United States Patent

[11] 3,601,395

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[21] Appl. No. **841,380**
[22] Filed **July 14, 1969**
[45] Patented **Aug. 24, 1971**

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[54] **ROTATABLE HANDLE BAR FOR EXERCISE APPARATUS WITH ADJUSTABLE ROTATIONAL RESISTANCE CONTROL**
3 Claims, 5 Drawing Figs.

[52] **U.S. Cl.** ..... **272/73,** 272/79 R, 272/DIG. 3
[51] **Int. Cl.** **A63b 69/18,** A63b 21/00, A63b 23/04
[50] **Field of Search** ..... 272/79 R, 80, 67, 83, 82, 73; 24/249 LS, 249 LL, 249 WL, 132, 132 LS, 132 W

[56] **References Cited**

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ABSTRACT: A stationary cycle type exercising device having attached to the support for the handle bars an adjustable friction type clamping device that offers a frictional resistance to the manual rotation of the handle bars during an exercise program. The handle bars have a straight intermediate portion received in the clamping device and a pair of hand grips which are offset from, and parallel to, the intermediate portion. The axes of the hand grips are coextensive.

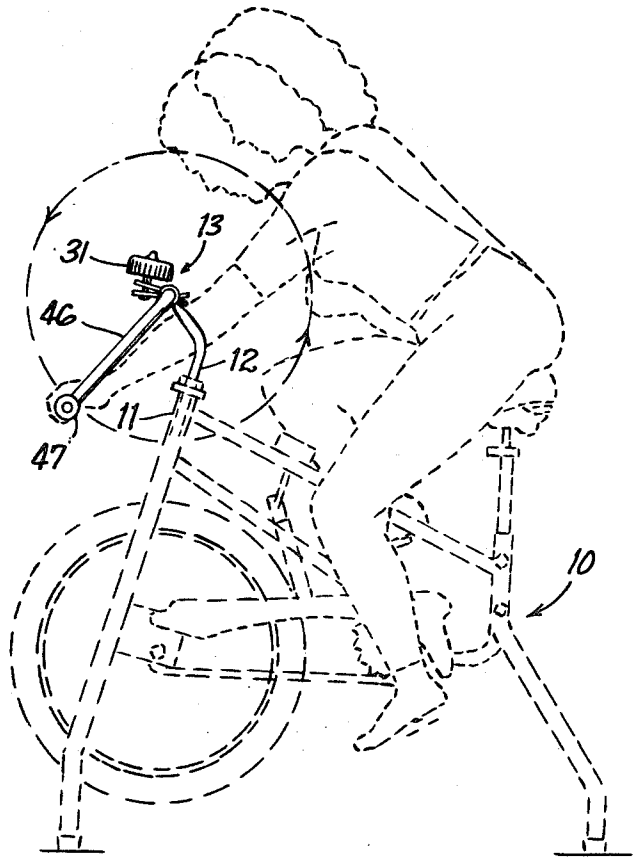


FIG. 1

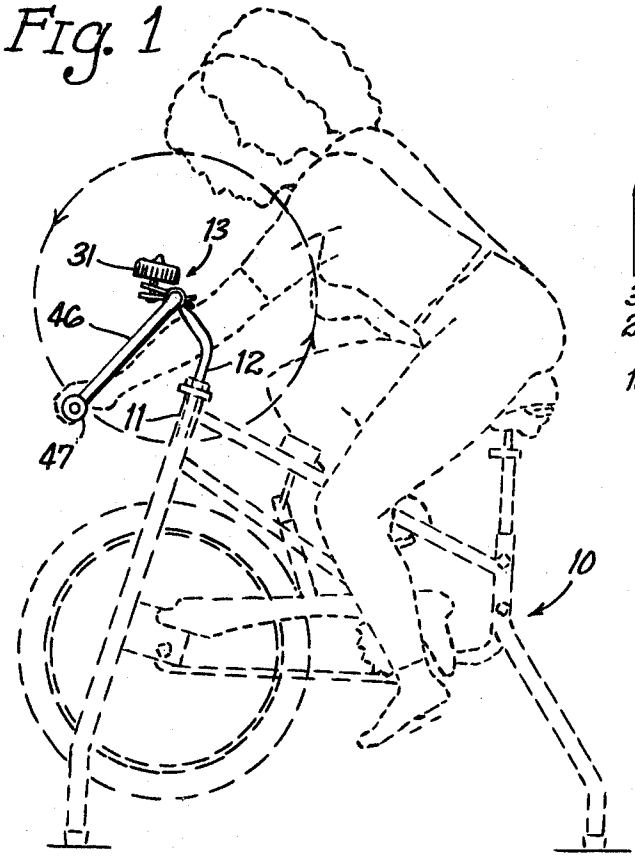


FIG. 3

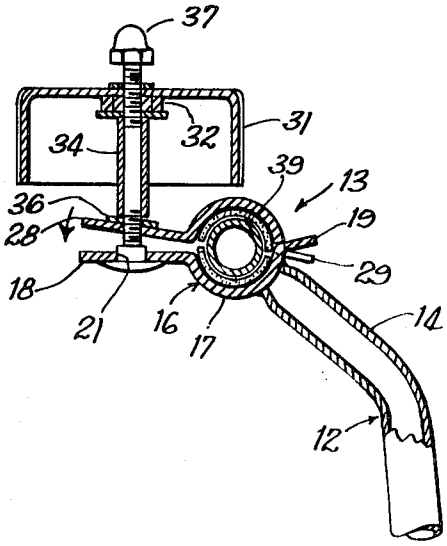


FIG. 4

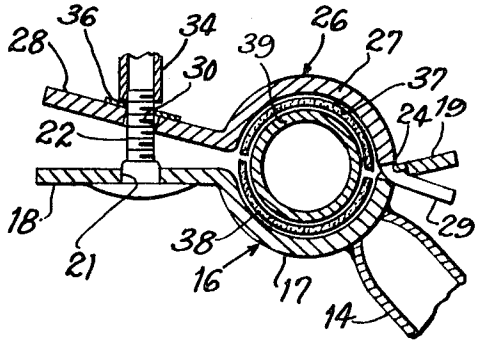


FIG. 2

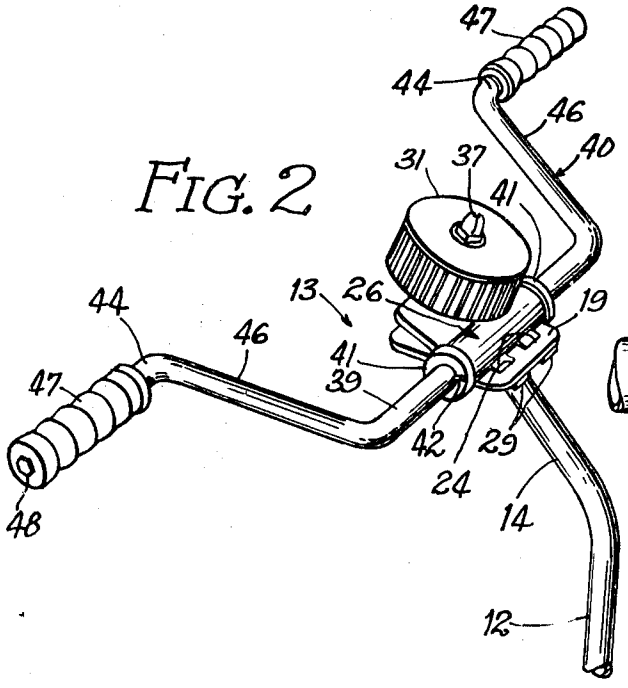
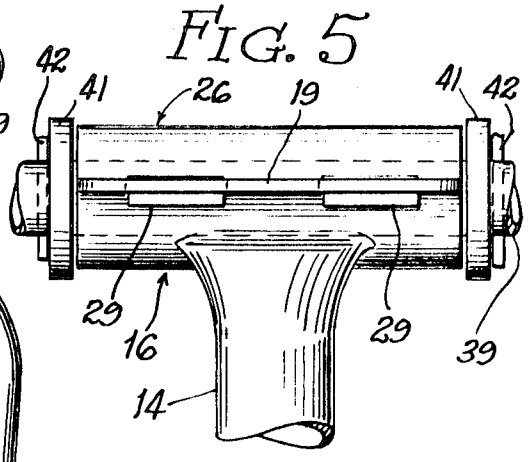


FIG. 5



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ROTATABLE HANDLE BAR FOR EXERCISE APPARATUS WITH ADJUSTABLE ROTATIONAL RESISTANCE CONTROL

BACKGROUND OF THE INVENTION

The present invention relates to a rotatable handle bar for an exercise apparatus with means for varying the resistance to rotation of the handle bar.

Stationary exercise cycle apparatus now in wide use generally include means for adjustably varying the tension on the wheel driven by the pedals to vary the pedal effort of the operator. In such apparatus, the handle bar, generally, is fixed in relation to the frame, as in conventional bicycles, so that the operator derives no direct beneficial effect from that part of the apparatus.

BRIEF SUMMARY OF THE INVENTION

In accordance with the present invention I provide, in an apparatus of the type described, a handle bar which is mounted for rotation about an axis parallel to the rotational axis of the pedals, including means for adjustably varying the resistance to rotation of said handle bar so as to provide, in a single apparatus, additional means for exercising the body concurrently with the pedal effort expended by the operator.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevational view of a cycle type exercise apparatus supporting an operator, shown in broken lines, with the novel handle bar assembly of my invention mounted thereon, the same being shown in solid lines.

FIG. 2 is a perspective view of a handle bar assembly, in accordance with my invention.

FIG. 3 is a vertical cross-sectional view thereof, on an enlarged scale.

FIG. 4 is a fragmentary cross-sectional view of a detail, on an enlarged scale.

FIG. 5 is a rear elevational view of a detail, on an enlarged scale.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings, the numeral **10** indicates, generally, a cycle type exercise apparatus of conventional construction, shown in broken lines. The frame of the apparatus includes a tubular portion **11** above the front fork which provides a socket for receiving the bent stem **12** of the handle bar assembly, indicated generally by the numeral **13**. Welded to the end of the forwardly directed portion **14** of the stem **12** is a member **16**, preferably formed of sheet metal and having an intermediate arcuate portion **17** and integral front and rear flanges **18** and **19**, respectively. The front flange **18** is provided with a square opening **21** to accommodate a correspondingly shaped shank portion of a bolt **22** to prevent rotation of the same. The rear flange **19** is provided with a pair of spaced slots **24**. Referring to FIG. **4**, it will be seen that the rear flange **19** is not coplanar with the front flange **18**, but rather is an angular relation thereto.

A cooperating member **26**, similarly formed of sheet metal, includes an intermediate arcuate portion **27** having an integral front flange **28** and a pair of integral spaced tongues **29**, the latter being adapted to be received in the slots **24** so as to effect a hinged relationship between the members **16** and **26**. The front flange **28** is provided with an aperture **30** through which the bolt **22** is passed. Referring to FIGS. **3** and **4**, it will be noted that the flanges **18** and **28** normally are disposed in spaced angular relation so that they may be moved relative to each other, as will be hereinafter explained.

The bolt **22** carries a knob **31** which is provided with

peripheral flutes to afford an improved gripping surface for hand engagement.

Referring to FIG. **3**, the knob **31** has a threaded nut **32** welded to the underside of the top wall, the nut being in threaded engagement with the bolt **22**. The nut **32** abuts one end of a sleeve **34** which is circumposed about the bolt **22**, the lower end of the sleeve abutting against a washer **36** lying on the flange **28**. A cap nut **37** on the end of the bolt **22** limits the outward axial movement of the knob **31** and prevents separation of the parts.

Disposed between the arcuate sections **17** and **27** of the members **16** and **26** are a pair of arcuate friction elements **37** and **38**, each having a length substantially coextensive with the arcuate portions **17** and **27** and embracing the transverse portion **39** of the handle bar **40**. A washer **41** of plastic or any other suitable material is disposed adjacent each end of the members **16** and **26**. Each of the washers is secured against axial movement on the transverse portion **39** of the handle bar by a pin **42** passed through said portion. These washers serve to retain the friction elements **37** and **38** against longitudinal movement within the arcuate portions **17** and **27**.

The handle bar **40** includes the intermediate transverse portion **39** and a pair of hand grip portions **44** and connecting portions **46**. The hand grip portions **44** are coaxially arranged and are offset from and substantially parallel to the transverse portion **39**. A suitable hand grip sleeve **47** is rotatably carried on each hand grip portion **44** and is secured against displacement by a headed bolt **48** screwed into the end of the grip portion.

It will be seen that the handle bar **40** is journaled in the friction members **37** and **38** and may be rotated freely in the manner illustrated in FIG. **1**, about the axis of the transverse portion **39** when the members **16** and **26** are in loose relationship. The resistance to rotation of the handle bar **40** is adjusted by rotation of the knob **31** to vary the braking effect of the friction members **37** and **38** on the transverse portion **39** of the handle bar. It will be understood that the handle bar **40** also may be clamped against rotation, in any desirable position, to suit the operator, merely by tightening the knob **31**.

Various changes coming within the spirit of my invention may suggest themselves to those skilled in the art; hence, I do not wish to be limited to the specific embodiment shown and described or uses mentioned, but intend the same to be merely exemplary, the scope of my invention being limited only by the appended claims.

I claim:

1. In combination, a stationary exercise cycle apparatus having a frame and pedals, a handle bar having a transverse intermediate portion and a pair of hand grips offset from said intermediate portion, the hand grips being substantially coaxially disposed and parallel to said intermediate portion, means carried on said frame for supporting said handle bar for manually rotation about an axis parallel to the rotational axis of the pedals, said means including a pair of hinged members embracing said intermediate portion, and screw means engageable with said hinged members for varying the frictional resistance to manual rotation of said handle bar during an exercise program, a pair of frictional elements interposed between the hinged members and the intermediate portion of said handle bar, said frictional elements being arcuate, said frictional elements being forced into engagement with the intermediate portion of the handle bar by said hinged members.

2. The invention as defined in claim **1** in which one of said hinged members is fixed on said frame and has a slot and the other of said hinged members has a tongue received in said slot to effect a hinged connection therebetween.

3. The invention as defined in claim **1** in which each of the hinged members includes an arcuate portion and a flange with said arcuate portion embracing said intermediate portion and said screw means passing through said flanges.