, and the pedal makes an oval time marking movement; simultaneously, the first active link rod compels the handlebar to swing back and forth. It not only provides the operator time marking movement, but also offers relaxation to the whole body.

[0005] Another object of the invention is to use a simplified mechanism in the greatest benefit to gain the maximum relaxation in legs. This exercise bike is ergonomically designed with a simple structure and only a small space is required for installation.

[0006] The objects and features of this invention are expounded in great details with the aid of advantageous embodiment as illustrated in the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 shows a stereo appearance of an oval orbit exercise bike of the invention.

[0008] FIG. 2 shows a disassembly of an oval orbit exercise bike of the invention.

[0009] FIG. 3 shows a side view of an oval orbit exercise bike of the invention.

[0010] FIG. 4 shows a bird's eye view of an oval orbit exercise bike of the invention.

[0011] FIG. 5 is a schematic diagram showing the dynamic condition of an oval orbit exercise bike of the invention.

DETAILED DESCRIPTION OF THE INVENTION

[0012] As shown in FIGS. 1 through 4, the oval orbit exercise bike includes at least a base frame 1, a flywheel 2, and exercise devices 3, in which the rear portion of the base frame 1 connects to a rear platform 12. The front portion of the base frame 1 is an upright post 11 and a link post 13 with an indicator 6 mounted on its top. The bottom of the link post 13 is fixed on a lateral axle 14.

[0013] The flywheel 2 has a central bore 21 for fastening itself on the side of the upright post 11.

[0014] The exercise device 3 comprises a pair of pedal 31 disposed on each side of the base frame 1, two handlebars 32 and linkage mechanism 33 composed of a first active rod 331, a second active rod 332, a link rod 333 and a crankshaft 334. Pins 5 are employed to link the pedal 31 to the first active rod 331 and the second active rod 332. The crankshaft 334 of the linkage mechanism 33 connecting to the second active rod 332 is fastened to the eccentric bore 22 of the flywheel 2 by the crank pin 3342. The link rod 333 links one end to the crank arm 3341 of the crankshaft 334 and other end to the side arm 3311 of the first active rod 331. The upper connecting piece 3312 of the first active rod 331 links with the lateral axle 14 and the handlebars 32. The handlebars 32 have the handle grips 321 on their tips.

[0015] Please refer to FIGS. 2 through 5, while the pedal 31 is pushed downward, the force applied reacts on both the first active rod 331 and the second active rod 332, causing the flywheel 2 to rotate along the central bore 21; simultaneously the link rod 333 of the crankshaft 334 pivots on the first active rod 331, thus the handlebars 32 are under force to swing back and forth. In the meantime, the first active rod 331 and the second active rod 332 are both pivoted on the pedal 31, so the pedal 31 is obliged to make an oval movement.

[0016] In addition, the first active rod 331 and the second active rod 332 in the linkage mechanism 33 provide a plurality of lock holes 3313, 322 for adjusting link angle between the handlebars 32 and the first active rod 331 to obtain the proper pace range of the pedal 31.

[0017] Furthermore, the second active rod 332 can be designed with a variable position linking to the flywheel 2 in order to gain the proper pace of the pedal 31 and to control the curvature of the oval orbit, so it is ergonomically suitable to individual's physical requirement.

[0018] The oval orbit exercise bike is very simple in its structure design, where the eccentricity of the flywheel is utilized to the maximum on the pedal to produce an oval orbit movement, requiring only a small space for installation, so it is justified for a grant of new patent.

1. An oval orbit exercise bike, at least comprising a base frame, a flywheel and an exercise device characterized by:

said base frame having a rear portion as a fixing point and a front portion being an upright post with an indicator mounted on its tip and a lower part of said upright post locked in a lateral axle;

said flywheel having a central bore for linking to one side of said post;

said exercise devices, disposed on both sides of said base frame, each consisting of a pedal, handlebars and linkage mechanism, each linkage mechanism constituting a first active rod, a second active rod, a link rod and a crankshaft, pin employed to link said pedal to said first active rod and said second active rod, said link rod having one end linking a top end of said second active rod and said crankshaft and locking them to said central bore of said flywheel and other end linking to said first active rod pivoted on a lateral axle together with said handlebar;

while said pedal being pushed downward, force applied reacting on both said first active rod and said second active rod, causing said flywheel to rotate along said central bore, simultaneously said link rod of said crankshaft pivoting on said first active rod, said handlebars

receiving force to swing back and forth, in the meantime, said first active rod and said second active rod both pivoted on said pedal, so said pedal obliged to make an oval movement.

2. The oval orbit exercise bike of claim 1, wherein said first active rod and said second active rod of said linkage mechanism provide a plurality of lock holes for adjusting the angle formed between said handlebar and said first active rod to obtain a proper pace range of said pedal.

3. The oval orbit exercise bike of claim 1, wherein said second active rod can be designed to be fastened at variable position along the longitudinal direction of said flywheel for adjusting a proper pace range of said pedal.

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