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

(11) EP 2 000 178 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
10.12.2008 Bulletin 2008/50

(51) Int Cl.:
A63B 23/035 *(2006.01)* ***A63B 23/04*** *(2006.01)*

(21) Application number: **07109768.7**

(22) Date of filing: **06.06.2007**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR MK RS

(71) Applicants:
- **Chuang, Jin Chen**
  42083 Fong Yuan
  Taichung Hsien (TW)
- **Chuang, Lung Fei**
  42083 Fong Yuan, Taichung Hsien (TW)

(72) Inventors:
- **Chuang, Jin Chen**
  42083 Fong Yuan
  Taichung Hsien (TW)
- **Chuang, Lung Fei**
  42083 Fong Yuan, Taichung Hsien (TW)

(74) Representative: **Beck, Michael Rudolf et al**
Beck & Rössig
Cuvilliésstrasse 14
81679 München (DE)

(54) Stationary exercise device

(57) An exercise device includes two cranks (30) rotatably coupled to a rear portion (14) of a post (11) and each having a rod (27), two handles (40) having a middle portion pivoted to a front portion (13) of the post (11) with a spindle (12), two foot supports (50) pivotally coupled to the handles (40) and each having a middle portion (51) coupled to the rod (27) of the cranks (30) with a link (52), the front portions (53) of the foot supports (50) may be controlled by the handles (40) and to be actuated as a stepping exerciser when the front portions (53) of the foot supports (50) are stably held in place by the handles (40), and to be actuated as an elliptical exerciser when the handles (40) are swung by the user.

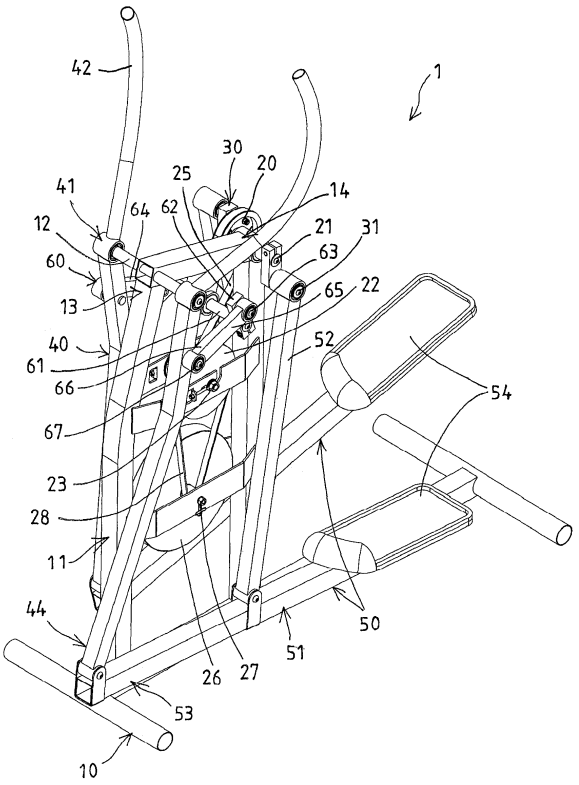

FIG. 1

EP 2 000 178 A1

Description

[0001] The invention relates to an elliptical exercise device including a changing moving stroke for working either as a stepping exerciser or an elliptical exerciser.

[0002] Typical stepping exercisers comprise a pair of handles pivotally attached to a base, and a pair of foot supports pivotally coupled to the handles and to be stepped or moved up and down by the users. However, the moving stroke of the exercise devices may not be increased or adjusted.

[0003] The invention provides an exercise device according claim 1 including a changing moving stroke for working as a stepping or elliptical exerciser or for being converted between a stepping exerciser and an elliptical exerciser.

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

[0005] In the following the invention will be described in greater detail with reference to an embodiments shown in the drawings.

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

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

FIGS. 5, 6, 7, 8, 9, 10, 11 are side plan views.

[0006] Referring to FIGS. 1-5, an exercise device 1 comprises a post 11 extended up from a base 10, a spindle 12 disposed on the front portion 13 of the post 11, a wheel 20 attached to the rear portion 14 of the post 11 with a shaft 21, a rotary member 22 attached to the post 11 with an axle 23, a follower 24 attached to the axle 23 and moved in concert with the axle 23 and coupled to the wheel 20 with a sprocket-and-chain, gearing or belt coupling device 25 and driven by the wheel 20. A flywheel 26 is attached to the middle or lower portion of the post 11 with a rod 27 which is coupled to the rotary member 22 with another sprocket-and-chain, gearing or belt coupling device 28 for forming a resistive means or device resist the wheel 20 and the shaft 21.

[0007] Two cranks 30 are secured to the shaft 21 and each include a rod 31 spaced from the shaft 21, two handles 40 include an upper or middle portion 41 attached to the spindle 12 and each include a hand grip 42 for being grasped by the users. Two foot supports 50 each include a middle portion 51 coupled to the rod 31 of the cranks 30 with a link 52 and movable cyclically, a front portion 53 coupled the lower portion 44 of the handles 40, and a foot pedal 54 for supporting the users.

[0008] In operation, the handles 40 may be swung relative to the post 11, and the middle portions 51 of the foot supports 50 may be moved cyclically by the cranks 30, such that the foot pedals 54 of the foot supports 50 may be moved elliptically relative to the post 11 of the base 10. The handles 40 and the front portion 53 of the foot supports 50 may be stably held in place by the users with the hand grips 42 for allowing the foot supports 50 to be stepped and worked as a stepping exerciser. In addition, the swinging movement of the handles 40 may be controlled by the users to control the moving stroke of the foot supports 50 (FIGS. 5-11).

[0009] A coupling device 60 may couple the handles 40 together, and includes a pole 61 attached to the post 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 each include one or first or rear portion 65 pivotally coupled to the rod 63 of the cranks 62 and the other or second or front portion 66 pivotally coupled to the middle portions 41 of the handles 40 with a pin 67 which is spaced from the spindle 12, for allowing the handles 40 to be coupled together.

[0010] The wheel 20, the rotary member 22, the follower 24, and the flywheel 26 may be acted as a resisting means or device for applying a resistive or retarding force against the wheel 20 and the shaft 21 and the cranks 30 and the link 52 and the foot supports 50 and the levers 32 and the handles 40. A magnetic retarding device (not shown) may be coupled to the wheel 20 and/or the rotary member 22 and/or the follower 24 and/or the flywheel 26. The handles 40 each include a lower portion 44 coupled the front portion 53 of the foot supports 50 for allowing the moving stroke of the foot supports 50 to be controlled by the users with the handles 40 and for allowing the users to freely and selectively conduct the stepping exercises and/or elliptical exercises without adjusting any mechanism or parts or elements.

Claims

1. An exercise device comprising:

- a post (11) extended from a base (10) and including a front portion (13) and a rear portion (14),
- a spindle (12) disposed on the post (11),
- two cranks (30) rotatably coupled to the post (11) with a shaft (21) and each including a rod (31) spaced from the shaft (21),
- two handles (40), and
- two foot supports (50),

characterized in that:

- the handles (40) include a middle portion (41) attached to the spindle (12) and each include a hand grip (42) and a lower portion (44), and
- the foot supports (50) each include a front portion (53) coupled to the lower portion (44) of the handles (40) and a middle portion (51) coupled to the rod (31) of the cranks (30) with a link (52).

2. An exercise device as claimed in claim 1 further comprising resisting means (20, 22, 26) for resisting the shaft (21) and the cranks (30).

3. An exercise device as claimed in claim 2, wherein the resisting means (20, 22, 26) includes a wheel (20) attached to the post (11) with the shaft (21).

4. An exercise device as claimed in claim 3, wherein the resisting means (20, 22, 26) includes a rotary member (22) attached to the post (11) with an axle (23) and coupled to the wheel (20).

5. An exercise device as claimed in claim 4, wherein a follower (24) is attached to the axle (23) and the follower (24) is coupled to the wheel (20) with a coupling device (25).

6. An exercise device as claimed in claim 4, wherein a flywheel (26) is attached to the post (11) with a rod (27) and coupled to the rotary member (22) with a coupling device (28).

7. An exercise device as claimed in one of claims 1 to 6 further comprising means (60) for coupling the handles (40) together.

8. An exercise device as claimed in claim 7, wherein the coupling means (60) includes two cranks (62) coupled to the handles (40).

9. An exercise device as claimed in claim 8, wherein the base (10) includes a pole (61) disposed on the post (11) and coupled to the cranks (62).

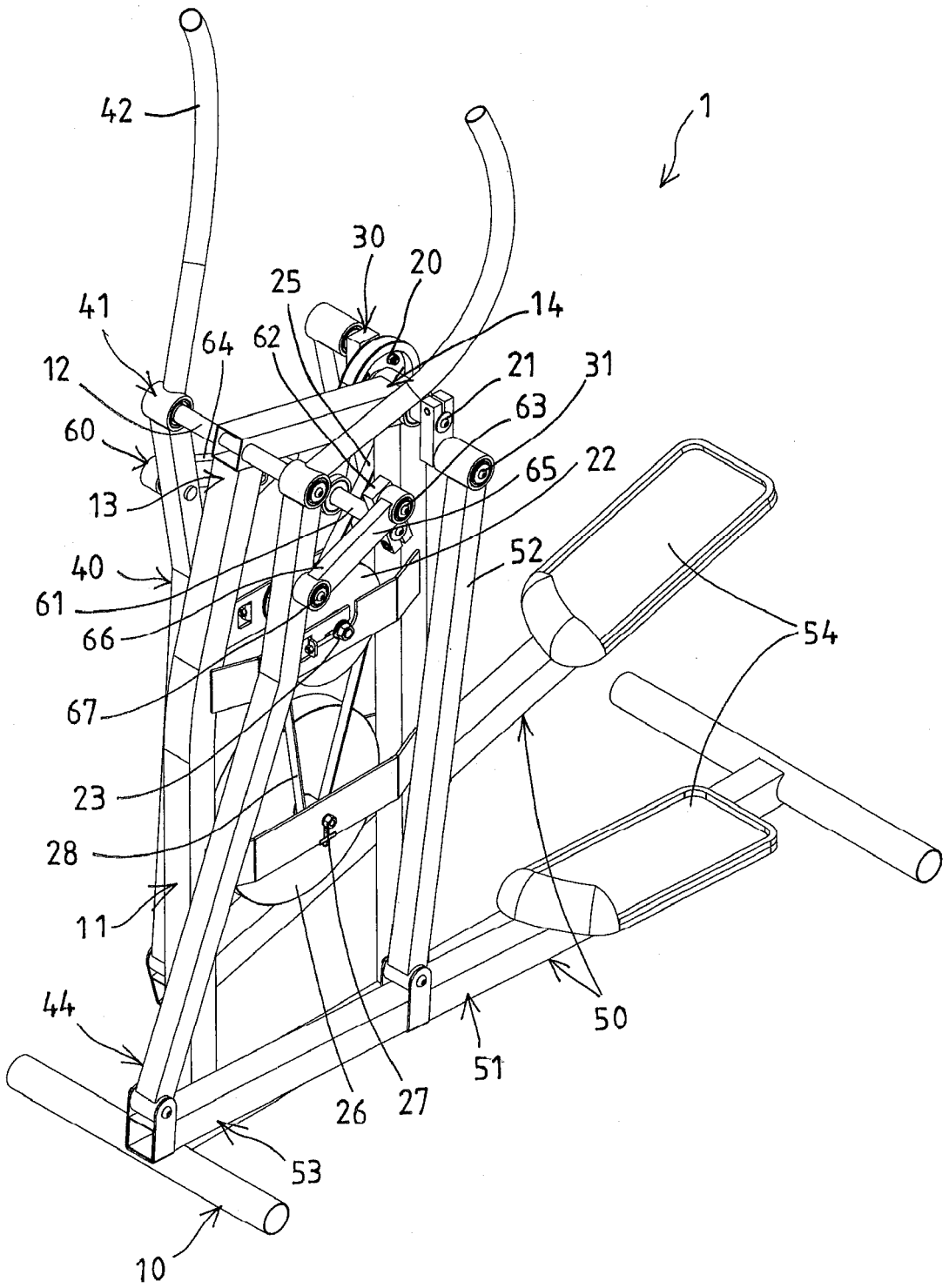
42
1
30
20
25
14
41
64
62
21
31
12
63
60
65
22
13
52
40
61
54
66
67
23
28
11
44
50
51
26
27
53
10

FIG. 1

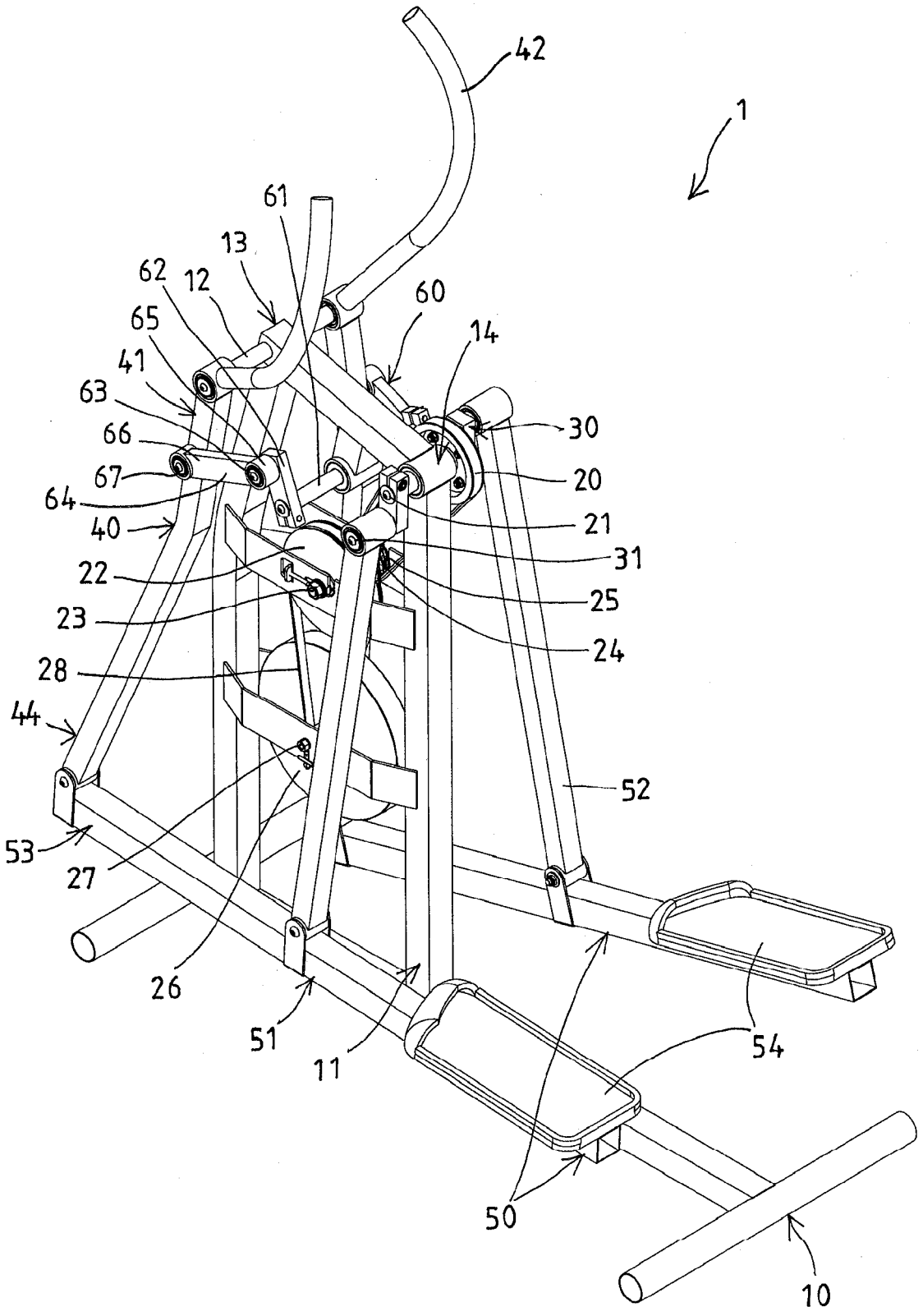
42
1
61
13
62
12
60
65
14
41
63
30
66
20
67
64
21
40
31
22
25
23
24
28
44
52
53
27
26
51
11
54
50
10

FIG. 2

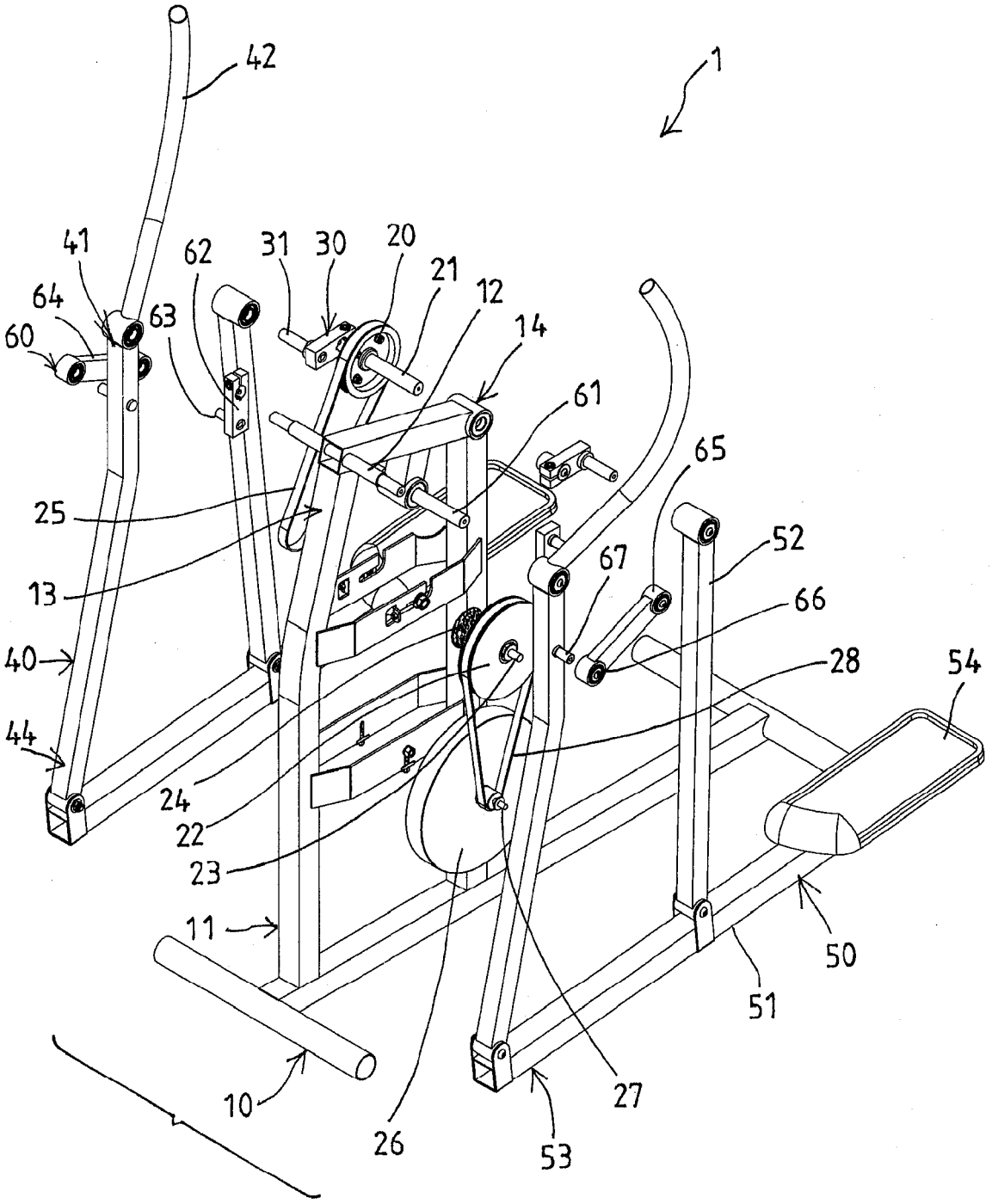
42
1
41
62
31
30
20
21
12
64
63
14
60
61
65
25
52
67
13
66
40
28
54
44
24
22
23
11
50
51
10
27
26
53

FIG. 3

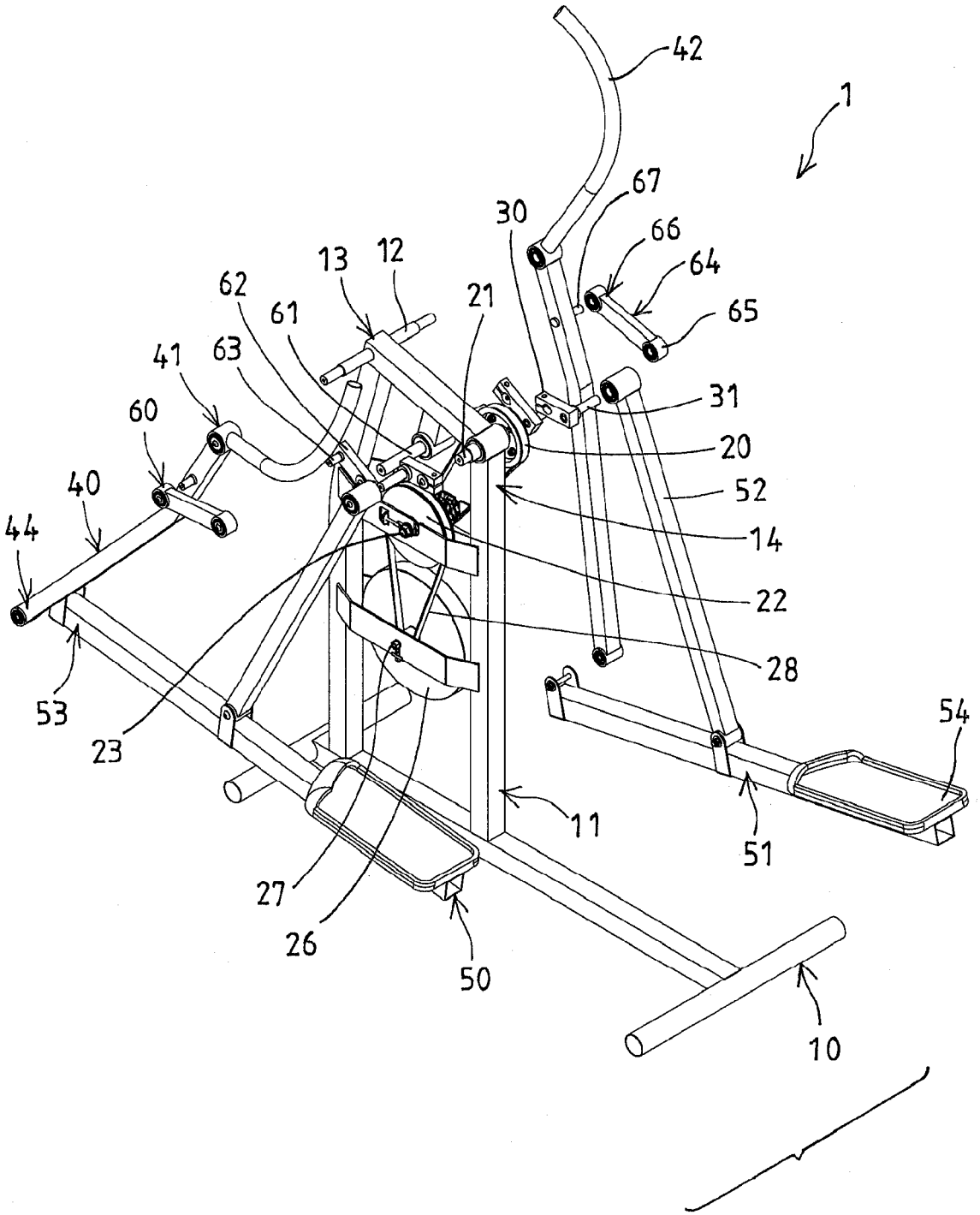
42
1
67
30
66
64
13
12
62
61
21
65
41
63
31
60
20
40
52
44
14
22
28
53
54
23
11
51
27
26
50
10

FIG. 4

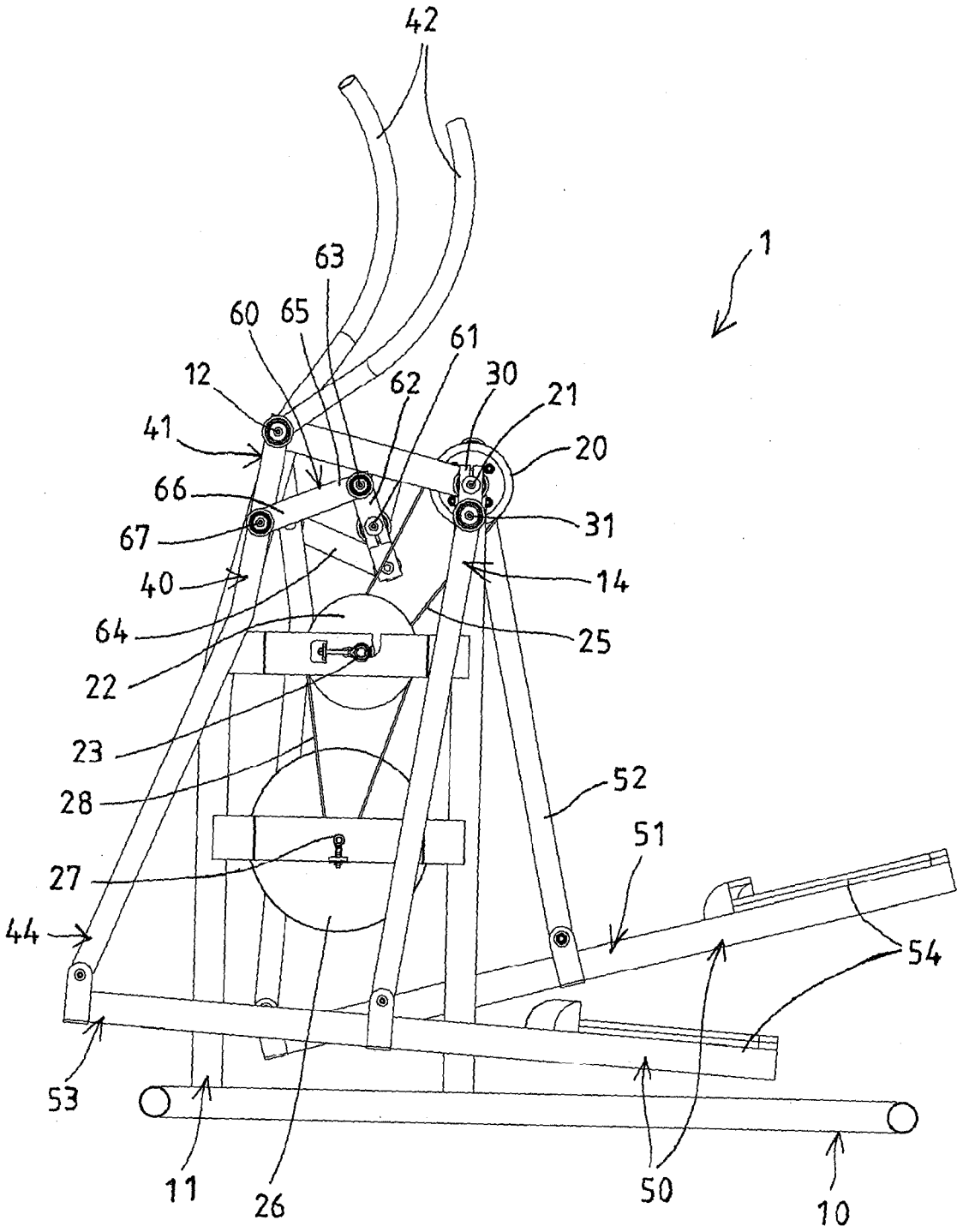
42
1
63
60
65
61
12
62
30
21
41
20
66
31
67
14
40
25
64
22
52
23
51
28
27
54
44
53
11
26
50
10

FIG. 5

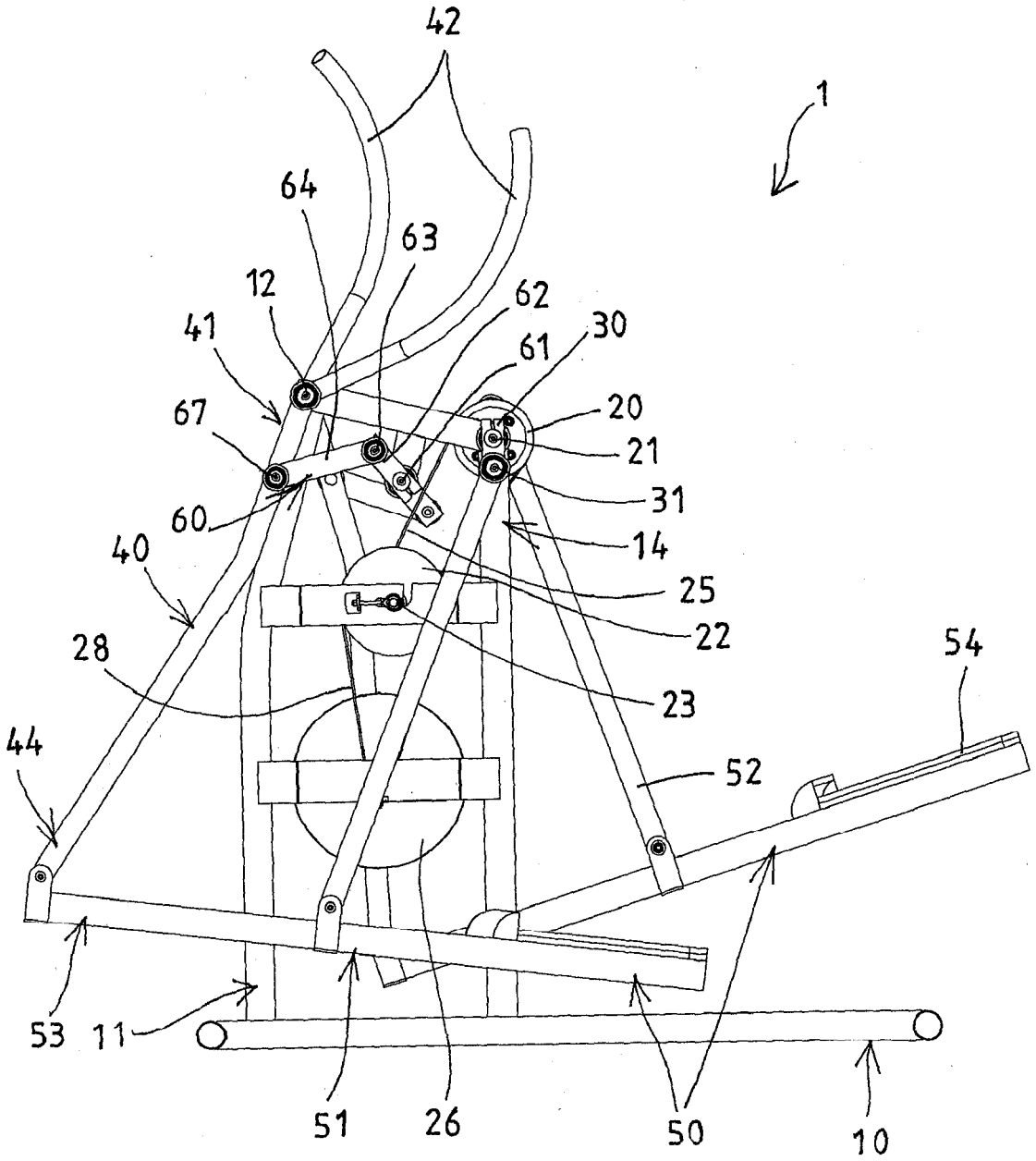
42
1
64
63
12
62
41
30
61
67
20
21
31
60
14
40
25
22
28
54
23
44
52
53
11
51
26
50
10

FIG. 6

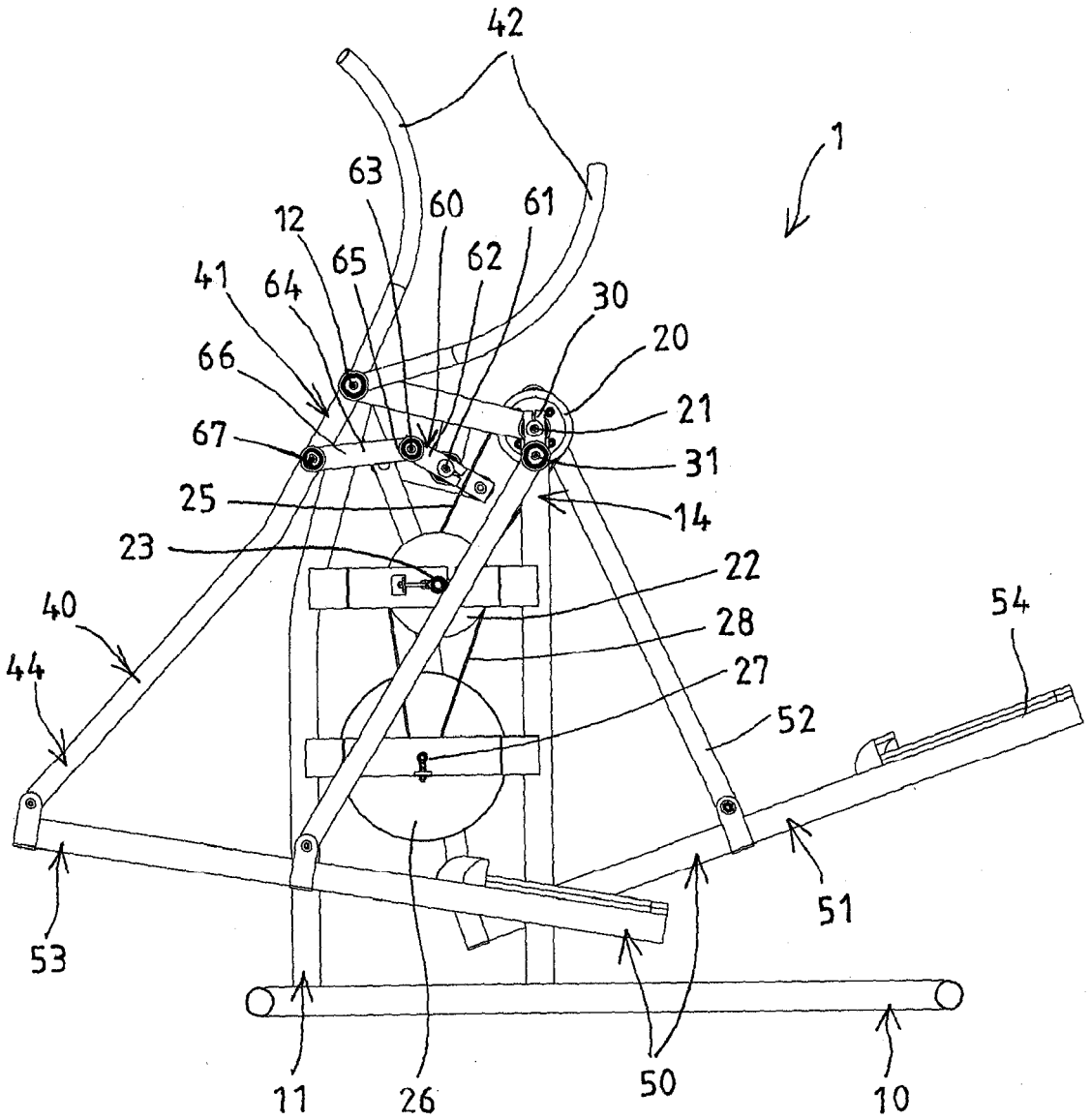
42
1
63
60
61
12
65
62
41
64
30
66
20
21
67
31
25
14
23
22
40
28
54
44
27
52
51
53
11
26
50
10

FIG. 7

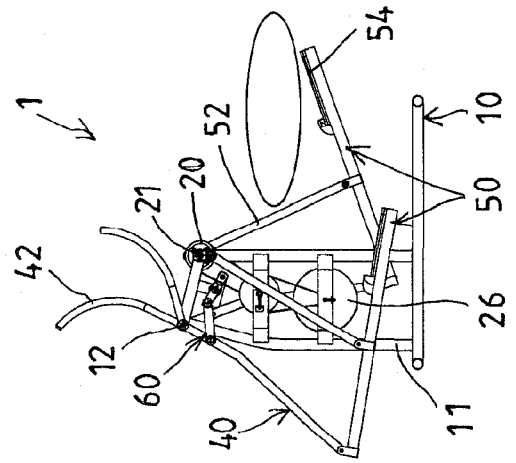

FIG. 11

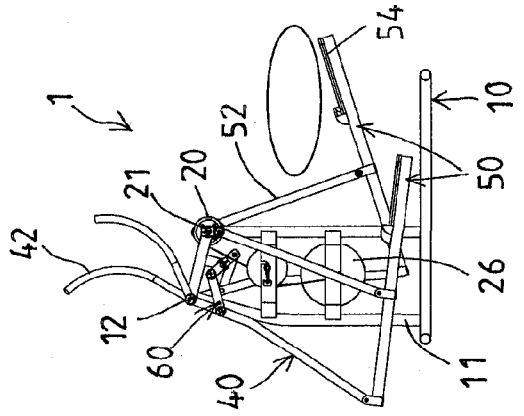

FIG. 10

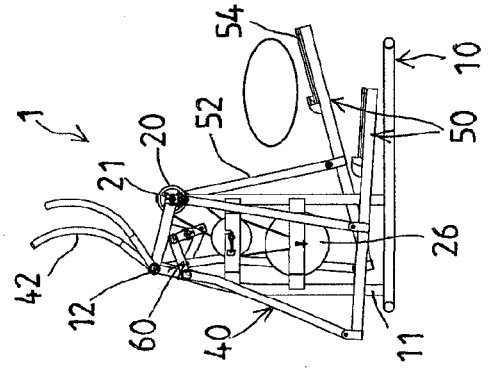

FIG. 9

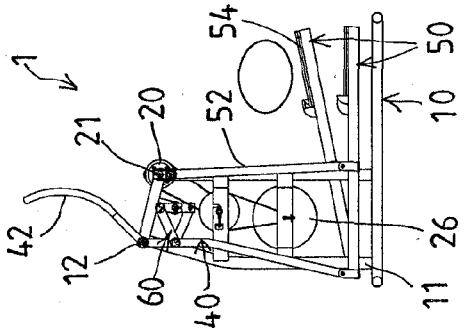

FIG. 8

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 10 9768

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 5 738 614 A (RODGERS JR ROBERT E [US]) 14 April 1998 (1998-04-14) * column 3, line 19 - column 4, line 35; figures 1,2 *	1-9	INV. A63B23/035 A63B23/04
A	US 2003/096677 A1 (CHU YU MING [TW]) 22 May 2003 (2003-05-22) * the whole document *	1-9	
A	US 6 022 296 A (YU HUI-NAN [TW]) 8 February 2000 (2000-02-08) * abstract *	1	
A	US 6 017 294 A (ESCHENBACH PAUL WILLIAM [US]) 25 January 2000 (2000-01-25) * abstract; figures 1-3 *	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	31 October 2007	Jekabsons, Armands

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

1

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 07 10 9768

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

31-10-2007

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5738614 A	14-04-1998	US 5573480 A	12-11-1996
		US 5549526 A	27-08-1996
		US 5593372 A	14-01-1997
		US 5540637 A	30-07-1996
		US 5595553 A	21-01-1997
		US 5683333 A	04-11-1997
		US 5924962 A	20-07-1999
US 2003096677 A1	22-05-2003	NONE	
US 6022296 A	08-02-2000	NONE	
US 6017294 A	25-01-2000	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82