



(11) **EP 1 979 060 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention
of the grant of the patent:
05.03.2014 Bulletin 2014/10

(51) Int Cl.:
A63G 11/00 (2006.01)

(21) Application number: **06831492.1**

(86) International application number:
PCT/GB2006/004941

(22) Date of filing: **29.12.2006**

(87) International publication number:
WO 2007/080370 (19.07.2007 Gazette 2007/29)

(54) **A RECREATIONAL APPARATUS PROVIDING UP AND DOWN MOTION AND ROTATIONAL MOTION**

Eine Unterhaltungseinrichtung mit Auf-, Ab- und Rotationsbewegung

APPAREIL DE LOISIR PRODUISANT UN MOUVEMENT DE HAUT EN BAS, DE BAS EN HAUT ET UN MOUVEMENT ROTATIF

(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 NL PL PT RO SE SI
SK TR**

(30) Priority: **10.01.2006 GB 0600412**

(43) Date of publication of application:
15.10.2008 Bulletin 2008/42

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WO-A-95/32778 US-B1- 6 379 256

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Description

[0001] The invention relates to a seat for a recreational apparatus providing up and down motion.

[0002] Recreational apparatus, such as see saws or teeter totters, that have both up and down motion and rotational motion are known in the prior art, such as US 6533672, which discloses a mount and a beam mounted at one end on the mount and having a seat at the other end. This beam is biased upwardly with a strong elastic band. However, such apparatus have disadvantages that hinder their usability.

[0003] A problem with US6533672 is that these see saws can only be used by one child at a time and thus require more effort for the child to play on the see saw. This may represent a distinct problem to smaller children who could find it difficult to manoeuvre the see saw at all.

[0004] Another disadvantage is that the see saw will only be able to handle a relatively limited range in the weight of the children playing on it. If a child is much lighter or heavier than the range for which the see saw is set, it will be necessary to remove the elastic band or 'biasing device' and replace it with an alternative. Furthermore anchoring of the see saw is structurally challenging because of the cantilever configuration.

[0005] Yet further, seats of known rotating see saws are relatively complex arrangements with multiple parts. This has the disadvantage of increased manufacturing costs and difficulties. In addition, seats of this type may consist of a more rigid material having attached on its underside some form of impact absorber. This can be uncomfortable for the child.

[0006] WO 95/32778 A discloses a see saw and US 6 379 256 B1 discloses an amusement apparatus arranged for up and down and rotational movement.

[0007] The invention is set out in the appended claims.

[0008] The present invention provides a seat for a recreational apparatus, according to claim 1.

[0009] In addition, the present invention is easy to adjust to account for children of varying weights due to a quick release mechanism attaching the beam to the mount. It is therefore possible for a heavier child to play with a lighter child and subsequently the see saw can be easily adjusted by an adult or child for two lighter children to play on the see saw, or vice versa. Yet further, anchoring the see saw is less critical. This feature also allows the apparatus to be dismantled for ease of storage.

[0010] In another aspect, the seat is made up of two parts only where a resilient ball protrudes through a rim. The resilient ball forms the majority of the seat, with minimal rigid material. This maximises the bounce that is experienced by the children and contributes to the comfort. Yet further, the large soft surface area of the ball minimises the risk of entrapping the users' ankles.

[0011] Throughout the discussion and figures of the embodiments like reference numerals refer to like parts.

Figure 1 is an overview of a recreational apparatus

providing up and down and rotational motion according to the present invention.

Figure 2 is a vertical cross-section along the centre of the apparatus of Figure 1.

Figure 3a is a bearing bush.

Figure 3b is a plan view of a bearing bush.

Figure 3c is a side view of the bearing bush in Figure 3b.

Figure 4 is a plan view of a rim forming part of the seat.

Figure 5 is a side view of a resilient ball which forms part of the seat.

Figure 6 is a perspective view of the yoke and pin by which the beam can be attached to the mount.

Figure 7 is a perspective view of the beam.

Figure 8 is a perspective view of the mount.

Figure 9 is a plan view of the apparatus of Figure 1.

[0012] Herein the term see-saw is taken to mean a long beam, plank or elongated member mounted on a central fulcrum so that when a person is riding on each end, one end goes up as the other goes down. A see-saw also has a number of regional terms as follows, which mean the same, teeter-totter, teeter, teeterboard, tilt, tilting board, teedle board, dandle board and dandle.

[0013] Herein the mount is taken to mean a vertical support, which can be balanced on the ground and to which a beam may be attached. Examples of a mount include, but are not limited to, a pylon, pole, frame, brace, bracket, prop, post, pillar, timber and rod.

[0014] Herein the beam is taken to mean a horizontal support that is considerably longer than it is wide. Examples of a beam include, but are not limited to, a plank, timber, sleeper, trestle, pole, tube, arm and rod.

[0015] Herein "substantially opposing" means essentially at opposite ends and does not have to be at exactly opposite ends but sufficient to provide some measure of counterbalance.

[0016] Herein an impact absorption member means any means by which the energy from the impact of the end of the beam contacting the ground is at least partially absorbed.

[0017] Examples of an impact absorption member include, but are not limited to, a cushion, ball, balloon, sphere, bumper, pad and spring..

[0018] Herein a ball means any spherical, circular, bulbous, cylindrical, egg-shaped, round or oval member.

[0019] Referring to figure 1 a beam (1) attached to a

mount (2) is shown for a recreational apparatus that provides up and down and rotational motion. The beam (1) has a seat (10a and 10b) at each of the first and second end, which can be made up of a resilient ball (5), which fits through a rim (4). The ball (5) is located below the seat (10a and 10b) and acts as an impact absorber when the seat (10a and 10b) reaches the ground, designed to repeatedly and resiliently contact the surface. Figure 4 is an example of the rim (4) and includes a hole (14) in the centre through which the ball (5) can fit. The hole (14) can be wider at the uppermost part so that when part of the ball is compressed to fit through the hole (14) it then re-expands to fit on top of the rim, providing the seat (10a and 10b) and wedging the ball (5) in the rim (4). The seat (10a and 10b) also includes an integral handle (7).

[0020] Figure 5 shows the resilient ball (5) prior to being fitted through the hole (14) in the centre of the rim (4). There is a bulbous portion (16) at the base, a neck (18) and expanded top portion (17) providing the seat portion. The expanded top portion (17) can be made of thickened material to flatten the inflated top portion (17) and make it more suitable for a seat (10a and 10b). Preferably the rim (4) comprises an integrally moulded spigot which is inserted into the beam (1).

[0021] The apparatus includes a handle bar (6) for support for each user. The handle bars (6) are similar to those which are known for conventional bicycles. The base of the handle bars (6) is attached to the beam (1). The handle bars can include moulded handgrips (13). This is shown in Figure 2.

[0022] The beam (1) of Figure 1 is shown in more detail in figure 7. The beam (1) has a plurality pairs of opposed mounting holes (12) along its length. The beam (1) can be attached to the mount (2) at any of the mounting holes (12).

[0023] Figure 6 shows this arrangement in more detail. The mount comprises a yoke (11) on which the beam is pivotally mounted. A pin (15), or any other appropriate means, extends through the yoke (11) and a pair of opposing mounting holes (12) in the beam (1), thus attaching the beam (1) pivotally to the mount (2) for up and down motion.

[0024] The yoke (11) is provided on a tubular mounting column (19) which extends vertically through a pair of bearing bushes (3). Figures 3a-3c show the bearing bush (3) in more detail. Each bearing bush (3) has a central tube (26) with a central aperture (20) and three equian- gular surrounding smaller tubes (27) with tubular aper- tures (21), through which the respective leg portions (8), which form a base for the mount (2), fits. The respective leg portions (8) are attached to each bearing bush (3) in an appropriate manner. Figure 8 shows the tubular mounting column (19) in more detail including the yoke (11) and opposing mounting holes (12).

[0025] The bearing bush (3) allows rotational move- ment of the yoke (11) and tubular mounting column (19) and hence the beam (1). A bearing disc (24) in the form of a cylindrical collar is moulded, bolted or otherwise af-

fixed to the tubular mounting column (19) and this pro- vides the main bearing surface. The bearing disc (24) is preferably moulded from nylon 6.6. In addition, there is a bearing cap (25) that is a push fit over the bearing bush (3) and the leg portions (8). The bearing cap (25) caps the leg portions (8) and shields the tube (26) and provides a smooth area for a lower annular bearing surface of the bearing disc (24) to rotate on. The bearing cap (25) is preferably made from the plastic HPDE, which is self lu- bricating against the nylon 6.6 of the bearing disc (24).

[0026] The lower part of the respective leg portions (8) are bent substantially perpendicularly to the upper part of the respective leg portions (8). Hence each leg (8) comprises, in addition to a substantially vertical portion (28), a horizontal portion (29) including a generally radi- ally extending inner length and, extending generally per- pendicular thereto, a generally circumferentially extend- ing outer length (30). The leg portions (8) can be secured to the ground with stakes (9). The leg portions (8) each have a moulded foot (22), which caps the end of the leg portions (8) and also increases the area of the apparatus that meets the ground. The moulded feet (22) further comprises self adhesive pads (23) on the underside to increase stability particularly on smooth floors. Prefera- bly the self adhesive pads are made from foam. In addi- tion this facilitates indoor use without the risk of marking the floors.

[0027] According to the invention the recreational ap- paratus of Figure 1 is operable for rotational and up and down motion by the weight of a person at each end acting as a counter-balance.

[0028] Users can cause rotational motion themselves by pushing with part of their body. Likewise, an additional person may use the integral handle (7) in order to apply pressure to cause rotational motion and/or additional as- sistance with up and down motion. As the seat (10a and 10b) contacts the ground the resilient ball (5) absorbs the impact compressing, and when the seat (10a and 10b) moves off the ground the ball (5) re-expands.

[0029] If the participants are of unequal weights then the position at which the beam (1) is attached to the mount (2) can be adjusted to account for the unequal weight. The pin (15) used to attach the mount (2) to the beam (1) is easily removed and can be used to attach the mount (2) to the beam (1) at a different position in either direc- tion, where there is a mounting hole (12) in the beam (1), down the length of the beam (1).

[0030] The beam (1), leg portion (8), yoke (11) and tubular mounting column (19), which form part of the mount (2) are preferably made from metal such as alu- minium or steel.

[0031] The bearing bushes (3) can be made of injection moulded material and/or hard plastic.

[0032] The rim (4) of the seats (10a and 10b) can be made of hard plastic and the ball (5) can be made of injection moulded material that is inflatable. The upper- most part of the seat may optionally bear a logo or motif.

[0033] However it will be appreciated that any of the

components can be made from any suitable material.

[0034] The present invention is easy to adjust to account for children of varying weights. It is therefore possible for a heavier child to play with a lighter child and subsequently the see saw can be easily adjusted for two lighter children to play on the see saw, or any weight combination of child.

[0035] The present invention provides a seat (10a and 10b) that has a number of advantages. There is ease of manufacturing as the seat (10a and 10b) is made up of two parts only. This ball (5) provides the surface which hits the ground and the actual seating surface. This maximises the bounce that is experienced by the children and contributes to the entertainment. In addition, the seat (10a and 10b) may be made of injection moulded material, allowing the seats (10a and 10b) to withstand outdoor conditions for considerable lengths of time. When the rim (4) comprises an integrally moulded spigot inserted into the beam (1), a particularly strong connection is created between the seat (10a and 10b) and the beam (1).

[0036] The arrangement of the leg portions (8) such that the lower part is perpendicular to the upper part (28) and includes generally perpendicular inner (29) and outer parts (30) results in a very stable apparatus and enables the apparatus to be used without stakes and therefore indoors. In addition, the moulded feet (22) at the distal end of the outer part increase the stability of the apparatus and the moulding allows the feet (22) to flex slightly to assist stability on uneven ground. The self adhesive pads (23) on the underside of the feet (22) stop the apparatus slipping on floors particularly smooth floor finishes such as polished wooden floors.

[0037] The integral handle (7) on the seat (10a and 10b) facilitates another child or adult assisting the movement of the apparatus.

[0038] It is envisaged that the apparatus could consist of more than two seats (10a and 10b), such that any number of seats (10a and 10b) could be arranged to counter-balance each other. It is also possible for there to be more than one beam (1) arranged on the mount (2).

[0039] The mount (2) may be attached to the beam (1) by any suitable means. Examples of a mount include, but are not limited to, a clasp, catch, grip, clench, vice, screw, axle, hinge, swivel or shaft.

[0040] The mount may comprise any form of strengthening in place of the bearing bushes (3) and equally may comprise no strengthening.

[0041] The invention is to be understood as including any combination of components as described herein. For example, two seats (10a and 10b) consisting of a rim (4) and resilient ball (5), a beam (1) attached to a mount (2) by a catch. A further example is an apparatus consisting of four seats (10a and 10b) and one beam (1) attached to a mount (2) by a catch further comprising handle bars (6).

Claims

1. A seat for a recreational apparatus that provides up and down movement of the seat, the seat comprising a rim (4) and a resilient ball (5) associated therewith **characterised in that** at least part of the ball (5) projects through the rim (4) in the seat such that an upper part of the ball (5) expands to fit on top of the rim (4) and a lower part of the ball (5) is located below the rim (4).
2. The seat of claim 1, wherein the upper part of the ball (5) comprises thickened material to flatten the upper part of the ball (5).
3. The seat of claim 1 or claim 2, wherein the ball (5) comprises a bulbous portion (16) below the rim (4), a neck (18) and an expanded top portion (17).
4. The seat of any one of claims 1 to 3, wherein the lower part of the ball (5) located below the rim (4) acts to absorb impacts.
5. A recreational apparatus providing up and down motion, comprising:
 - a mount (2) and a beam (1) mounted thereon for said up and down motion, wherein the beam (1) comprises the seat (10a, 10b) according to claims 1 to 4 located remote from the mount (2).
6. The recreational apparatus of claim 5, wherein the apparatus further provides a rotational motion.
7. The recreational apparatus of claim 5 or claim 6, wherein the beam (11) comprises first and second seats (10a, 10b) at substantially opposing sides of the mount (2).
8. The recreational apparatus of claim 7, wherein the first and second seats (10a, 10b) are at respective ends of said beam (1).
9. The recreational apparatus of any one of claims 5 to 8, wherein the mount (2) comprises at least one leg portion (8).
10. The recreational apparatus of claim 9, wherein the leg portion (8) comprises a substantially vertical portion (28) and a substantially horizontal portion (29), the horizontal portion (29) comprising a generally radially extending inner length and, extending generally perpendicular thereto, a generally circumferentially extending outer length (30).
11. The apparatus of any one of claims 5 to 10 wherein the mount (2) is capable of being attached to the ground.

12. The apparatus of any one of claims 5 to 11 wherein the seat (10a, 10b) further comprises an integral handle (7).
13. The apparatus of any one of claims 5 to 12 further comprising a handle bar (6) between the seat (10a, 10b) and the mount (1).
14. The apparatus of any one of claims 5 to 13 wherein the beam (1) is capable of being located on the mount (2) at different positions along the length of the beam (1).

Patentansprüche

1. Ein Sitz für ein Freizeitgerät, das eine Auf- und Abwärtsbewegung des Sitzes bereitstellt, wobei der Sitz einen Rand (4) und einen dazugehörigen elastischen Ball (5) umfasst, **dadurch gekennzeichnet, dass** zumindest ein Teil des Balls (5) durch den Rand (4) im Sitz hinausragt, sodass ein oberer Teil des Balls (5) sich ausdehnt, um auf den Oberteil des Randes (4) zu passen, und ein unterer Teil des Balls (5) sich unter dem Rand (4) befindet.
2. Der Sitz von Anspruch 1, wobei der obere Teil des Balls (5) ein verdicktes Material umfasst, um den oberen Teil des Balls (5) abzuflachen.
3. Der Sitz von Anspruch 1 oder Anspruch 2, wobei der Ball (5) einen dickbauchigen Abschnitt (16) unterhalb des Randes (4), einen Hals (18) und einen erweiterten oberen Abschnitt (17) umfasst.
4. Der Sitz von irgendeinem der Ansprüche 1 bis 3, wobei der untere Teil des Balls (5), der sich unterhalb des Randes (4) befindet, dazu dient, einen Aufprall abzufangen.
5. Ein Freizeitgerät, das eine Auf- und Abwärtsbewegung bereitstellt, umfassend:
eine Halterung (2) und einen Träger (1), der für die genannte Auf- und Abwärtsbewegung darauf montiert ist, wobei der Träger (1) den Sitz (10a, 10b) gemäß den Ansprüchen 1 bis 4 umfasst, welcher sich in einer Entfernung von der Halterung (2) befindet.
6. Das Freizeitgerät von Anspruch 5, wobei das Gerät überdies eine Drehbewegung bereitstellt.
7. Das Freizeitgerät von Anspruch 5 oder Anspruch 6, wobei der Träger (11) einen ersten und zweiten Sitz (10a, 10b) auf überwiegend gegenüberliegenden Seiten der Halterung (2) umfasst.

8. Das Freizeitgerät von Anspruch 7, wobei der erste und zweite Sitz (10a, 10b) sich an entsprechenden Enden des genannten Trägers (1) befinden.
9. Das Freizeitgerät von irgendeinem der Ansprüche 5 bis 8, wobei die Halterung (2) mindestens einen Beinabschnitt (8) umfasst.
10. Das Freizeitgerät von Anspruch 9, worin der Beinabschnitt (8) einen überwiegend vertikalen Abschnitt (28) und einen überwiegend horizontalen Abschnitt (29) umfasst, wobei der horizontale Abschnitt (29) ein sich im Allgemeinen radial ausdehnendes inneres Bein und eine im Allgemeinen umlaufende Außenlänge (30), die sich generell senkrecht dazu erstreckt, umfasst.
11. Das Gerät von irgendeinem der Ansprüche 5 bis 10, wobei die Halterung (2) am Boden befestigt werden kann.
12. Das Gerät von irgendeinem der Ansprüche 5 bis 11, wobei der Sitz (10a, 10b) überdies einen integrierten Griff (7) umfasst.
13. Das Gerät von irgendeinem der Ansprüche 5 bis 12, das überdies eine Griffstange (6) zwischen dem Sitz (10a, 10b) und der Halterung (1) umfasst.
14. Das Gerät von irgendeinem der Ansprüche 5 bis 13, wobei sich der Träger (1) auf der Halterung (2) in verschiedenen Positionen entlang der Länge des Trägers (1) befinden kann.

Revendications

1. Un siège pour un appareil de loisir qui fournit un déplacement vers le haut et vers le bas du siège, le siège comprenant un rebord (4) et un ballon élastique (5) associé à celui-ci **caractérisé en ce qu'**au moins une partie du ballon (5) fait saillie au travers du rebord (4) dans le siège de sorte qu'une partie supérieure du ballon (5) s'étende pour s'adapter sur le sommet du rebord (4) et une partie inférieure du ballon (5) soit placée sous le rebord (4).
2. Le siège selon la Revendication 1, où la partie supérieure du ballon (5) comprend un matériau épaissi destiné à aplatir la partie supérieure du ballon (5).
3. Le siège selon la Revendication 1 ou 2, où le ballon (5) comprend une partie renflée (16) sous le rebord (4), une encolure (18) et une partie supérieure étendue (17).
4. Le siège selon l'une quelconque des Revendications 1 à 3, où la partie inférieure du ballon (5) placée sous

le rebord (4) agit de façon à absorber les impacts.

5. Un appareil de loisir fournissant un mouvement vers le haut et vers le bas, comprenant :

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un support (2) et une traverse (1) montée sur celui-ci pour ledit mouvement vers le haut et vers le bas, où la traverse (1) comprend le siège (10a, 10b) selon les Revendications 1 à 4 placé à distance du support (2).

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6. L'appareil de loisir selon la Revendication 5, où l'appareil fournit en outre un mouvement rotatif.
7. L'appareil de loisir selon la Revendication 5 ou 6, où la traverse (11) comprend un premier et un deuxième sièges (10a, 10b) à des côtés sensiblement opposés du support (2).

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8. L'appareil de loisir selon la Revendication 7, où les premier et deuxième sièges (10a, 10b) sont à des extrémités respectives de ladite traverse (1).

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9. L'appareil de loisir selon l'une quelconque des Revendications 5 à 8, où le support (2) comprend au moins une partie pied (8).

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10. L'appareil de loisir selon la Revendication 9, où la partie pied (8) comprend une partie sensiblement verticale (28) et une partie sensiblement horizontale (29), la partie horizontale (29) comprenant une longueur intérieure s'étendant généralement radialement et, s'étendant généralement perpendiculairement à celle-ci, une longueur extérieure s'étendant généralement circonférentiellement (30).

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11. L'appareil selon l'une quelconque des Revendications 5 à 10, où le support (2) peut être fixé au sol.
12. L'appareil selon l'une quelconque des Revendications 5 à 11, où le siège (10a, 10b) comprend en outre une poignée d'un seul tenant (7).

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13. L'appareil selon l'une quelconque des Revendications 5 à 12 comprenant en outre une poignée de guidon (6) entre le siège (10a, 10b) et le support (1).

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14. L'appareil selon l'une quelconque des Revendications 5 à 13 où la traverse (1) peut être installée sur le support (2) à des positions différentes le long de la longueur de la traverse (1).

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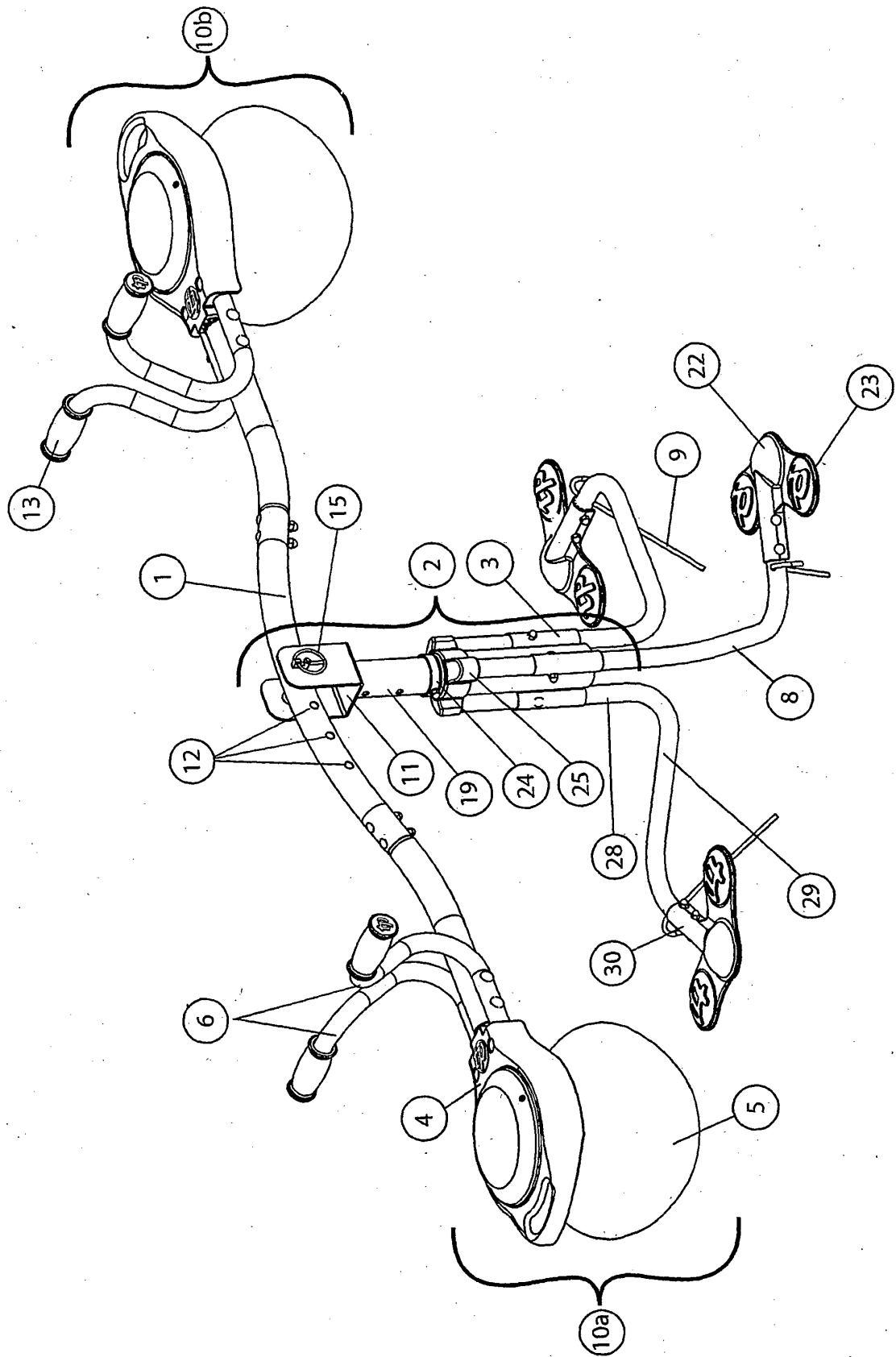
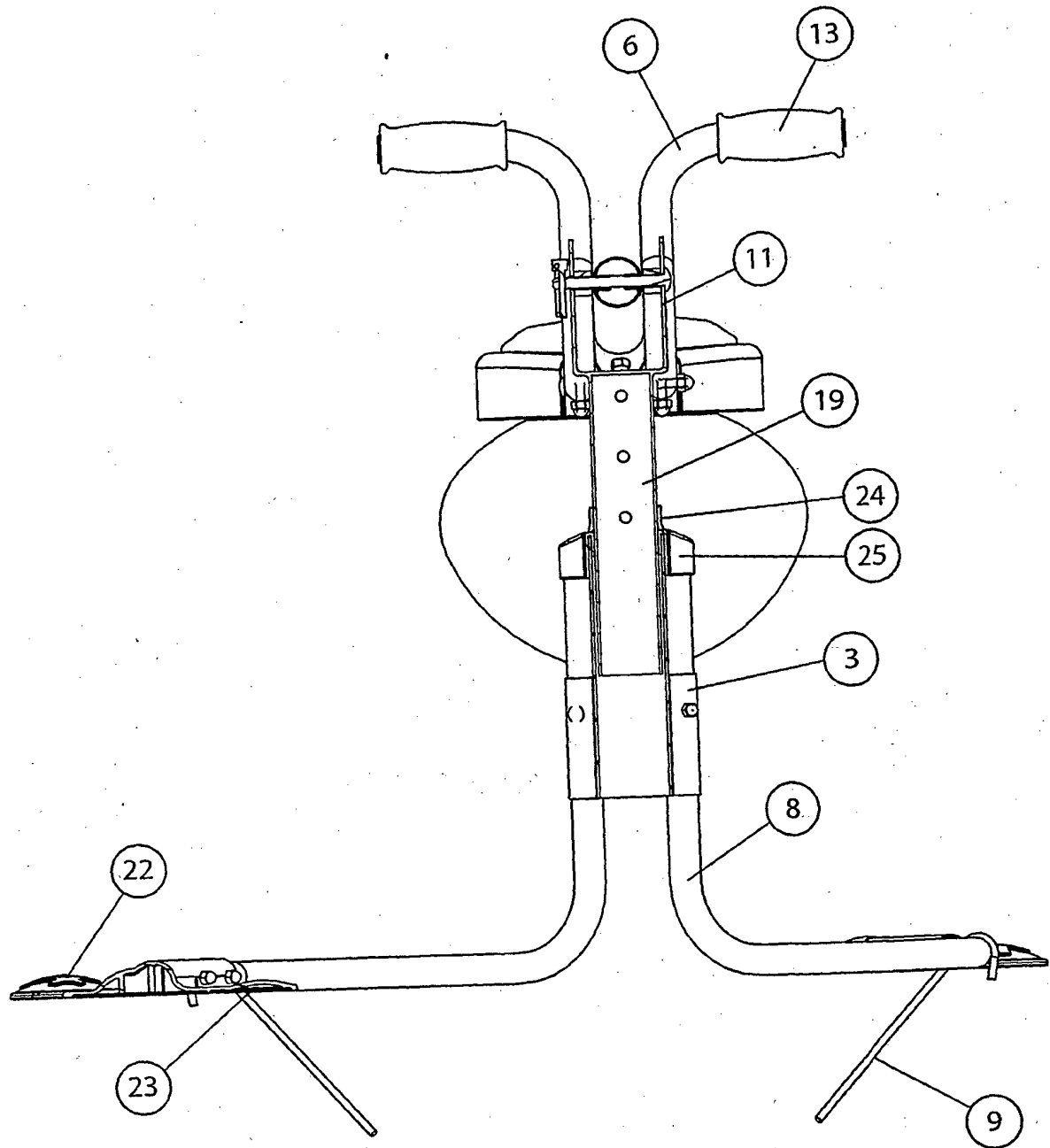


Figure 1



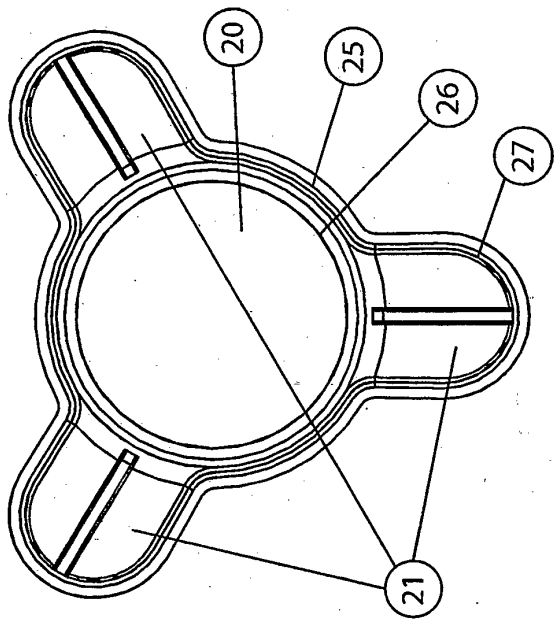


Figure 3b

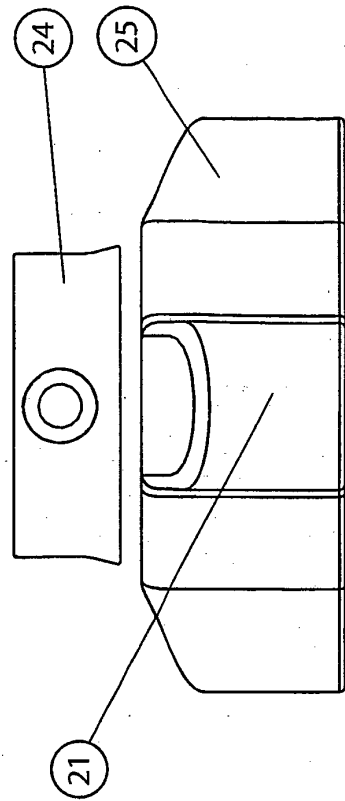


Figure 3c

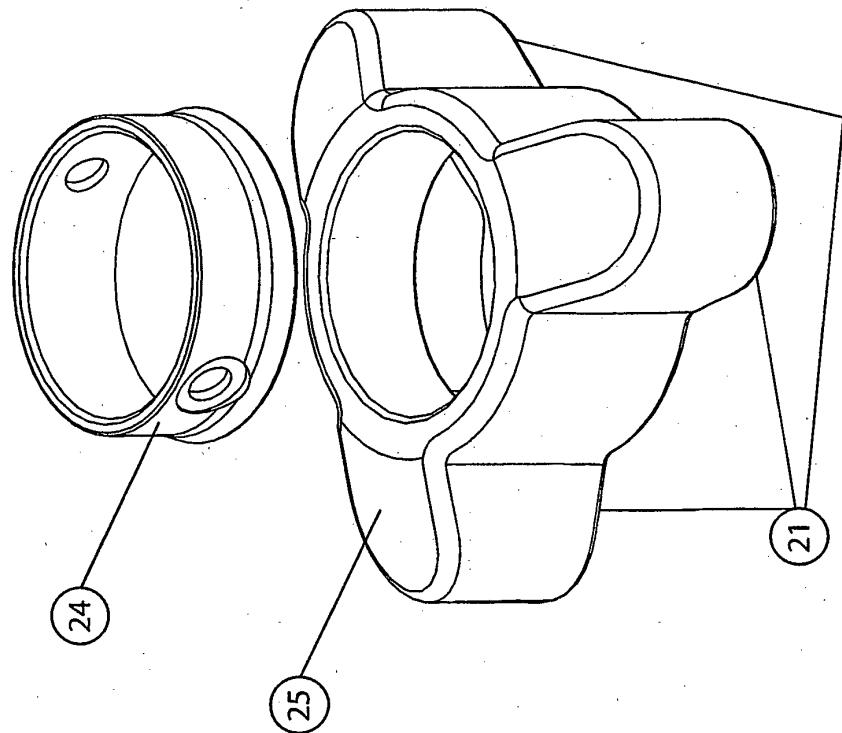


Figure 3a

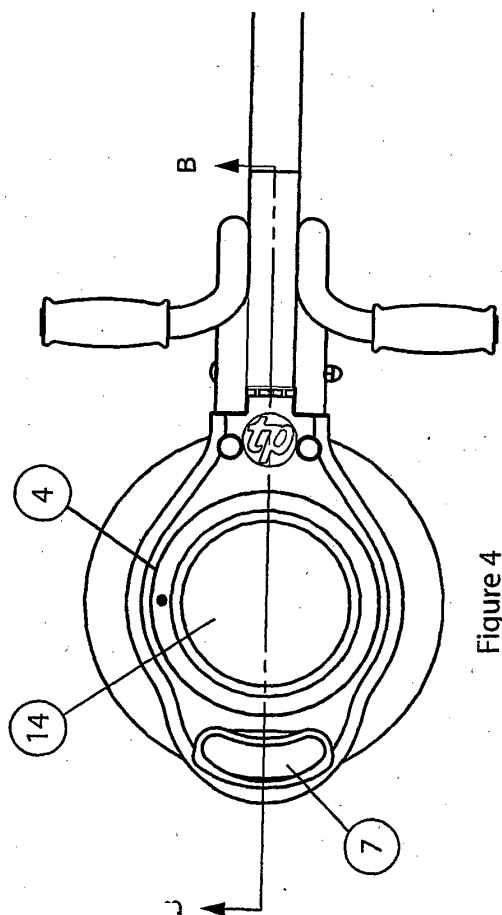


Figure 4

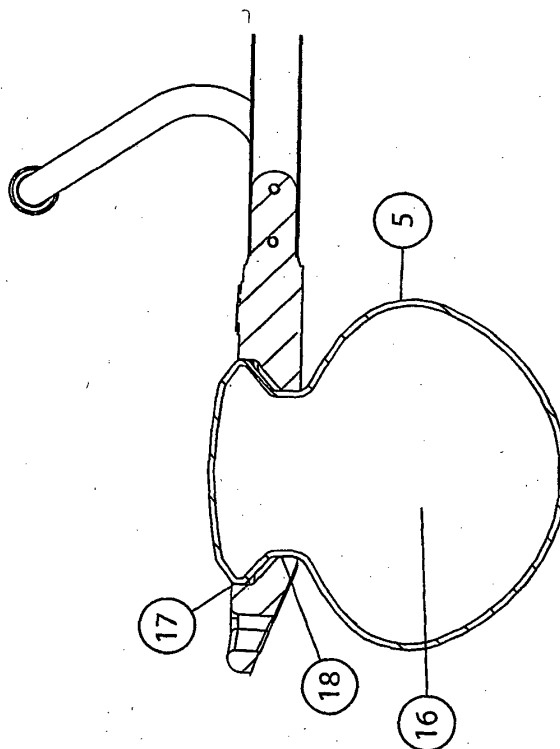


Figure 5

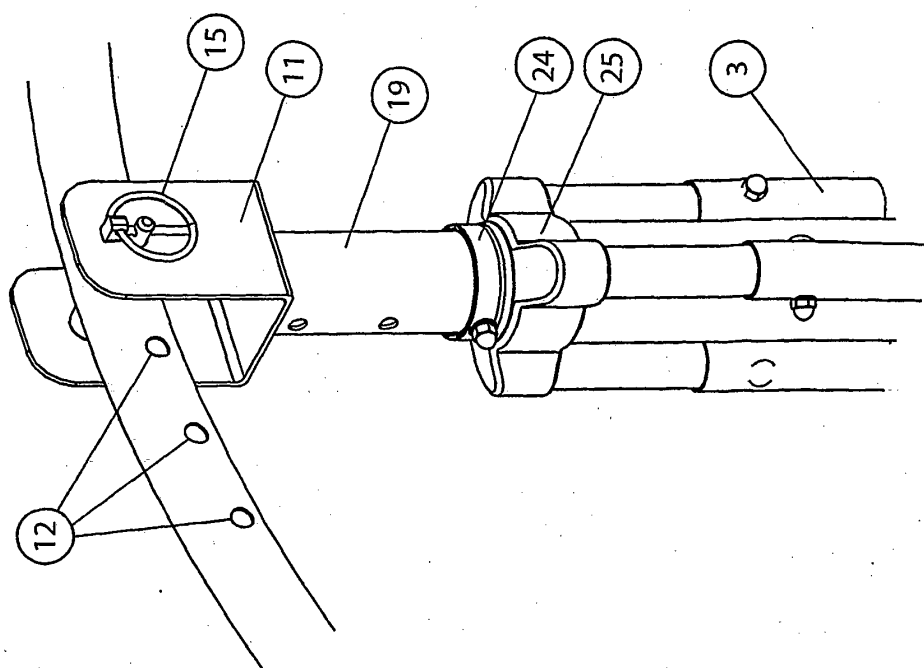


Figure 6

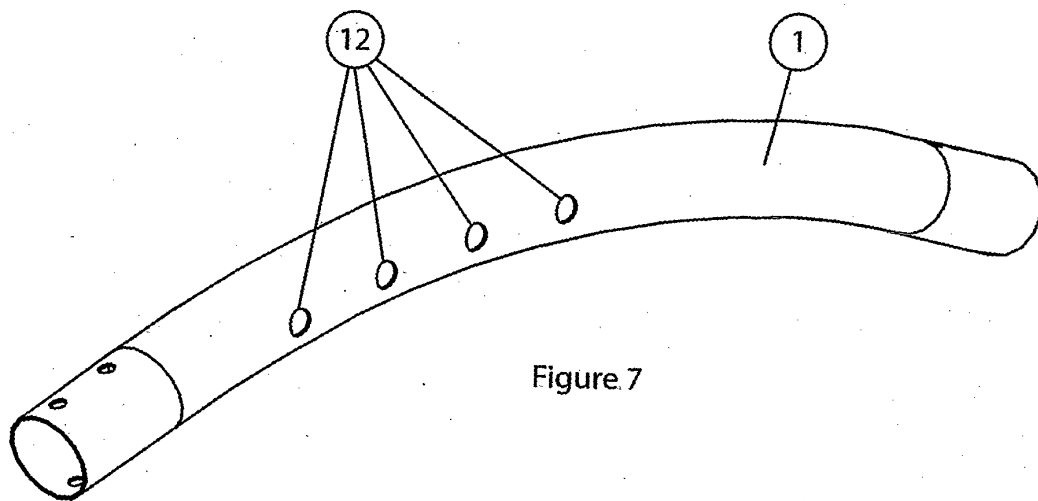


Figure 7

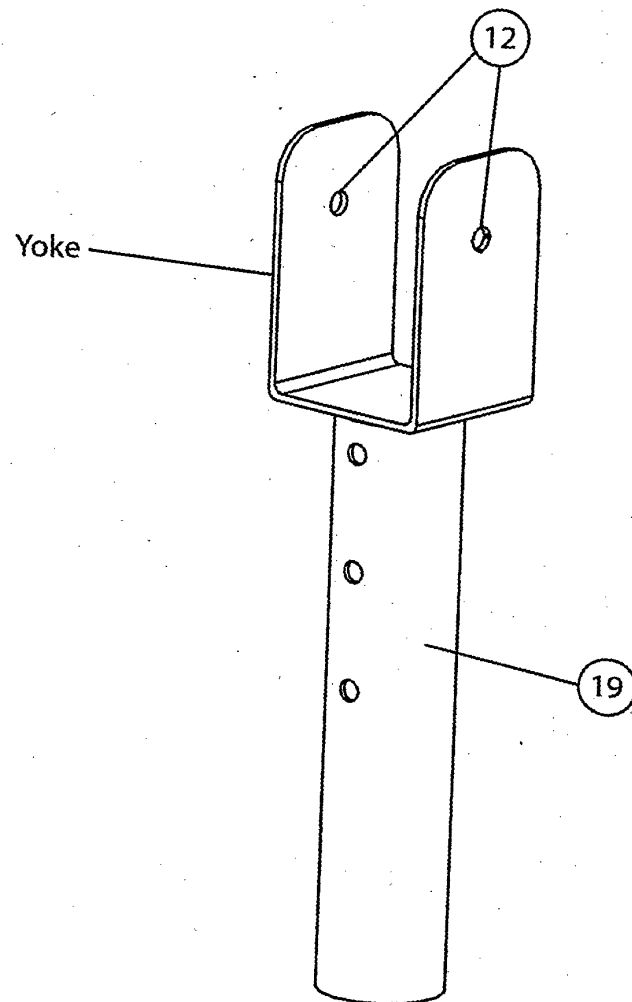


Figure 8

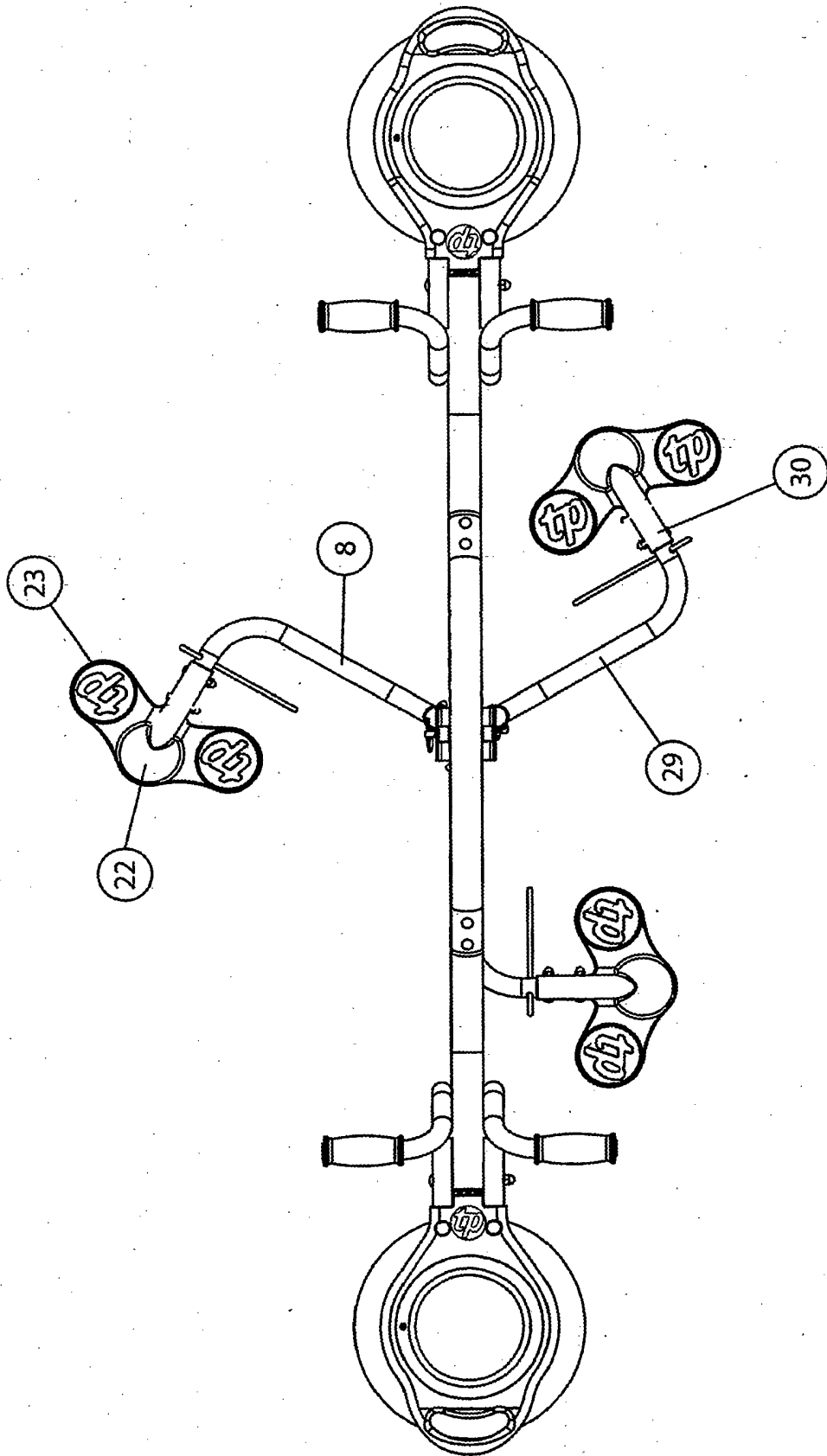


Fig. 9

REFERENCES CITED IN THE DESCRIPTION

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