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(54) Stationary exercise device

(57) An exercise device includes two cranks rotatably coupled to a frame of a base, two handles pivotally coupled to the frame, and two foot supports each having a front portion pivotally coupled to the rod of the cranks with a link and each having a rear portion pivotally coupled to the rear portion of the base, and the lower portions of the handles are pivotally coupled to the foot supports to allow the moving stroke of the foot supports to be controlled by the handles. The handles may be pivotally coupled together with a coupler. A foot pedal may be pivotally supported on each of the foot supports and pivotally coupled to the handles.

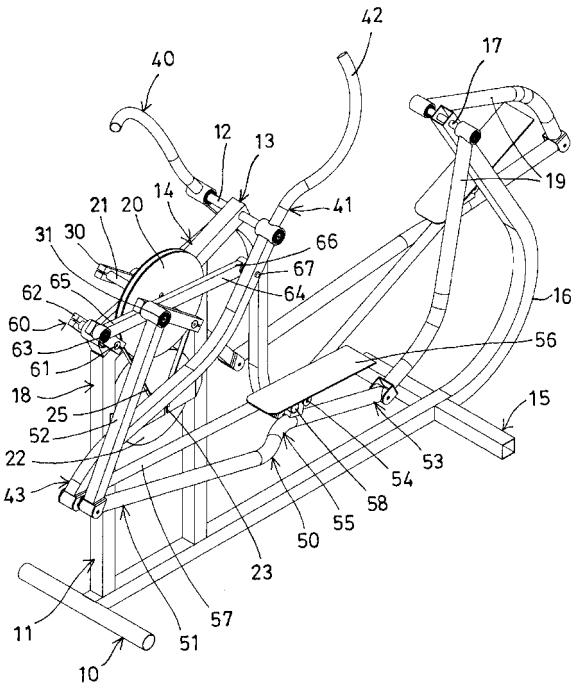

FIG. 1

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Description

[0001] The invention relates to a stationary exercise device including a changing moving stroke, and to be actuated or worked either as a stepping exerciser or an elliptical exerciser.

[0002] Typical stepping exercisers comprise a pair of foot supports to be stepped by the users. However, the exercisers may not be worked either as a stepping exerciser or an elliptical exerciser, and the moving stroke may not be increased.

[0003] The invention provides an exercise device according to claim 1 including a different or a changing moving stroke, and workable either as a stepping exerciser or an elliptical exerciser.

[0004] Further advantageous embodiments are laid down in further claims.

[0005] FIGS. 1, 2 are perspective views of an exercise device;

[0006] FIGS. 3, 4 are partial exploded views of the exercise device;

[0007] FIGS. 5, 6, 7, 8, 9 are side views of the exercise device.

[0008] Referring to FIGS. 1-5, an exercise device 1 comprises a frame 11 extended from a base 10, a spindle 12 disposed on the rear portion 13 of the frame 11, a wheel 20 and a flywheel 22 attached to the middle portion 14 of the frame 11 with a shaft 21 and an axle 23, a follower 24 secured to the axle 23 and coupled to the wheel 20 with such as a sprocket-and-chain, a gearing, or a belt coupler 25 for resisting the wheel 20 and the shaft 21, the other hydraulic or pneumatic or magnetic retarding devices (not shown) may also be used to resist the wheel 20 and the shaft 21. Two cranks 30 are secured to the shaft 21, and a rod 31 is attached to each crank 30 and spaced from the shaft 21, two handles 40 include a middle portion 41 attached to the spindle 12 for swinging relative to the frame 11, and a hand grip 42 provided on each handle 40.

[0009] Two foot supports 50 each include a front portion 51 pivotally coupled to the rod 31 of the cranks 30 with a link 52, a rear portion 53 pivotally coupled to the rear portion 15 or a post 16 of the base 10 with an axle 17 and an arm 19 for swinging relative to the post 16 of the base 10, a rod 54 disposed on the middle portion 55 for pivotally supporting a foot pedal 56. The lower portions 44 of the handles 40 are each pivotally coupled to the foot supports 50 with a lever 57 which is pivotally coupled to the rod 54 or to the foot pedal 56 with a pole 58 for allowing the foot pedal 56 to be pivoted to different angular positions by the handles 40.

[0010] In operation, the handles 40 may be swung relative to the frame 11, and the rear portions 53 of the foot supports 50 may be swung relative to the post 16, and the front portions 51 of the foot supports 50 may be moved cyclically relative to the frame 11 by the cranks 30, such that the foot pedals 56 of the foot supports 50 may be moved elliptically relative to the base 10, the handles 40 may be controlled by the users to determine the moving stroke of the foot supports 50 (FIGS. 6-8). A coupler 60 includes a pole 61 attached to the front portion 18 of the frame 11, and two cranks 62 are secured to the pole 61 and each include a rod 63 spaced from the pole 61, and two levers 64 are coupled between the rods 63 of the cranks 62 and the middle portions 41 of the handles 40 for coupling the handles 40 together.

[0011] The levers 64 each include one end 65 coupled to the rod 63 of the cranks 62, and the other end coupled to the middle portions 41 of the handles 40 with a pin 67 which is spaced away from the spindle 12, the cranks 62 will not be rotated relative to the rod 63, but may only be moved forwardly and rearwardly relative to the frame 11 such that the wheel 20 and the shaft 21 and the cranks 30 will not be interfered by the levers 64 and the rod 63 of the cranks 62. The movement of the foot supports 50 may be controlled by the users with the handles 40 to freely adjust the moving stroke of the foot supports 50, When the handles 40 are held stationarily by the users (FIG. 9), the front portions 51 of the foot supports 50 and the link 52 may still be moved cyclically relative to the frame 11 by the cranks 30 such that the foot supports 50 may be operated as a stepping exerciser.

Claims

1. An exercise device comprising:

- a frame (11) extended from a base (10),
- a spindle (12) disposed on the frame,
- two cranks (30) coupled to the frame with a shaft (21) and each including a rod (31) spaced from the shaft (21),
- two handles (40) including a middle portion attached to the spindle, and a hand grip, and
- two foot supports (50),

characterized in that:

the foot supports each include a front portion (51) coupled to the rod (31) of the cranks (30) with a link (52) and moved cyclically relative to the frame by the cranks, and a rear portion (53) coupled to a rear portion of the base (10), and lower portions of the handles (40) are coupled to the foot supports (50) to allow the foot supports to be controlled by the handles.

2. The exercise device as claimed in claim 1 further comprising a wheel (20) rotatably attached to the frame with the shaft (21) for resisting the shaft and the cranks.

3. The exercise device as claimed in claim 2, wherein a flywheel (26) is attached to the frame with an axle (23) and coupled to the wheel (20).

4. The exercise device as claimed in one of claims 1 to 3, wherein the rear portions (53) of the foot supports (50) are coupled to the rear portion of the base with an arm.

5. The exercise device as claimed in one of claims 1 to 4 further comprising two further cranks (62) coupled together and coupled to the handles (40) for coupling the handles together.

6. The exercise device as claimed in claim 5, wherein the base includes a pole (61) disposed on the frame (11) and coupled to the cranks (62).

7. The exercise device as claimed in one of claims 1 to 6, wherein a foot pedal (56) is pivotally supported on each of the foot supports (50) with a rod.

8. The exercise device as claimed in claim 7, wherein the lower portions of the handles (40) are each pivotally coupled to the foot pedals (56) of the foot supports with a lever (57).

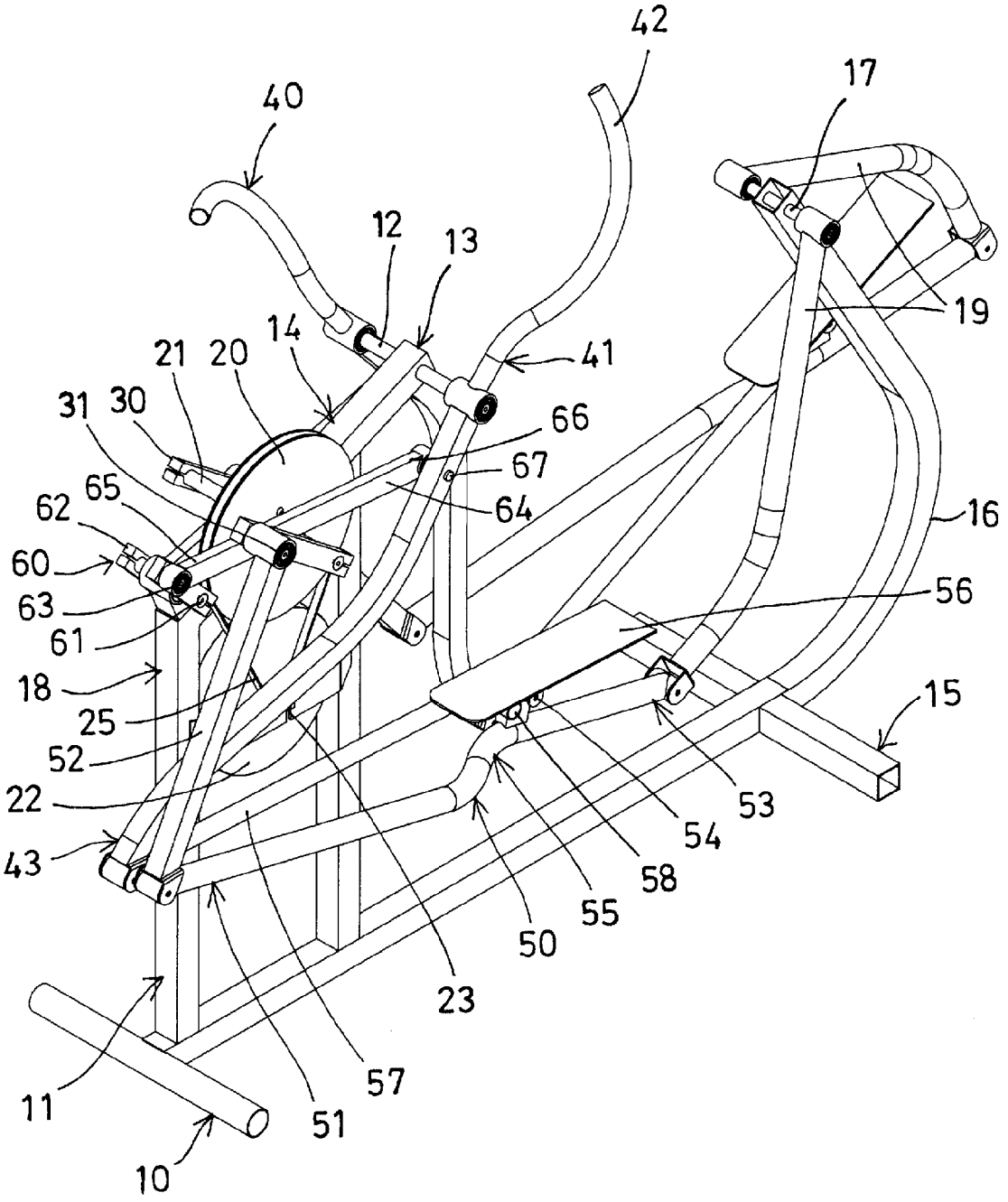
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FIG. 1

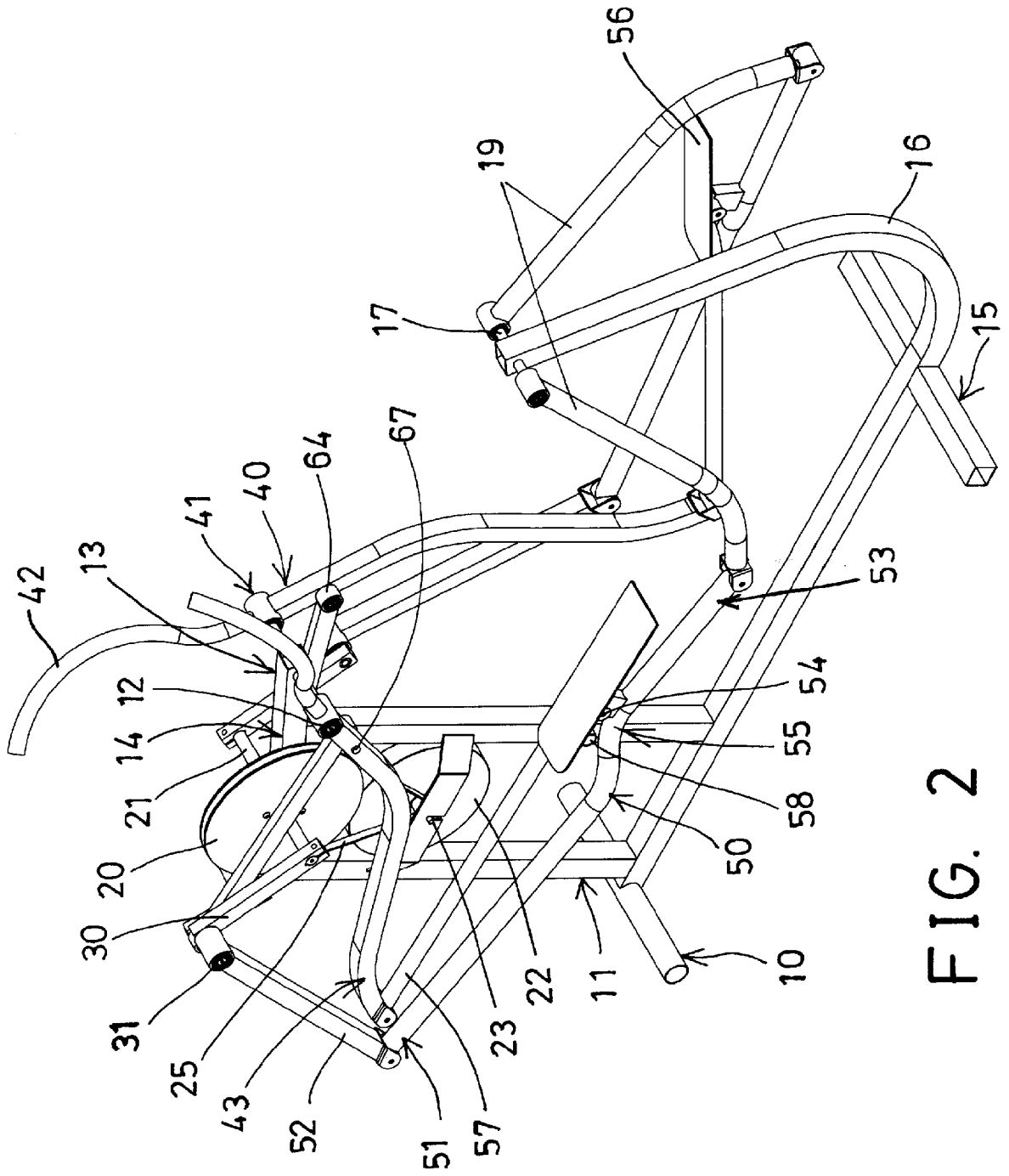
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FIG. 2

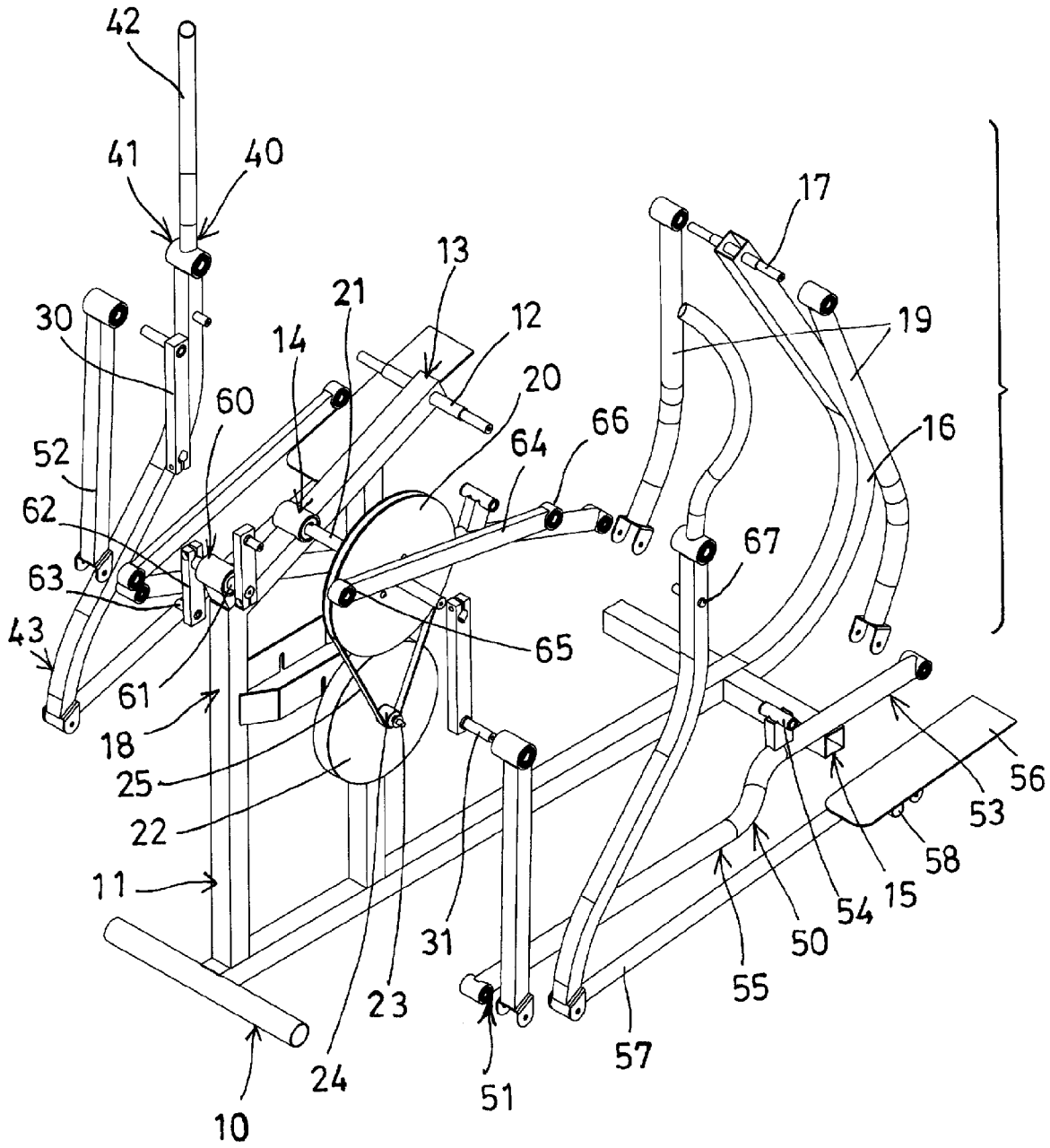
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FIG. 3

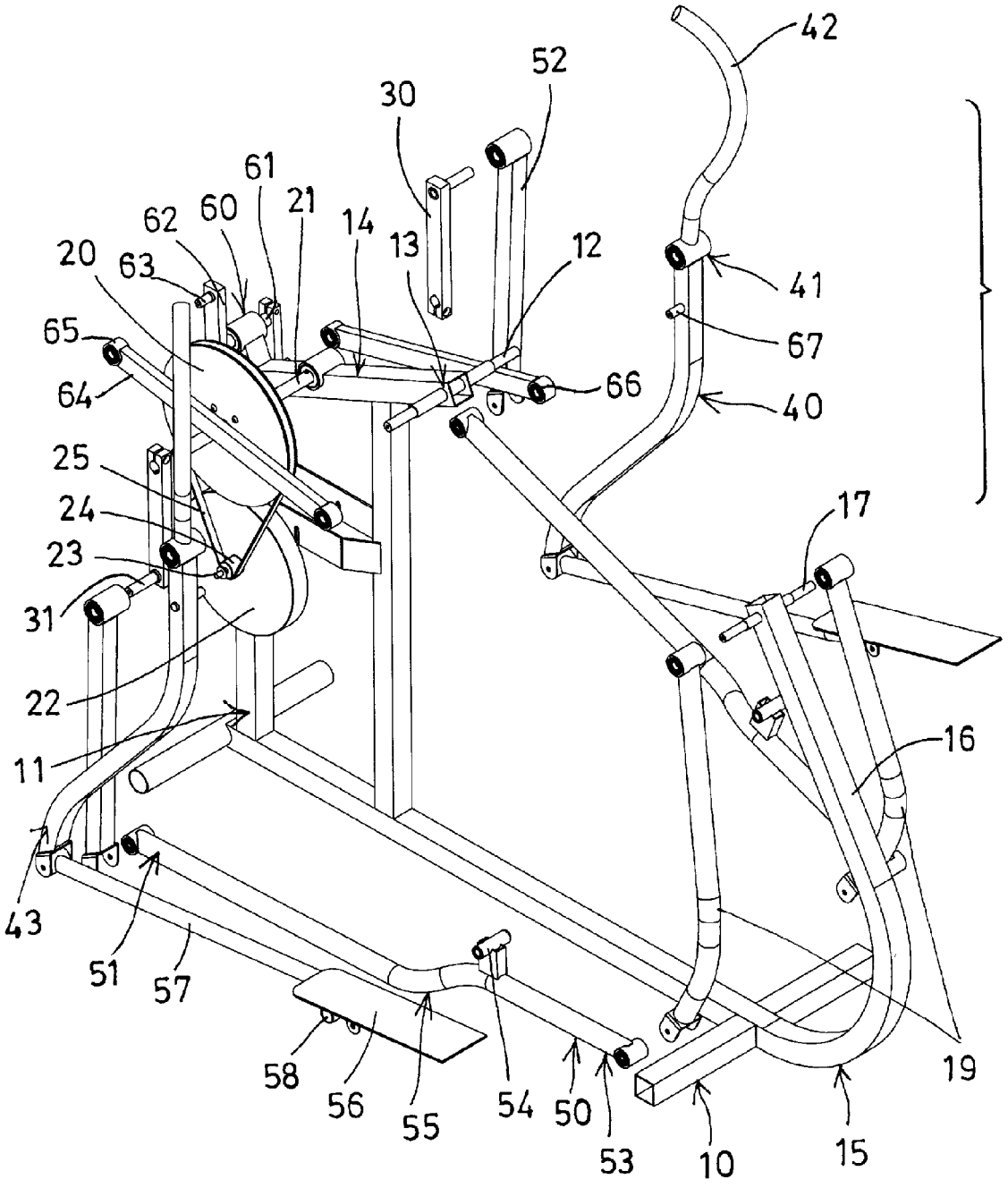
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FIG. 4

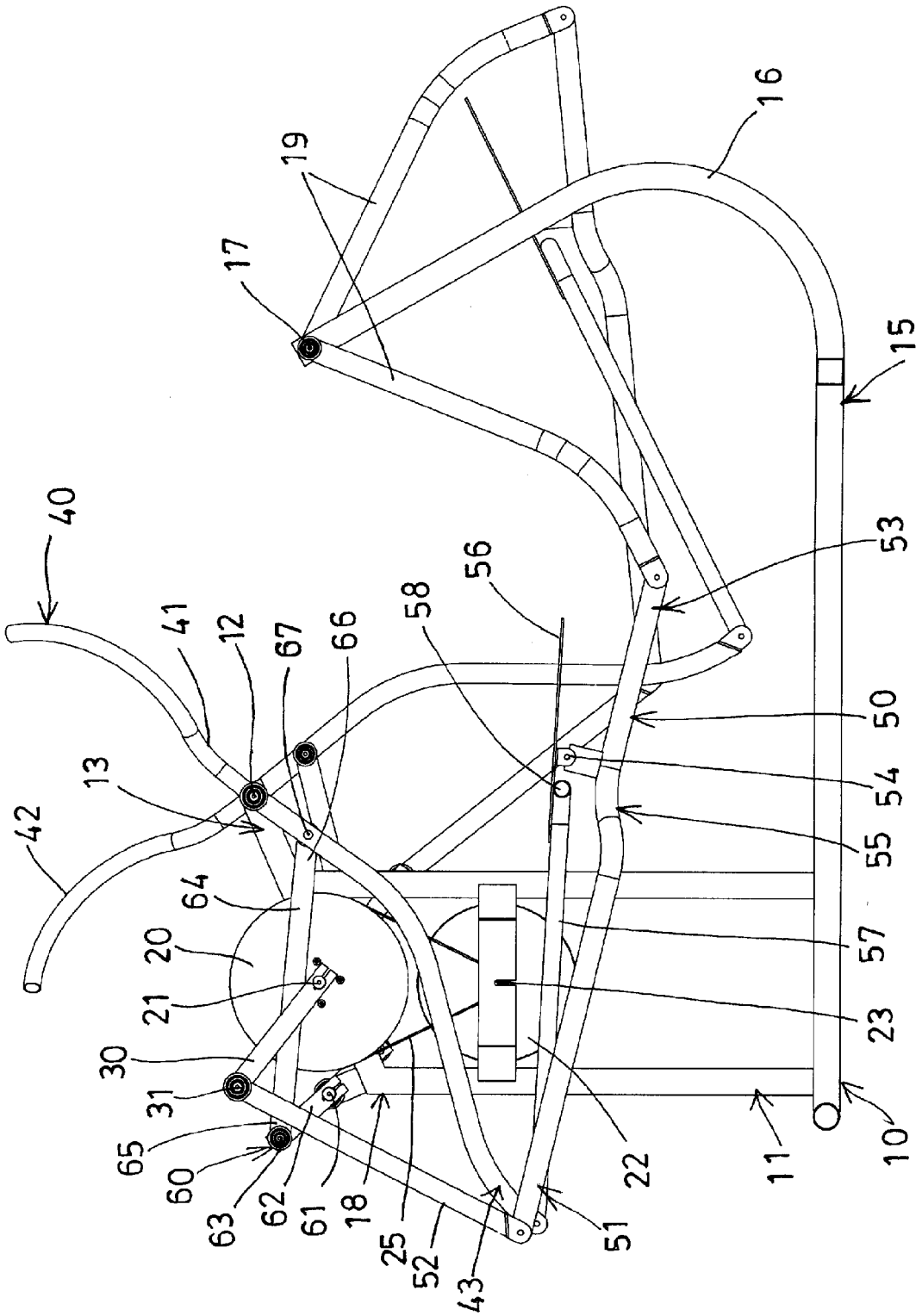
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FIG. 5

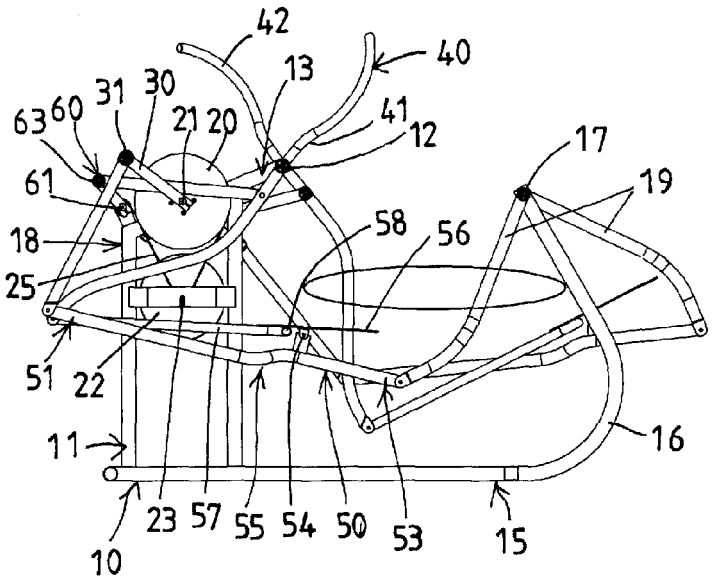

FIG. 6

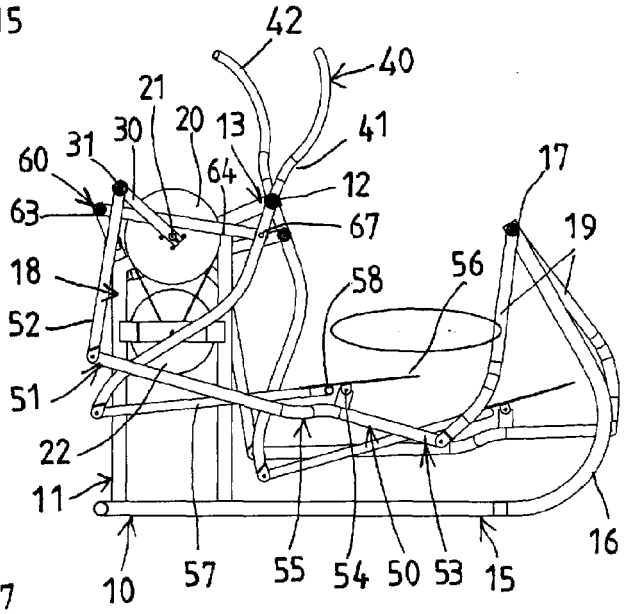

FIG. 7

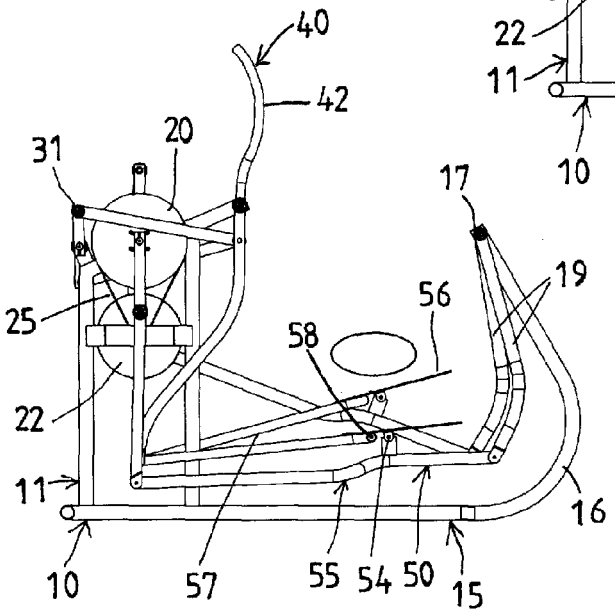

FIG. 8

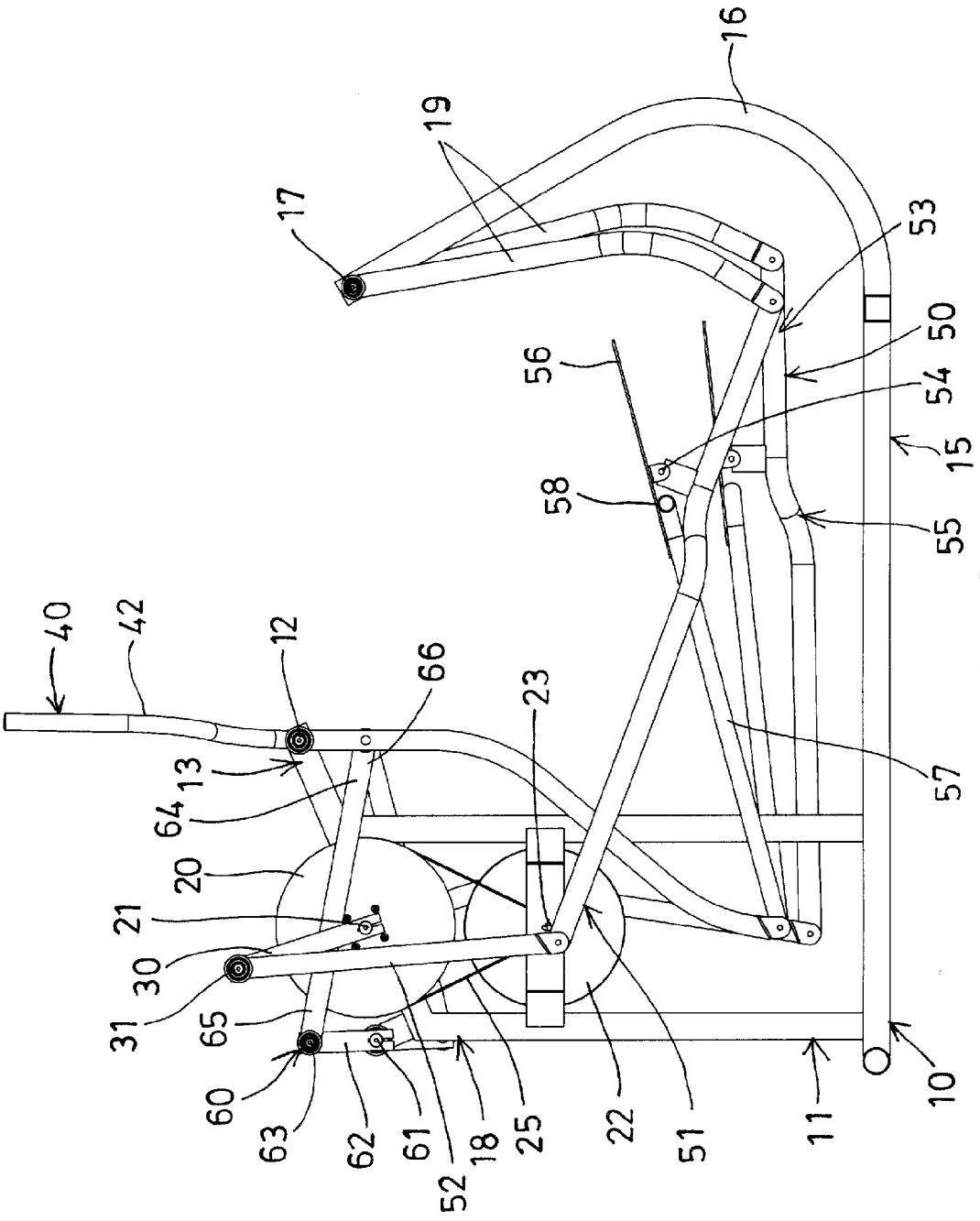
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FIG. 9

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EUROPEAN SEARCH REPORT

Application Number
EP 07 11 5868

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2004/248704 A1 (RODGERS ROBERT E [US] RODGERS JR ROBERT E [US]) 9 December 2004 (2004-12-09) * paragraphs [0071] - [0080], [0135], [0137], [0143]; figures 4,4a,33,39 *	1-8	INV. A63B22/04 A63B23/035
X	US 2006/100065 A1 (MARESH JOSEPH D [US] ET AL) 11 May 2006 (2006-05-11) * paragraphs [0179], [0183], [0190]; figures 25,26,30,34,40 *	1-8	
X	US 6 719 666 B1 (LO KUN-CHUAN [TW] ET AL) 13 April 2004 (2004-04-13) * column 3 - column 4; figures *	1,4,7,8	
X	FR 2 869 550 A (TONIC FITNESS TECHNOLOGY INC [TW]) 4 November 2005 (2005-11-04) * figures 2,10 *	1,4	
X	US 6 949 053 B1 (STEARNS KENNETH W [US] ET AL) 27 September 2005 (2005-09-27) * figure 12 *	1	TECHNICAL FIELDS SEARCHED (IPC) A63B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	8 February 2008	Teissier,Sara

CATEGORY OF CITED DOCUMENTS

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08-02-2008

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2004248704 A1	09-12-2004	NONE	
US 2006100065 A1	11-05-2006	US 7086993 B1	08-08-2006
		US 2006100066 A1	11-05-2006
		US 2007042872 A1	22-02-2007
		US 2007032349 A1	08-02-2007
		US 2007225129 A1	27-09-2007
US 6719666 B1	13-04-2004	NONE	
FR 2869550 A	04-11-2005	NONE	
US 6949053 B1	27-09-2005	NONE	

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