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(54) Riding device

(57) A riding device includes one or more cranks (13) rotatably attached to a base (10), and a rider support (50) supported on a carrier (30) and movable relative to the base (10) for supporting a rider, and a moving device (20) for moving the carrier (30) and the rider support (50) relative to the base (10) in an elliptical and reciprocating action, the rider support (50) may be moved in different moving strokes relative to the base (10) and may be adjusted up and down relative to the carrier (30). The carrier (30) includes a curved member (35) slidably and movably engaged with the crank (13) for allowing the curved member (35) of the carrier (30) to be forced to move in the elliptical and reciprocating action by the crank (13).

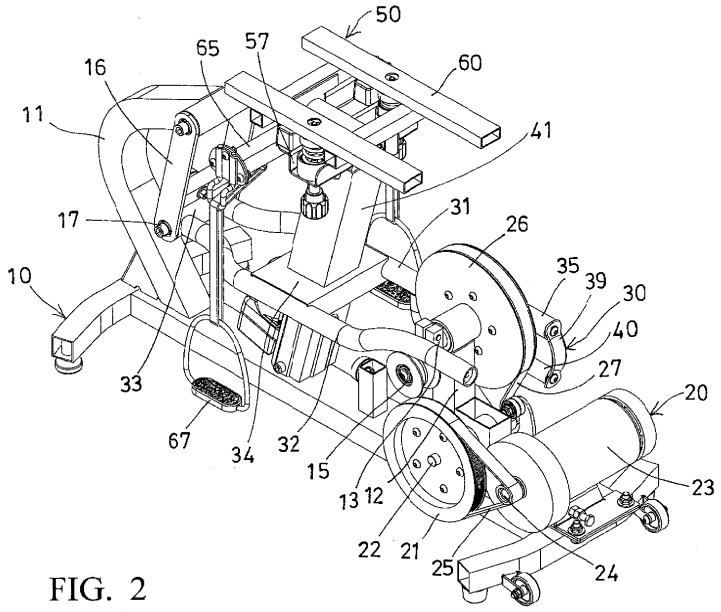

FIG. 2

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Description

[0001] The invention relates to a rodeo or riding device including a rider support supported on a carrier which is movable relative to a base by a drive device in an elliptical and reciprocating action.

[0002] Typical riding or rodeo devices comprise a drive mechanism having a crank arm coupled to a rider support and to simulate the bucking and/or spinning motions of a rodeo animal.

[0003] However, the rider support is solidly coupled to the crank arm and may not be moved relative to the crank arm.

[0004] The invention provides a riding device according to claim 1 including a rider support supported on a carrier and movable in an elliptical and reciprocating action.

[0005] Further advantageous embodiments are laid down in the further claim.

[0006] In the following the invention will be described in greater detail with reference to an embodiments shown in the drawings.

FIG. 1 is a front upper perspective view of a riding device;
FIG. 2 is a rear upper perspective view of the riding device;
FIG. 3 is a left side plan view of the riding device;
FIG. 4 is a rear upper perspective view of the riding device;
FIGS. 5, 6, 7 are right side plan views of the riding device;
FIGS. 8, 10 are partial exploded views of the riding device;
FIG. 9 is a partial right side plan view of the riding device; and
FIG. 11 is a partial rear plan view of the riding device.

[0007] Referring to FIGS. 1-9, a riding device 1 comprises a base 10 including a column 11 extended from one end a stud 12 extended from the other end, a crank device 13 or one or more (such as two) cranks 13 rotatably attached to the stud 12 with an axle 14 (FIG. 1), and a roller 15 attached to the free end of each of the cranks 13. A moving means or device 20 is disposed on the base 10 and includes a pulley 21 rotatably attached to the stud 12 with a shaft 22, and a motor 23 having a spindle 24 coupled to the pulley 21 with a coupling device or belt 25, and a fly wheel 26 rotatably attached to the stud 12 with the axle 14, and coupled to the shaft 22 of the pulley 21 with another coupling device or belt 27 (FIG. 3). The fly wheel 26 or the cranks 13 may also be directly coupled to the motor 23 with another coupling device (not shown) without the fly wheel 26 and the pulley 21.

[0008] A carrier 30 is supported on the base 10 and includes one or more (such as two) levers 31, 32 having one end or a front portion coupled together with a front barrel 33 which is pivotally coupled to the column 11 with a link 16 and a pin 17 (FIGS. 5-7), a bar 34 coupled between the levers 31, 32, a curved member 35 formed on the rear portion 36 of each lever 31, 32 and engaged onto the rollers 15 of the cranks 13 for slidably engaging onto the rollers 15 and for allowing the curved members 35 to be forced to move cyclically relative to the base 10 by the cranks 13 and the motor 23 (FIGS. 5-7). The curved members 35 each include a top dead center 37 and a lower portion 38 for allowing the rollers 15 of the cranks 13 to have a tendency to be moved to the top dead center 37 of the curved members 35.

[0009] The length of the levers 31, 32 may prevent the curved members 35 from being disengaged from the rollers 15, a stop member 39 may be attached to the curved members 35 for limiting the movement of the levers 31, 32 or the carrier 30 relative to the rollers 15 of the cranks 13. A retaining member 40 may be coupled to the levers 31, 32 or the carrier 30 for preventing the levers 31, 32 or the carrier 30 from being disengaged from the rollers 15 of the cranks 13. A housing 41 is disposed on the bar 34 and has a non-circular chamber 42 (FIGS. 4, 8). A rider support 50 includes a non-circular post 51 slidably engaged into the chamber 42 of the housing 41 (FIG. 9) for supporting a saddle 52 (FIGS. 1, 3), and a threaded tube 53 (FIGS. 8, 9) engaged in the post 51 and secured to the post 51 with fasteners 54 (FIG. 9).

[0010] Another motor 55 is attached to the bar 34 or the housing 41, and a bolt 56 is rotatably attached to the bar 34 or the housing 41 or the motor 55 and engaged with the tube 53, and coupled to the motor 55 for allowing the tube 53 and the post 51 and the saddle 52 to be adjusted along the housing 41 by the motor 55. A beam 57 is disposed on top of the post 51 (FIGS. 5-11) and parallel to the carrier 30, and includes a hub 58 and two casings 59 disposed on the beam 57, a frame 60 is coupled to the hub 58 with a rod 61 (FIGS. 9, 11) for allowing the frame 60 to be tilted relative to the beam 57 and the post 51 (FIG. 11). The saddle 52 is disposed on the frame 60. Two springs 62 are engaged between the beam 57 and the frame 60 for cushioning the frame 60 and the saddle 52, and two fasteners 63 may be engaged through the casings 59 of the beam 57 and the springs 62 and engaged with the frame 60 and each include a head 64 for for preventing the rider support 50 from being over rotated relative to the beam 57 and the post 51. An arm 65 is secured to the frame 60 and includes a number of orifices 66 (FIG. 10) for adjustably attaching two stirrups 67.

[0011] In operation, the levers 31, 32 or the carrier 30 may be moved in the reciprocating action by the curved members 35 of the carrier 30 and the rollers 15 of the cranks 13 (FIGS. 5-7), and the barrel 33 is coupled to the base 10 with the link 16 such that the carrier 30 may be moved relative to the base 10 in an elliptical and reciprocating action by the cranks 13 and the motor 23. The curved members 35 of the levers 31, 32 may be moved relative to the rollers 15 of the cranks 13, and such that the moving strokes of the curved members 35

of the carrier 30 relative to the rollers 15 of the cranks 13 may be changed when carrier 30 is moved in different speeds relative to the rollers 15 of the cranks 13.

[0012] The front portion of the levers 31, 32 may be slidably coupled to the base 10 with wheels (not shown) instead of the link 16. The curved members 35 may be disposed on the front portion of the levers 31, 32 to engage with the rollers 15 of the cranks 13, and the rear portion of the levers 31, 32 or the carrier 30 may be coupled to the base 10 with a pivotal link or slidably coupled to the base 10 with the wheels (not shown), and the carrier 30 may also be moved relative to the base 10 in the elliptical and reciprocating action.

Claims

1. A riding device comprising
a base (10), and
a rider support (50), **characterized by**
a carrier (30) is supported on the base (10) and movable relative to the base (10), and
a moving device (20) for moving the carrier (30) and the rider support (50) relative to the base (10) in an elliptical and reciprocating action.

2. A riding device as claimed in claim 1, wherein the base (10) includes at least one crank (13) attached to the base (10), and the carrier (30) includes a curved member (35) engaged with the crank (13).

3. A riding device as claimed in claim 1 or 2, wherein the base (10) includes a roller (15) attached to the crank (13) and engaged with the curved member (35) of the carrier (30).

4. A riding device as claimed in one of claims 1 to 3, wherein the moving device includes a fly wheel (26) rotatably attached to the base (10) and coupled to the crank (13), a pulley (21) rotatably attached to the base (10) and coupled to the fly wheel (26), and a motor (23) coupled to the pulley (21).

5. A riding device as claimed in one of claims 1 to 4, wherein the carrier (30) includes an end portion (33) movable forwardly and rearwardly relative to the base (10) in a reciprocating action.

6. A riding device as claimed in one of claims 1 to 5, wherein the base (10) includes a column (11), a link (16) coupled to the column (11) and coupled to the end portion (33) of the carrier (30) with a pivot pin (17).

7. A riding device as claimed in one of claims 1 to 6, wherein the rider support (50) includes a post (51) slidably engaged with the carrier (30) and adjustable relative to the carrier (30).

8. A riding device as claimed in one of claims 1 to 7, wherein the carrier (30) includes a housing (41) disposed on the carrier (30) for slidably receiving the post (51).

9. A riding device as claimed in one of claims 1 to 8, wherein a frame (60) is pivotally supported on the post (51) with a pivot rod (61), and at least one spring (62) engaged between the post (51) and the frame (60).

10. A riding device as claimed in one of claims 1 to 9, wherein the rider support (50) includes a tube (53), and a bolt (56) is attached to the carrier (30) and engaged with the tube (53) for adjusting the tube (53) up and down relative to the carrier (30).

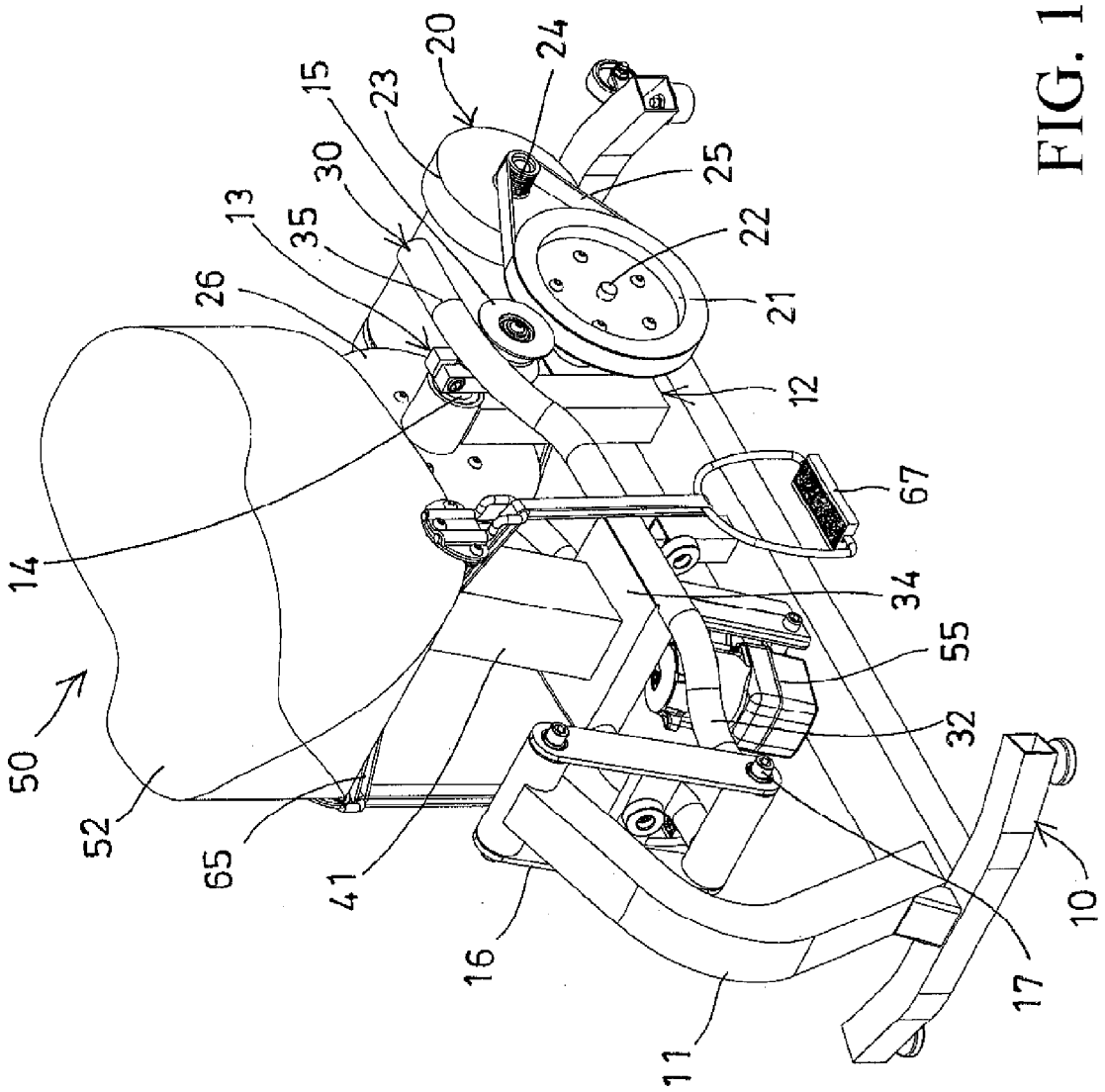
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FIG. 1

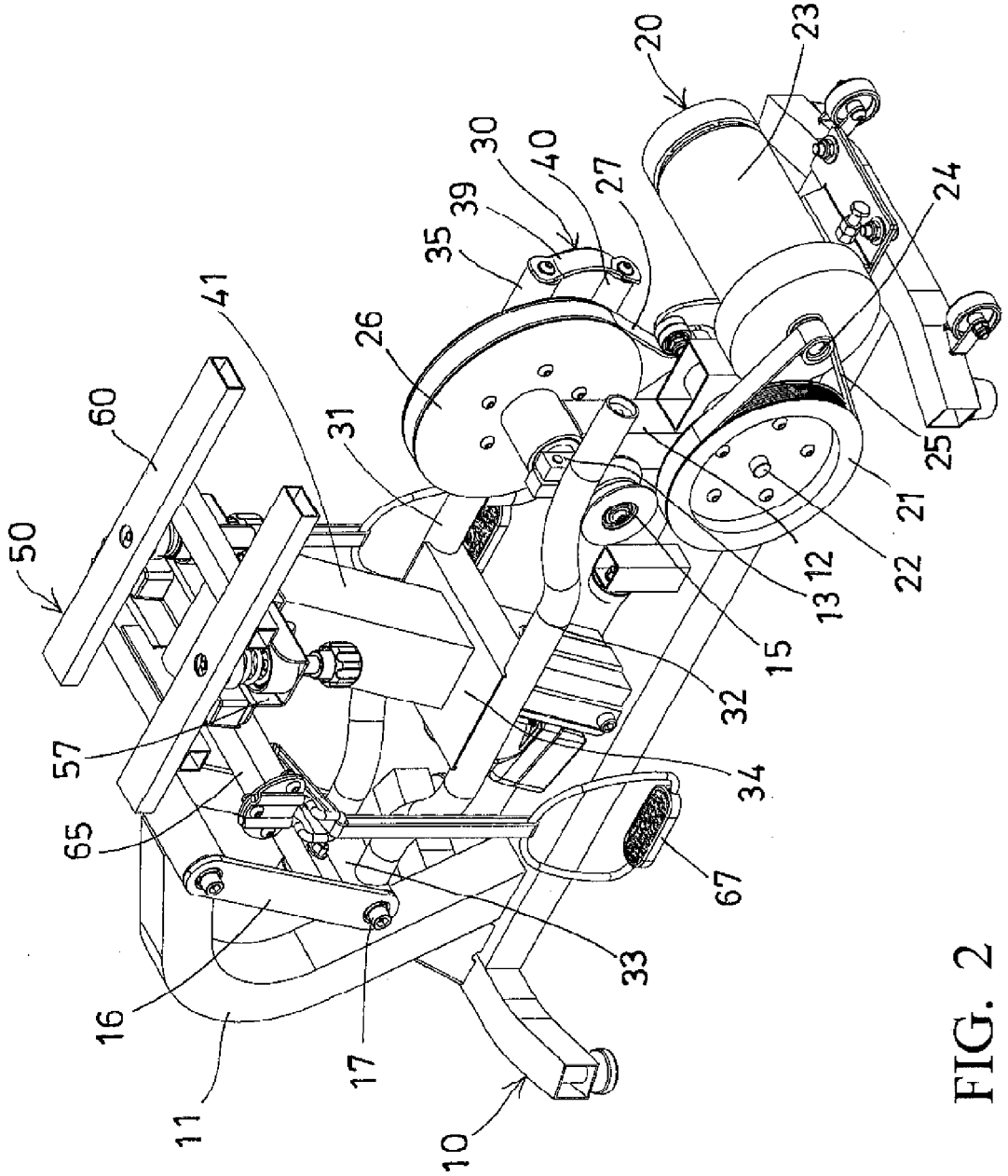
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FIG. 2

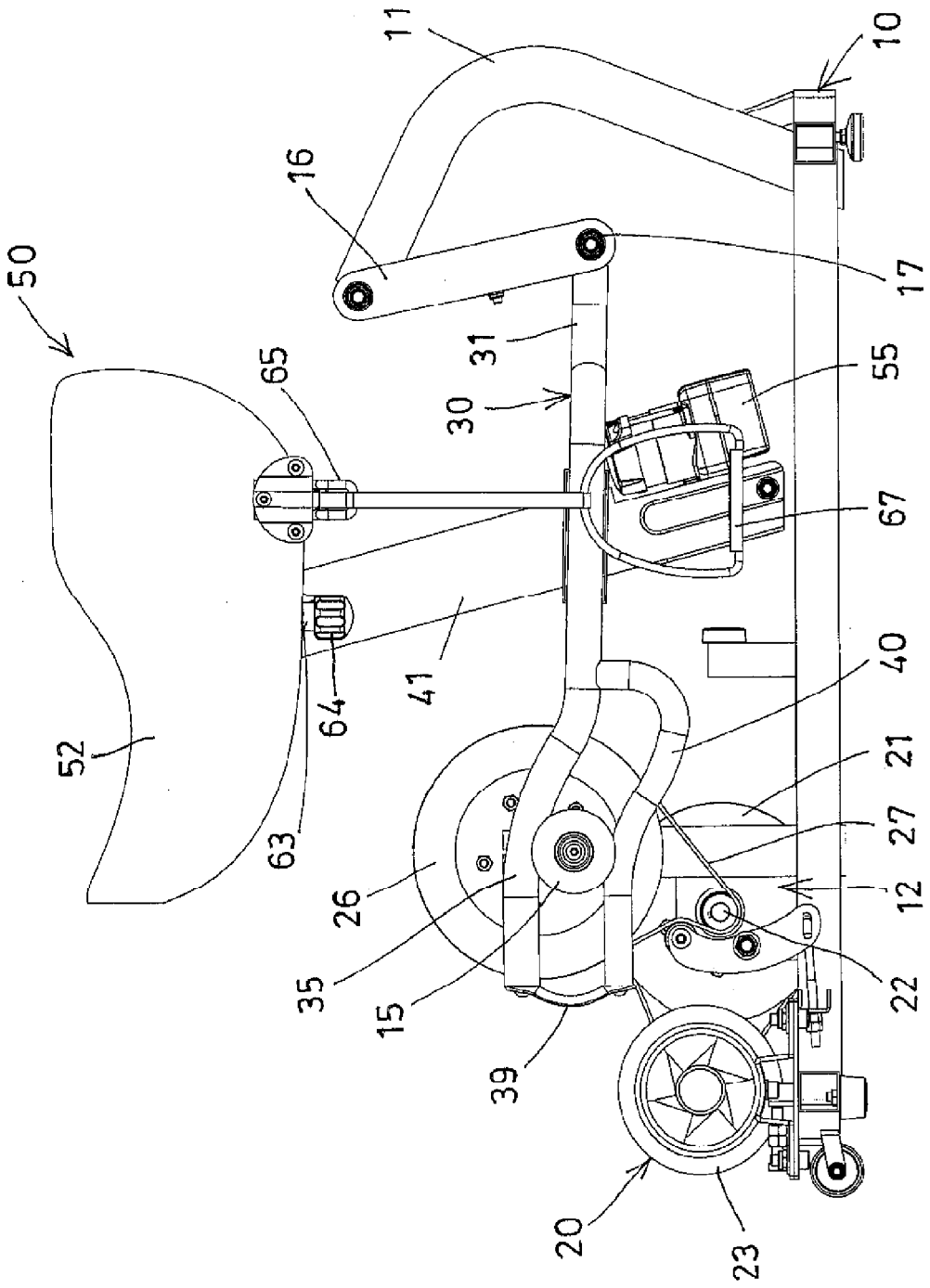
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FIG. 3

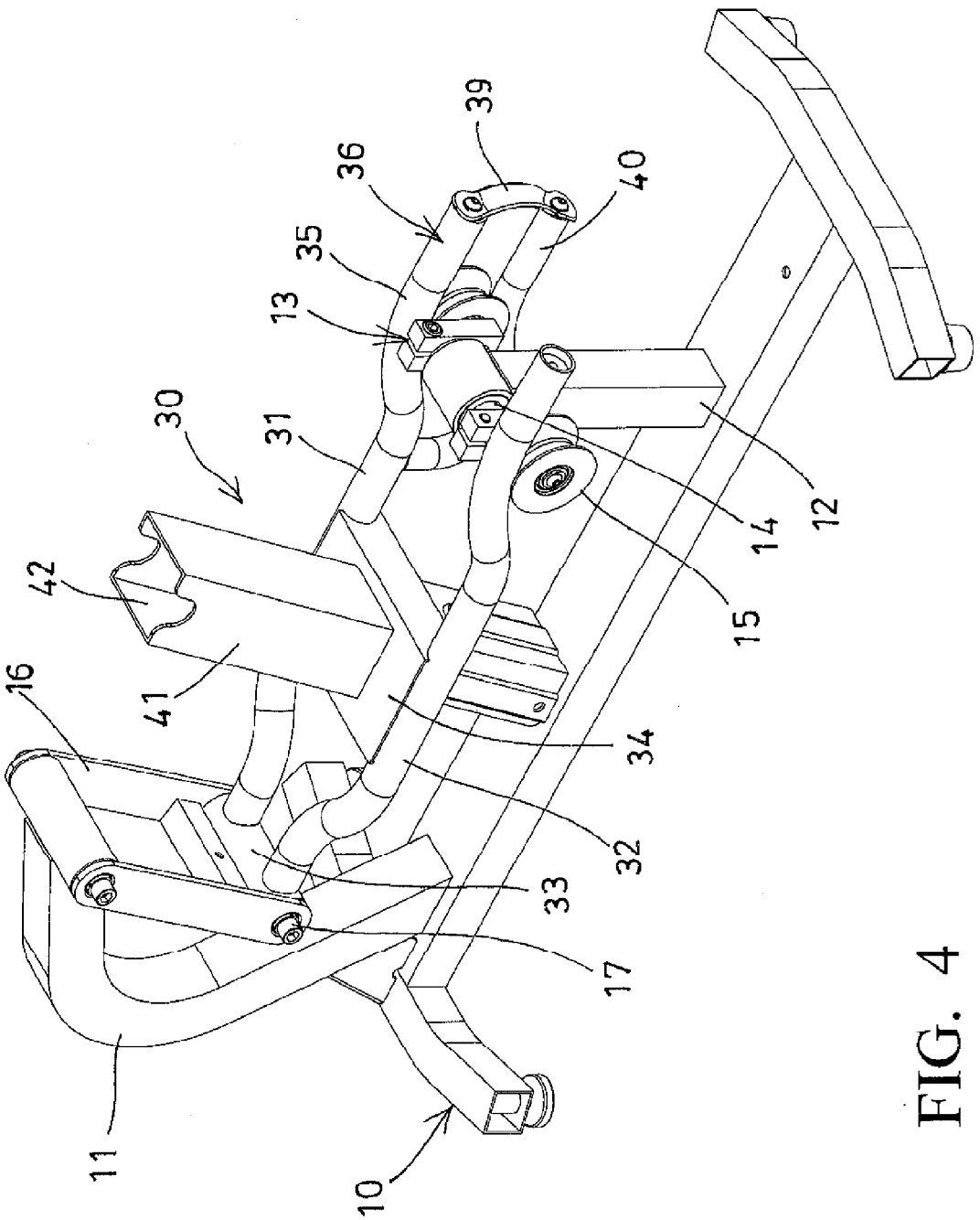

FIG. 4

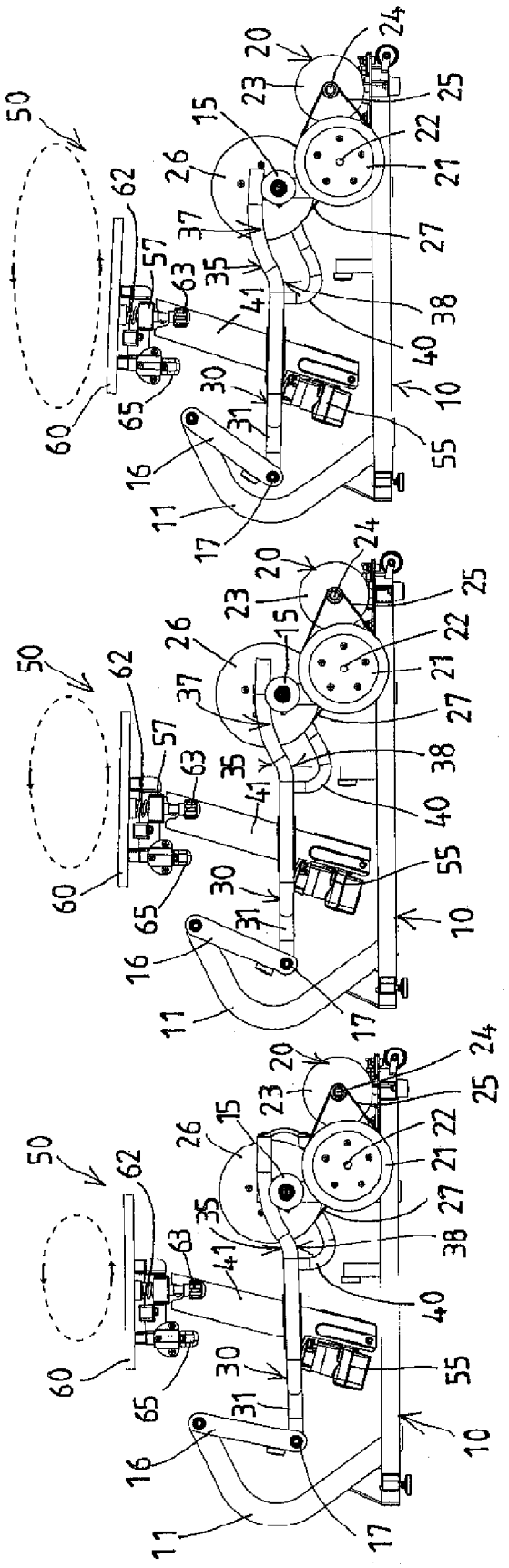

FIG. 5

FIG. 6

FIG. 7

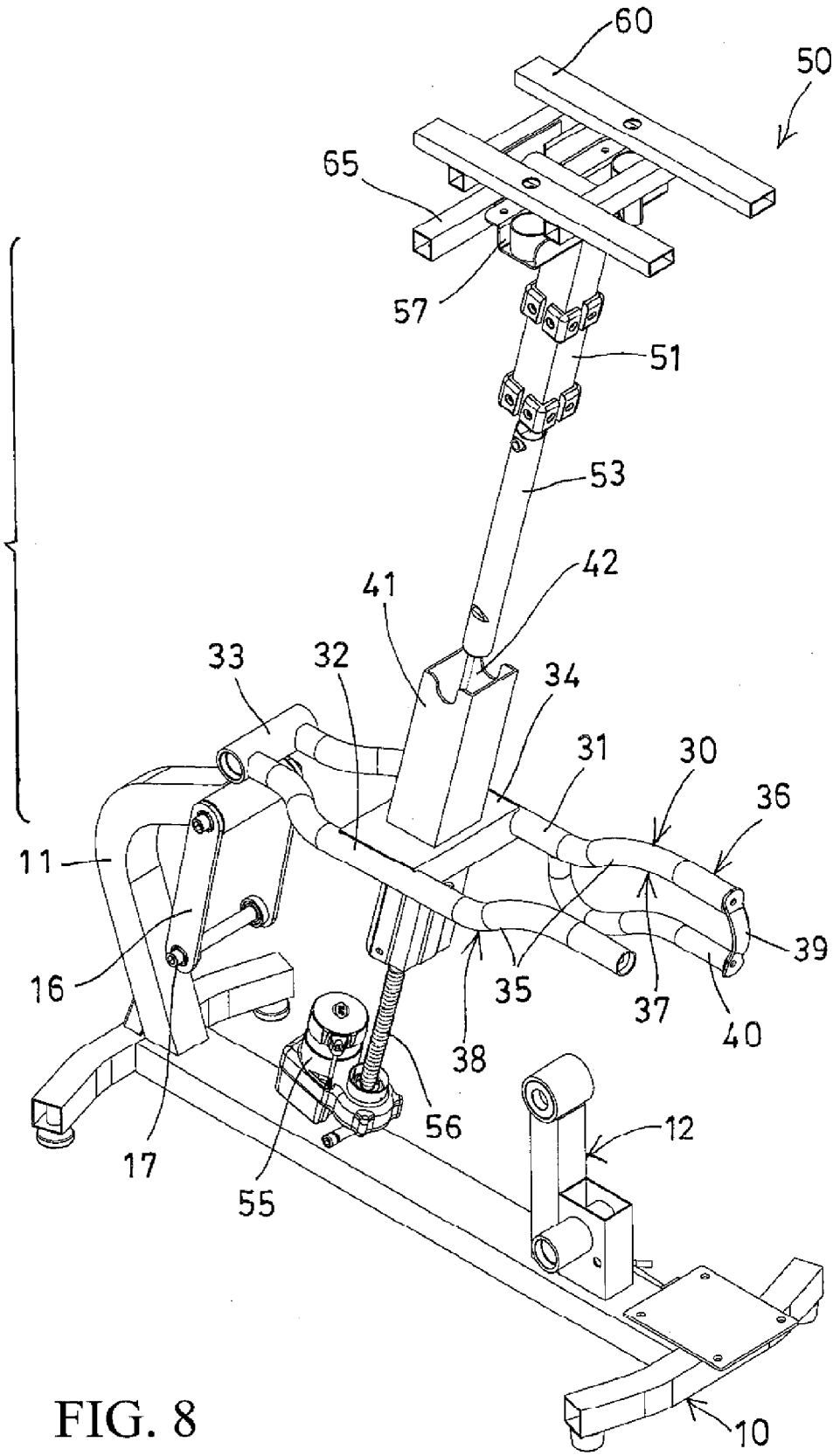
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FIG. 8

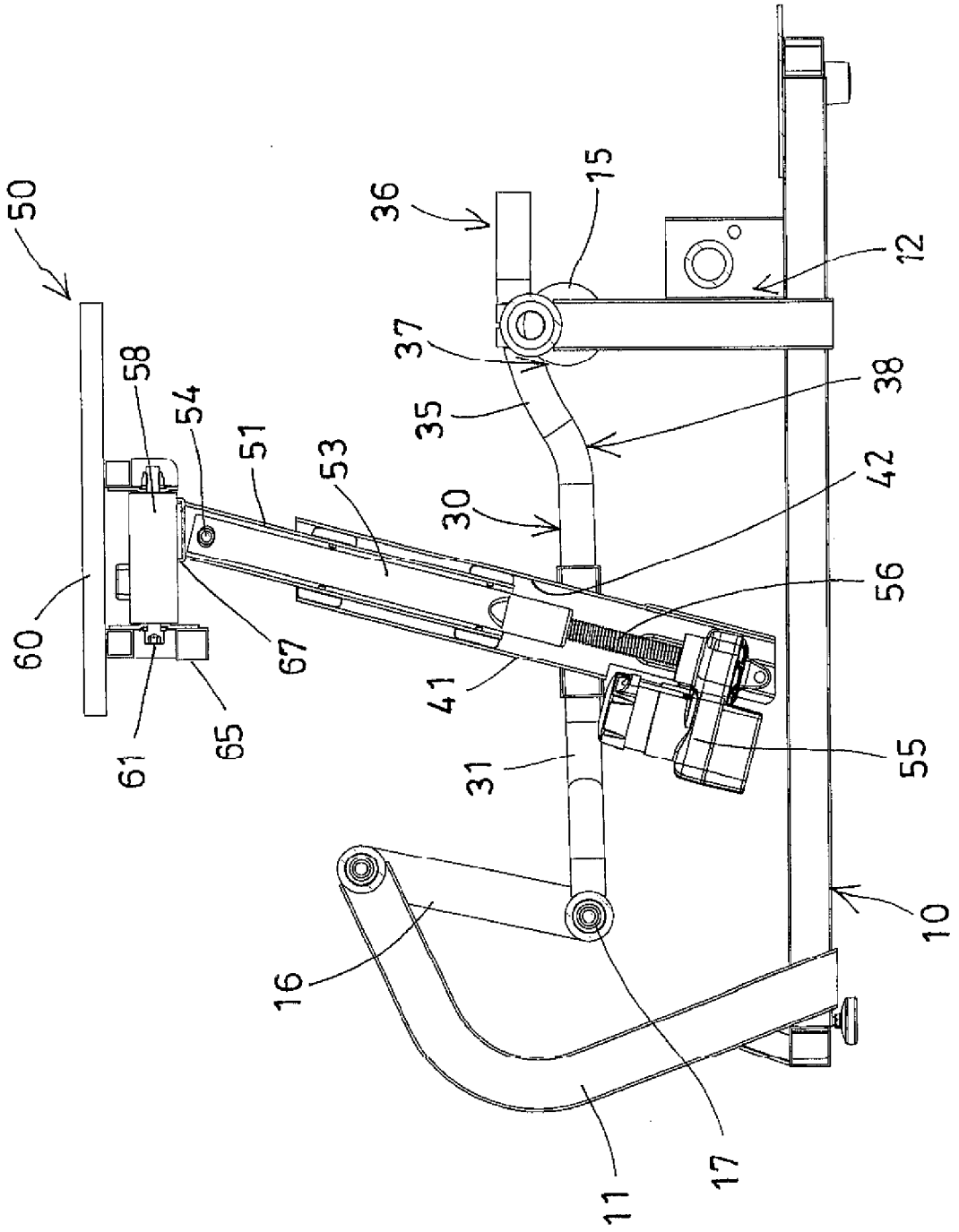
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FIG. 9

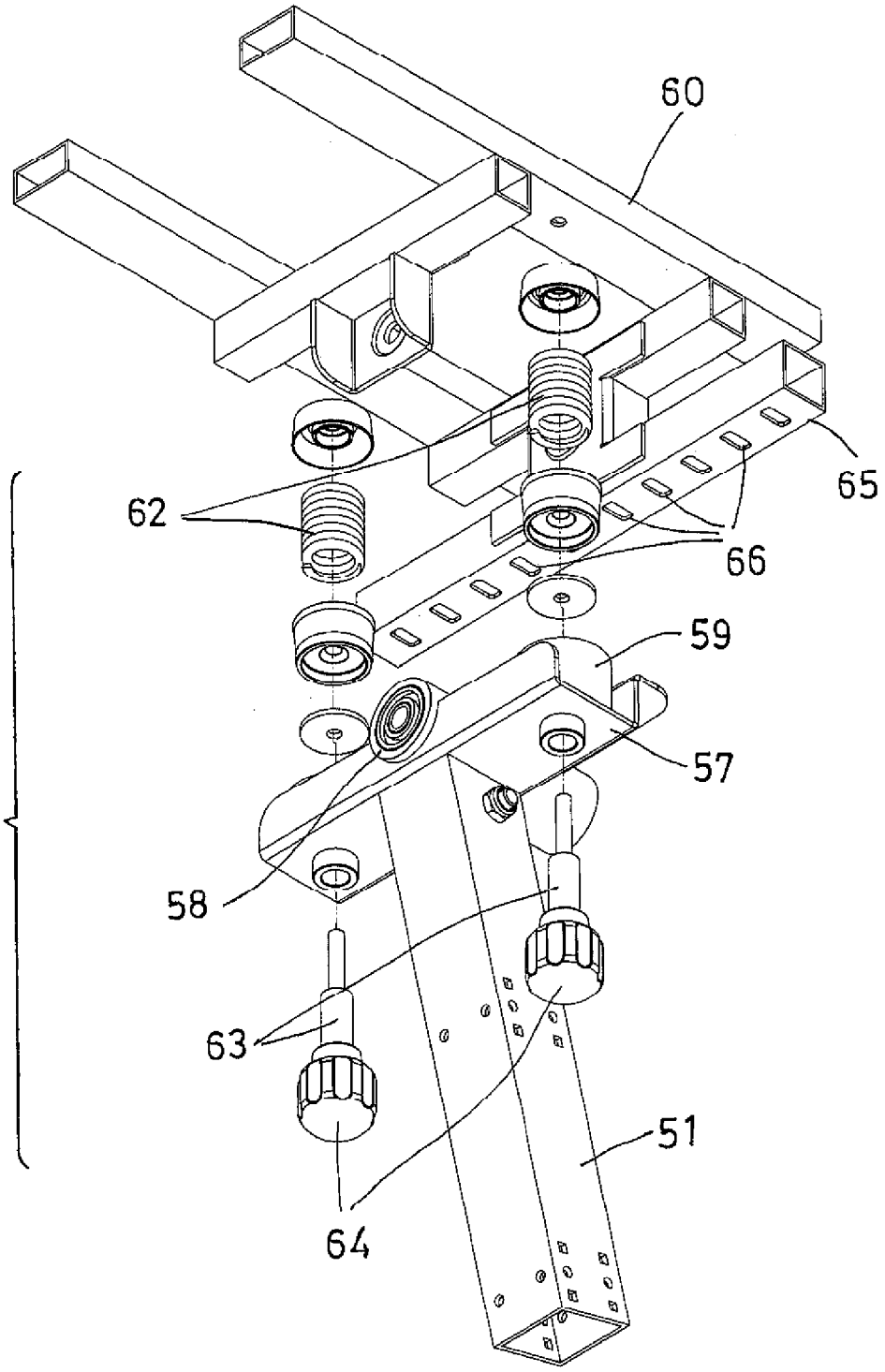

FIG. 10

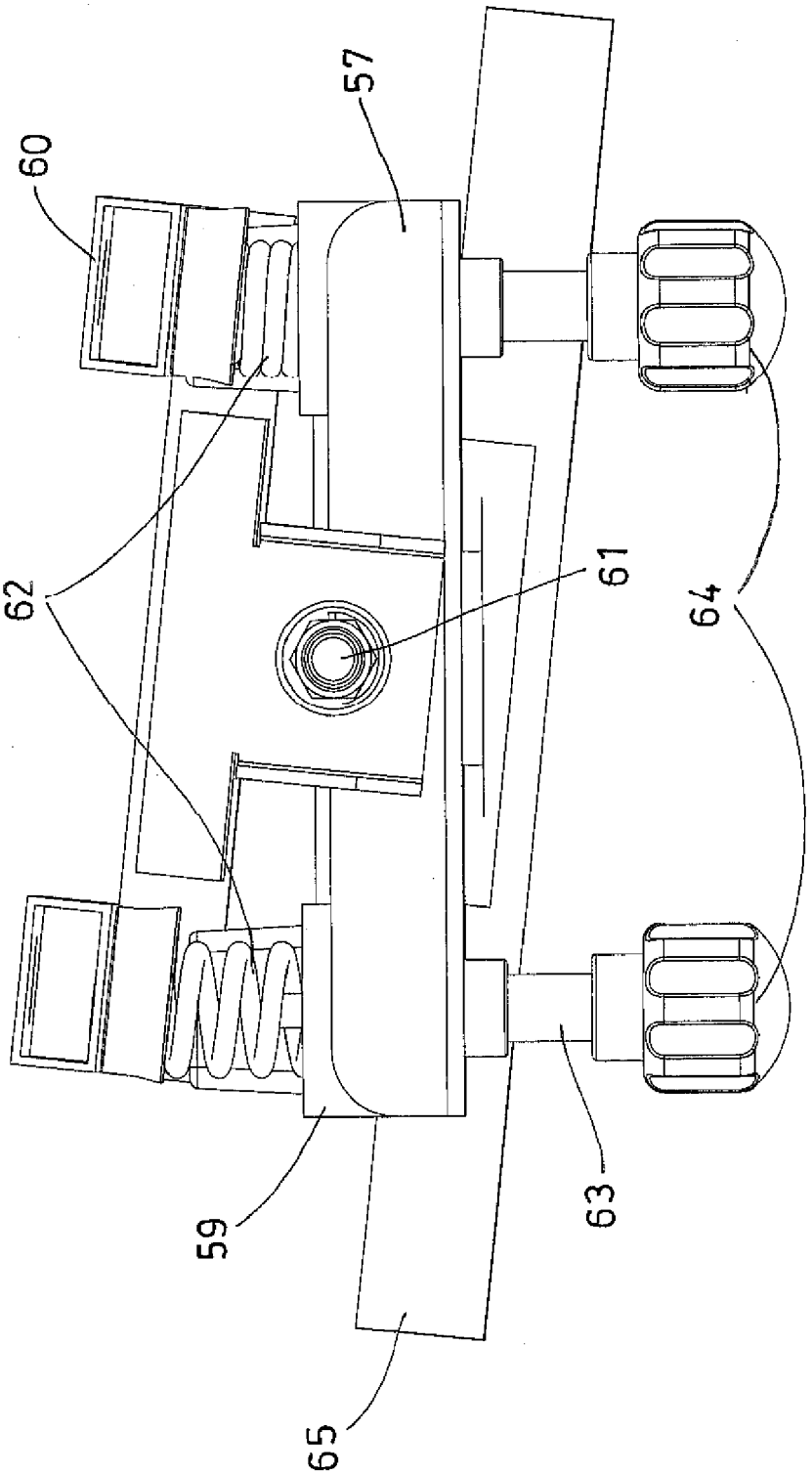

FIG. 11

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EUROPEAN SEARCH REPORT

Application Number
EP 07 10 7285

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 3 432 164 A (DEEKS HUGH A) 11 March 1969 (1969-03-11) * the whole document * -----	1-5	INV. A63B69/04
X	US 1 671 162 A (PETERS HANS M T) 29 May 1928 (1928-05-29) * page 1, line 24 - page 2, line 123; figures 1-3 * -----	1,5,6	
X	DE 39 41 498 A1 (MEITEC CORP [JP]) 21 June 1990 (1990-06-21) * page 4, line 3 - line 41; figures 1-5 * -----	1,5	

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	3 September 2007	Jekabsons, Armands

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03-09-2007

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3432164 A	11-03-1969	NONE	
US 1671162 A	29-05-1928	NONE	
DE 3941498 A1	21-06-1990	US 4988300 A	29-01-1991

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