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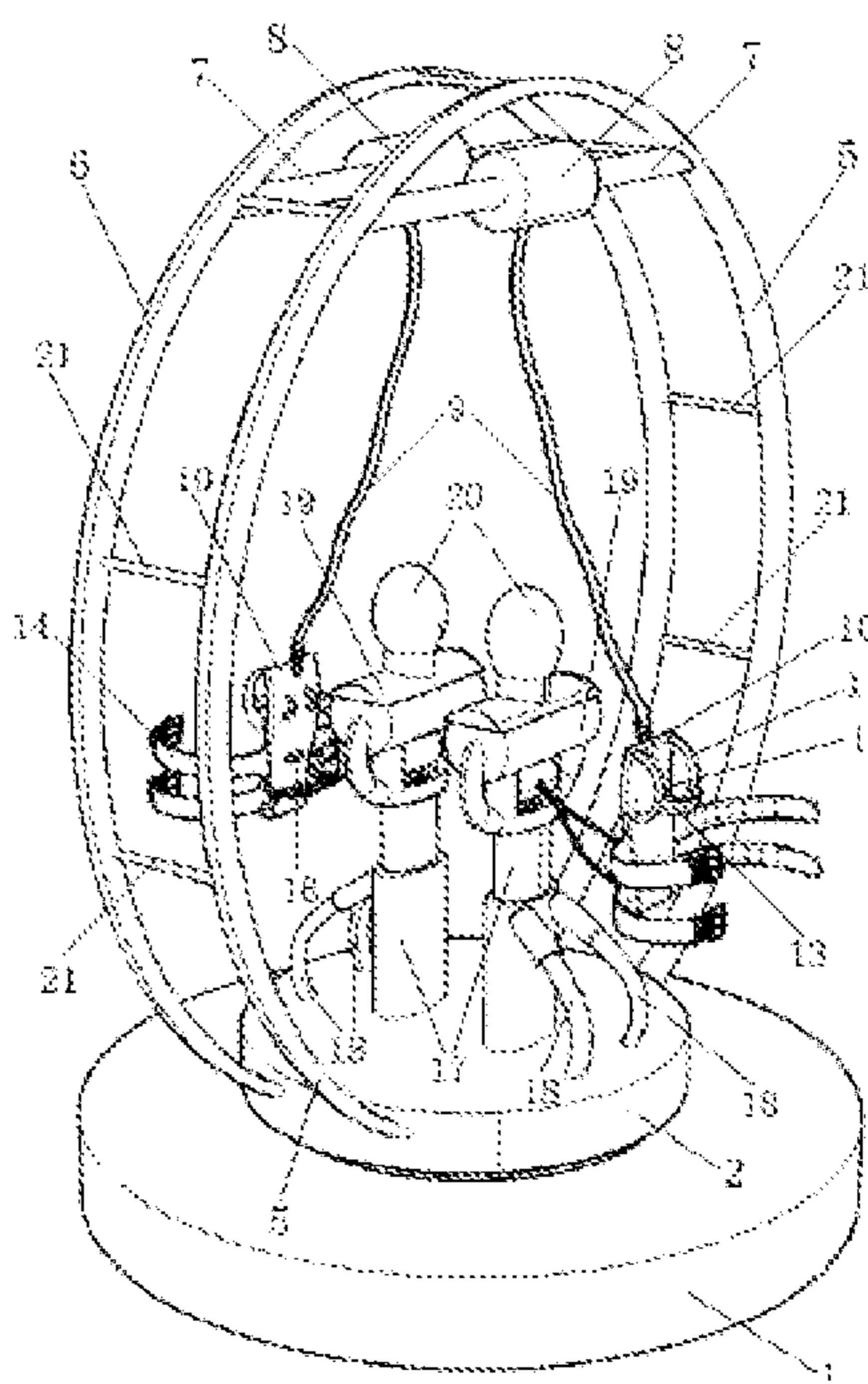
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54 COMPREHENSIVE TRAINING DEVICE FOR LION HEAD ACTION IN LION DANCE

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The invention provides a comprehensive training device for lion head action in lion dance. The device comprises a base, a turntable, unclosed ring frames, transverse support rods, electric winches, first traction ropes, armors, and "humanoid" training aids; the turntable is arranged above the base, and a lower surface of the turntable is connected with a driving device in the base; the unclosed ring frames are fixedly connected to the surface of the turntable through unclosed ends; two ends of the transverse support rods are connected to the unclosed ring frames, the transverse support rods are located inside the unclosed ring frames, and the electric winches are fixed on the transverse support rods; the armors are connected to the traction ropes; and the two sets of "humanoid" training aids are arranged on an upper surface of the turntable. The training device trains the lion head trainee more comprehensively and efficiently.



COMPREHENSIVE TRAINING DEVICE FOR LION HEAD ACTION IN LION DANCE

Field of the Invention

5 The present invention belongs to the technical field of lion dance action training devices, and particularly relates to a comprehensive training device for lion head action in lion dance.

Background of the Invention

Information disclosed in the background of the invention is merely intended to improve the
10 understanding on the general background of the present invention, and should not be construed as acknowledgment or hint in any form that the information constitutes the prior art known by those ordinarily skilled in the art.

The lion dance has a long history in China, and is a symbol of joy and auspiciousness. The lion dance requires two persons to cooperate with each other to make various actions. Thus, usual
15 action training of performers is indispensable. However, if no corresponding auxiliary equipment is provided during training, many actions require the other performer to act as an exercise object. Training is a process that requires repeated practice, which is a great test for the performer's endurance, patience and physical strength. If effective coordination and mutual support are not realized during a practice, the effect of exercise will be seriously affected. Thus,
20 some related auxiliary training devices have been developed.

For example, Patent Document No. 201810090798.1 discloses a dragon and lion dance training device, including a power box, wherein the power box includes a box body, a vertical and horizontal conversion device is arranged inside the box body, a lifting and rotating device is arranged on the vertical and horizontal conversion device, a top column is arranged at the top
25 end of the lifting and rotating device, and a plurality of rotating accessories are detachably connected to the circumference of the top column. The rotating accessories rotate and lift circumferentially by means of the lifting and rotating device, and a dragon dancer avoids the rotating accessories to exercise the response speed and coordination of the body and exercise the endurance.

30 In addition, Patent Document 201820334099.2 discloses a quincuncial pile with lifting function

for lion dance training, including a fixed sleeve, an adjustable pile, a support plate, and a water delivery passage, wherein a base plate is mounted to a bottom end of the fixed sleeve, a bottom end of the adjustable pile is located inside the fixed sleeve, a first tightening knob is mounted on the fixed sleeve, a top end of the adjustable pile is provided with an anti-slip layer and located inside a mounting cylinder, a second tightening knob is arranged on the outer side of the mounting cylinder, the support plate is mounted on the mounting cylinder, an upper end face of the support plate is provided with anti-slip protrusions, the water delivery passage is formed inside the support plate, the upper end face of the support plate is provided with a water inlet, and a side of the support plate is provided with a water outlet. The overall height of the quincuncial pile with lifting function for lion dance training can be quickly adjusted to provide a variety of training environments for trainees.

Summary of the Invention

Some existing training aids are limited to training of some actions or designed for training of special actions, so that trainees cannot receive comprehensive training, and the efficiency of the trainees is greatly reduced. Thus, the present invention provides a comprehensive lion head action training device for a lion dance. The training device imitates a lion tail trainee, provides a sufficient training environment for a lion head trainee, and trains the lion head trainee more comprehensively and efficiently.

In order to achieve the above objective, the present invention discloses the following technical solution:

First, the present invention discloses a comprehensive training device for lion head action in lion dance, including: a base, a turntable, a rail groove, pulleys, a first unclosed ring frame, a second unclosed ring frame, transverse support rods, electric winches, first traction ropes, armors, and "humanoid" training aids.

The rail groove is formed in an upper surface of the base, the turntable is arranged above the base, and a lower surface of the turntable is connected with a driving device in the base, so that the turntable is rotatable relative to the base; the pulleys are connected to the bottom of the turntable, and the pulleys are slidable in the rail groove as the turntable rotates.

The first unclosed ring frame and the second unclosed ring frame are fixedly connected to the

surface of the turntable through respective unclosed ends, vertically arranged relative to the upper surface of the turntable, and symmetrically distributed on the turntable.

Two ends of a transverse support rod are connected to the first unclosed ring frame, the transverse support rod is located inside the first unclosed ring frame, and an electric winch is fixed on the transverse support rod; a transverse support rod and an electric winch are also arranged on the second unclosed ring frame in the same way as those on the first unclosed ring frame. The electric winches have the advantage that trainees can control the operation of the winches by means of wireless remote controllers, e.g., control coiling and uncoiling of the traction ropes, etc., so that the trainees can practice conveniently.

Further, the transverse support rods are parallel to the upper surface of the turntable.

The armor can be worn on the body of a trainee and is connected with a traction rope, the armor is mainly used for connecting the trainee with the traction rope together, and the electric winch controls the traction rope to realize rising or falling of the trainee.

One of the reasons why the base and the turntable are arranged in such a structure is: in some special lion dance actions, the lion head performer needs to sit on the shoulders of the lion tail performer, the lion tail performer drives the lion head performer to rotate, and this action is very time-consuming and labor-intensive; if the lion tail performer does not rely on corresponding auxiliary equipment, his physical strength, endurance and the like hardly meet the requirements of long-term training; the structure of the present invention can assist the lion head performer in successfully completing the training of these actions; and after the action essentials are mastered and stated, the lion head performer only needs to perform appropriate cooperative exercises with the lion tail performer later, thereby greatly reducing the burden on the performers.

Further, the present invention provides an armor special for lion dance training, including: a back portion, a first fixing ring, a second fixing ring, a fixing belt, and a belly binding belt.

The back portion is of an elongated plate-like structure, the first fixing ring and the second fixing ring are both semi-circular and are symmetrically distributed at two upper side edges of the back portion, the space between the first fixing ring and the second fixing ring can accommodate the body of a trainee, and the first fixing ring and the second fixing ring are used to fix the arms of the trainee. Further, the back portion imitates human back, thereby providing

a more comfortable training environment for the trainee.

Two ends of the fixing belt are respectively connected with the first fixing ring and the second fixing ring to further fix the trainee's body and strengthen the safety protection for the trainee.

Further, the fixing belt is detachably connected with the first fixing ring and the second fixing ring, so that the trainee wears or takes off the armor more conveniently.

The belly binding belt is arranged at the lower middle part of the back portion to fix the trainee's belly; further, the belly binding belt may include a fastener, a safety belt, etc.

Further, the armor is connected to a first traction rope by a first buckle, the first buckle is fixedly connected to the upper part of the back surface of the back portion, and the back surface refers to the other side of the back portion opposite to the side where the first fixing ring, the second fixing ring and the like are arranged. Preferably, the first buckle is detachably connected to the first traction rope.

Further, two sets of belly binding belts are used to better fix the trainee's belly.

The "humanoid" training aid includes an upright post, first support rods, a second support portion, and an anti-slip portion.

The upright post is vertically fixed to the upper surface of the turntable, one end of each first support rod is fixed to the upright post and the other end is fixed to the upper surface of the turntable, the first support rods are in the shape of legs at half squat or knee bending, two sets of first support rods are symmetrically distributed relative to the axis of the upright post, the horizontal distance between the two sets of first support rods should be suitable for a trainee to stand, the second support portion is of a cylindrical structure, the other end of the upright post penetrates through the center of the second support portion and is connected to the anti-slip portion, the axis of the second support portion is parallel to the upper surface of the turntable, and the anti-slip portion is spherical and has a diameter larger than the diameter of the upright post, so that the legs of the trainee are restrained when the trainee is riding on the second support portion.

Two sets of "humanoid" training aids are distributed in a back to back manner on the upper surface of the turntable, and the back to back manner indicates that the first support rods in the two sets of "humanoid" training aids are away from each other.

Further, an anti-slip pad is arranged on the first support rod, and the anti-slip pad is made of

rubber or the like.

Further, second buckles are also arranged on the back surface of the back portion, the second buckles are connected to the upright post of the “humanoid” training aid by second traction ropes, and the second buckles are mainly for a trainee to practice some knee standing actions so as to increase the stability of the lower limbs of the trainee.

Further, the first unclosed ring frame and the second unclosed ring frame are connected by reinforcing rods to further increase the stability of the two unclosed ring frames, ensure the accuracy of the trainee's actions, and prevent instable actions and even mistakes caused by sway of the unclosed ring frames during training. Two sets of “humanoid” training aids in the present invention are used to simultaneously train some coordinated actions of two lion head action trainees, e.g., “lotus blooming”, etc.

Compared with the prior art, the present invention achieves the following advantages:

(1) The comprehensive lion head action training device for a lion dance according to the present invention imitates a lion tail trainee, provides a sufficient training environment for a lion head trainee, and trains the lion head trainee more comprehensively and efficiently.

(2) The comprehensive training device designed in the present invention not only can be used for training a single trainee, but also can be used for cooperative training of two trainees, e.g., “lotus blooming”, “lion drinking water”, etc., thereby assisting the trainees in practicing some difficult and cooperative actions.

20

Brief Description of the Drawings

The accompanying drawings constituting a part of the present invention are used for providing a further understanding of the present invention, and the schematic embodiments of the present invention and the descriptions thereof are used for interpreting the present invention, rather than constituting improper limitations to the present invention.

Fig. 1 is a structure diagram of a comprehensive lion head action training device for a lion dance according to Embodiment 1 of the present invention.

Fig. 2 is a partial schematic diagram of the comprehensive lion head action training device for a lion dance according to Embodiment 1 of the present invention.

30 Fig. 3 is a structure diagram of armors and “humanoid” training aids according to Embodiment

1 of the present invention.

Reference signs in the figures: 1-base, 2-turntable, 3-rail groove, 4-pulley, 5-first unclosed ring frame, 6-second unclosed ring frame, 7-transverse support rod, 8-electric winch, 9-first traction rope, 10-back portion, 11-first fixing ring, 12-second fixing ring, 13-fixing belt, 14-belly
5 binding belt, 15-first buckle, 16-second buckle, 17-upright post, 18-first support rod, 19-second support portion, 20-anti-slip portion, 21-reinforcing rod.

Detailed Description of Embodiments

It should be pointed out that the following detailed descriptions are all exemplary and aim to
10 further illustrate the present invention. Unless otherwise specified, all technical and scientific terms used in the descriptions have the same meanings generally understood by those of ordinary skill in the art of the present invention.

It should be noted that the terms used herein are merely for describing specific embodiments, but are not intended to limit exemplary embodiments according to the present invention. As
15 used herein, unless otherwise explicitly pointed out by the context, the singular form is also intended to include the plural form. In addition, it should also be understood that when the terms “include” and/or “comprise” are used in the specification, they indicate features, steps, operations, devices, components and/or their combination.

As described in the background art, some existing training aids are limited to training of certain
20 actions or designed for training of special actions, so that trainees cannot receive comprehensive training, and the efficiency of the trainees is greatly reduced. Thus, the present invention provides a comprehensive lion head action training device for a lion dance. The present invention will be further described with reference to the accompanying drawings and specific embodiments.

25 Embodiment 1

A comprehensive lion head action training device for a lion dance, referring to Figs. 1 and 2, includes: a base 1, a turntable 2, a rail groove 3, pulleys 4, a first unclosed ring frame 5, a second unclosed ring frame 6, transverse support rods 7, electric winches 8, first traction ropes 9, armors, and “humanoid” training aids.

30 The rail groove 3 is formed in an upper surface of the base 1, the turntable 2 is arranged above

the base 1, and a lower surface of the turntable 2 is connected with a driving device in the base 1, so that the turntable 2 is rotatable relative to the base 1; the pulleys 4 are connected to the bottom of the turntable, and the pulleys 4 are slidable in the rail groove 3 as the turntable rotates.

5 The first unclosed ring frame 5 and the second unclosed ring frame 6 are fixedly connected to the surface of the turntable 2 through respective unclosed ends, vertically arranged relative to the upper surface of the turntable 2, and symmetrically distributed on the turntable 2.

Two ends of a transverse support rod 7 are connected to the first unclosed ring frame 5, the transverse support rod 7 is located inside the first unclosed ring frame 5, and an electric winch 8
10 is fixed on the transverse support rod 7. A transverse support rod 7 and an electric winch 8 are also arranged on the second unclosed ring frame 6 in the same way as those on the first unclosed ring frame 5, and the transverse support rods 7 are parallel to the upper surface of the turntable 2.

The armor can be worn on the body of a trainee and is connected with a traction rope 10, the
15 armor is mainly used for connecting the trainee with the traction rope together, and the electric winch controls the traction rope to realize rising or falling of the trainee.

The “humanoid” training aid includes an upright post 17, first support rods 18, a second support portion 19, and an anti-slip portion 20.

The upright post 17 is vertically fixed to the upper surface of the turntable 2, one end of each
20 first support rod 18 is fixed to the upright post 17 and the other end is fixed to the upper surface of the turntable 2, the first support rods 18 are in the shape of legs at half squat or knee bending, two sets of first support rods 18 are symmetrically distributed relative to the axis of the upright post 17, the horizontal distance between the two sets of first support rods 18 should be suitable for a trainee to stand, the second support portion 19 is of a cylindrical structure, the other end of
25 the upright post 17 penetrates through the center of the second support portion 19 and is connected to the anti-slip portion 20, the axis of the second support portion 19 is parallel to the upper surface of the turntable 2, and the anti-slip portion 20 is spherical and has a diameter larger than the diameter of the upright post 17, so that the legs of the trainee are restrained when the trainee is riding on the second support portion 19.

30 Two sets of “humanoid” training aids are distributed in a back to back manner on the upper

surface of the turntable 2, and the back to back manner indicates that the first support rods 18 in the two sets of “humanoid” training aids are away from each other.

Embodiment 2

An armor special for the comprehensive lion head action training device for a lion dance in Embodiment 1, referring to Fig. 3, includes a back portion 10, a first fixing ring 11, a second fixing ring 12, a fixing belt 13, and a belly binding belt 14.

The back portion 10 is of an elongated plate-like structure, the first fixing ring 11 and the second fixing ring 12 are both semi-circular and are symmetrically distributed at two upper side edges of the back portion 10, the space between the first fixing ring 11 and the second fixing ring 12 can accommodate the body of a trainee, the first fixing ring 11 and the second fixing ring 12 are used to fix the arms of the trainee, and the back portion 10 imitates human back, thereby providing a more comfortable training environment for the trainee.

Two ends of the fixing belt 13 are respectively connected with the first fixing ring 11 and the second fixing ring 12 to further fix the trainee's body and strengthen the safety protection for the trainee. Further, the fixing belt 13 is detachably connected with the first fixing ring 11 and the second fixing ring 12; the belly binding belt 14 is arranged at the lower middle part of the back portion 10; and the belly binding belt 14 includes a fastener, a safety belt, etc.

Embodiment 3

An armor special for the comprehensive lion head action training device for a lion dance in Embodiment 1 is the same as that in Embodiment 2, and differs in that the armor is connected to a first traction rope 9 by a first buckle 15, the first buckle 15 is fixedly connected to the upper part of the back surface of the back portion 10, the back surface refers to the other side of the back portion 10 opposite to the side where the first fixing ring 11, the second fixing ring 12 and the like are arranged, and the first buckle 15 is detachably connected to the first traction rope 9.

Embodiment 4

An armor special for the comprehensive lion head action training device for a lion dance in Embodiment 1 is the same as that in Embodiment 2, and differs in that two sets of belly binding belts 14 are used, an anti-slip pad is arranged on the first support rod 18, and the anti-slip pad is made of rubber or the like. Second buckles 16 are also arranged on the back surface of the back portion 10, the second buckles 16 are connected to the upright post 17 of the “humanoid”

training aid by second traction ropes, and the second buckles 16 are mainly for provide convenience to a trainee to practice some knee standing actions so as to increase the stability of the lower limbs of the trainee.

Embodiment 5

5 A comprehensive lion head action training device for a lion dance is the same as that in Embodiment 1, and differs in that: the first unclosed ring frame 5 and the second unclosed ring frame 6 are connected by reinforcing rods 21 to further increase the stability of the two unclosed ring frames, ensure the accuracy of the trainee's actions, and prevent instable actions and even mistakes caused by sway of the unclosed ring frames during training. Two sets of
10 “humanoid” training aids in the present invention are used to simultaneously train some coordinated actions of two lion head action trainees, e.g., “lotus blooming”, etc.

Embodiment 6

The basic use principle of the comprehensive lion head action training device for a lion dance according to the present invention is: first, a trainee presses his back against the back portion
15 in the armor, both arms pass through the first fixing ring 11 and the second fixing ring 12 respectively, and the fixing belt 13 and the belly binding belts 14 are fastened to fix the body; then the electric winch is controlled by a wireless remote controller, and the first traction rope 9 pulls the trainee up/down to assist the trainee in jumping up and down and the like; the upper support rods 18, the second support portion 19 and the anti-slip portion 20 can imitate the legs,
20 shoulders and head of the lion tail trainee respectively, thus providing a corresponding training environment for the lion head trainee; when turning actions need to be practiced, the turntable 2 can be rotated relative to the base 1 to further imitate the practice environment closer to the real performance.

In addition, the main function of the electric winch is to coil and uncoil the traction rope under
25 the control of the remote controller. Therefore, in addition to the existing device having the function, some existing commercially available small wireless remote controller type indoor elevators or winches may also be used, for example, a miniature electric winch 220V small household crane (e.g., Naliya PA series) can lift more than 100kg weights, which fully meets the training needs of lion dancers. Or, other types of small/micro winches may be used, for
30 example, Patent Document 201720686375.7 discloses a micro winch, including a mounting

base, a gear box, a reel and a motor, wherein a control box is connected to the upper side of the motor, the control box is connected with a handle switch by a wire, the gear box and the motor are mounted on the mounting base, the reel is arranged between the gear box and the motor, a wire rope and a hook are arranged on the reel, a deceleration device and a braking device are arranged in the gear box, the centers of the deceleration device, the braking device, the reel and the motor are on a straight line, and the motor is started to drive the reel to rotate after shifting of the deceleration device.

Described above are merely preferred embodiments of the present invention, and the present invention is not limited thereto. Various modifications and variations may be made to the present invention for those skilled in the art. Any modification, equivalent substitution or improvement made within the spirit and principle of the present invention shall fall into the protection scope of the present invention.

Conclusies

1. Een uitgebreid trainingsapparaat voor leeuwenkopactie in leeuwendans, bevattende een basis (1), een draaischijf (2), een, een tweede ongesloten ringframe (6), dwarssteunstang (7) en, elektrische
 5 lieren (8), eerste trekkoorden (9), harnessen en "humanoïde" trainingshulpmiddelen, waarin de draaischijf (2) is boven de basis (1) geplaatst en een onderzijde van de draaischijf (2) is verbonden met een aandrijving in de basis (1); het eerste ongesloten ringframe (5) en het tweede ongesloten ringframe (6) zijn vast verbonden met het oppervlak van de draaischijf (2) via de respectievelijke ongesloten uiteinden, verticaal geplaatst ten opzichte van het bovenvlak van de
 10 draaischijf (2) en symmetrisch verdeeld op de draaischijf (2);
- Twee uiteinden van een dwarssteunstang (7) zijn verbonden met het eerste ongesloten ringframe (5), de dwarssteunstang (7) bevindt zich in het eerste ongesloten ringframe (5) en een elektrische lier (8) is op de dwarssteunstang (7) bevestigd; een dwarssteunstang (7) en een elektrische lier (8) zijn ook op het tweede ongesloten ringframe (6) geplaatst, op dezelfde manier als die van het eerste
 15 ongesloten ringframe (5);
- het pantser draagbaar is op het lichaam van een trainee en verbonden is met een trekkoord (9); en twee sets "humanoïde" trainingshulpmiddelen zijn gerangschikt op een bovenzijde van de draaischijf (2).
2. Het uitgebreide trainingsapparaat volgens conclusie 1, waarin de "humanoïde" trainingshulp een
 20 rechtopstaande paal (17), eerste steunstangen (18), een tweede steungedeelte en een antislipgedeelte (20) bevat; de rechtopstaande paal (17) verticaal bevestigd is aan de bovenzijde van de draaischijf (2), een uiteinde van elke eerste steunstang (18) bevestigd is aan de rechtopstaande paal (17) en het andere uiteinde bevestigd is aan de bovenzijde van de draaischijf (2), de eerste steunstangen (18) in de vorm van benen bij halve hurkzit of kniebuiging zijn, twee sets eerste steunstangen (18)
 25 symmetrisch verdeeld zijn ten opzichte van de as van de rechtopstaande paal (17), de horizontale afstand tussen de twee sets eerste steunstangen (18) geschikt is voor een trainee om te gaan staan, het tweede steungedeelte van een cilindrische structuur is, het andere uiteinde van de rechtopstaande paal (17) door het midden van het tweede steungedeelte dringt en verbonden is met het antislipgedeelte (20), de as van het tweede steungedeelte evenwijdig is aan het bovenvlak van de
 30 draaischijf (2) en het antislipgedeelte (20) bolvormig is en een diameter heeft die groter is dan de diameter van de rechtopstaande paal (17); twee sets "humanoïde" trainingshulpmiddelen zijn ruggelings verdeeld over de bovenkant van de draaischijf (2), waarbij de ruggelingswijze aangeeft

dat de eerste steunstangen (18) in de twee sets "humanoïde" trainingshulpmiddelen van elkaar verwijderd zijn.

3. Het uitgebreide trainingsapparaat volgens conclusie 1, waarbij het pantser een ruggedeelte, een eerste bevestigingsring (11), een tweede bevestigingsring (12), een bevestigingsgordel (13) en een
5 buikbindingsgordel (14) bevat;

het achterste gedeelte een langwerpige, plaatvormige structuur heeft, de eerste bevestigingsring (11) en de tweede bevestigingsring (12) beide halfrond zijn en symmetrisch verdeeld over de twee bovenste zijranden van het achterste gedeelte en de ruimte tussen de eerste bevestigingsring (11) en de tweede bevestigingsring (12) geschikt is om het lichaam van een trainee te bevatten; twee
10 uiteinden van de bevestigingsgordel (13) respectievelijk verbonden zijn met de eerste bevestigingsring (11) en de tweede bevestigingsring (12); en de buikbindingsgordel (14) aan het onderste middengedeelte van het achterste gedeelte aangebracht is.

4. Het uitgebreide trainingsapparaat volgens conclusie 2, waarin het ruggedeelte de menselijke rug imiteert.

15 5. Het uitgebreide trainingsapparaat volgens conclusie 2, waarbij tweede gespen (16) ook op het rugoppervlak van het ruggedeelte zijn gerangschikt en de tweede gespen (16) door middel van tweede trekkoorden met de rechtopstaande paal (17) van het "humanoïde" trainingshulpmiddel zijn verbonden.

20 6. Het uitgebreide trainingsapparaat volgens conclusie 2, waarbij de bevestigingsgordel (13) met de eerste bevestigingsring (11) en de tweede bevestigingsring (12) afneembaar is.

7. Het uitgebreide trainingsapparaat volgens conclusie 2, bevattende twee sets buikbindingsgordels (14) waarbij de buikbindingsgordel (14) een sluiting en een veiligheidsgordel bevat.

8. Het uitgebreide trainingsapparaat volgens conclusie 7, waarbij een antislippad op de eerste steunstang (18) geplaatst is en het antislippad gemaakt is van rubber.

25 9. Het uitgebreide trainingsapparaat volgens conclusie 2, waarbij het pantser is verbonden met een eerste trekkoord (9) door middel van een eerste gesp (15), de eerste gesp (15) vast verbonden is met het bovenste deel van het rugoppervlak van het rugpand, en het rugoppervlak verwijst naar de andere kant van het rugpand tegenover de kant waar de eerste bevestigingsring (11), de tweede bevestigingsring (12) en dergelijke zijn gerangschikt; bij voorkeur wordt de eerste gesp (15)
30 losgemaakt van het eerste trekkoord (9).

10. Het uitgebreide trainingsapparaat volgens een van de conclusies 1-9, waarbij het eerste ongesloten ringframe (5) en het tweede ongesloten ringframe (6) met elkaar verbonden zijn door

middel van versterkingsstaven.

11. Het uitgebreide trainingsapparaat volgens een van de conclusies 1-10, verder bevattende een railgroef (3) en katrollen (4), waarbij de railgroef (3) is gevormd in een bovenste oppervlak van de basis (1), de katrollen (4) zijn verbonden met de onderkant van de draaischijf (2), en de katrollen (4) zijn geschoven in de railgroef als de draaischijf (2) draait.

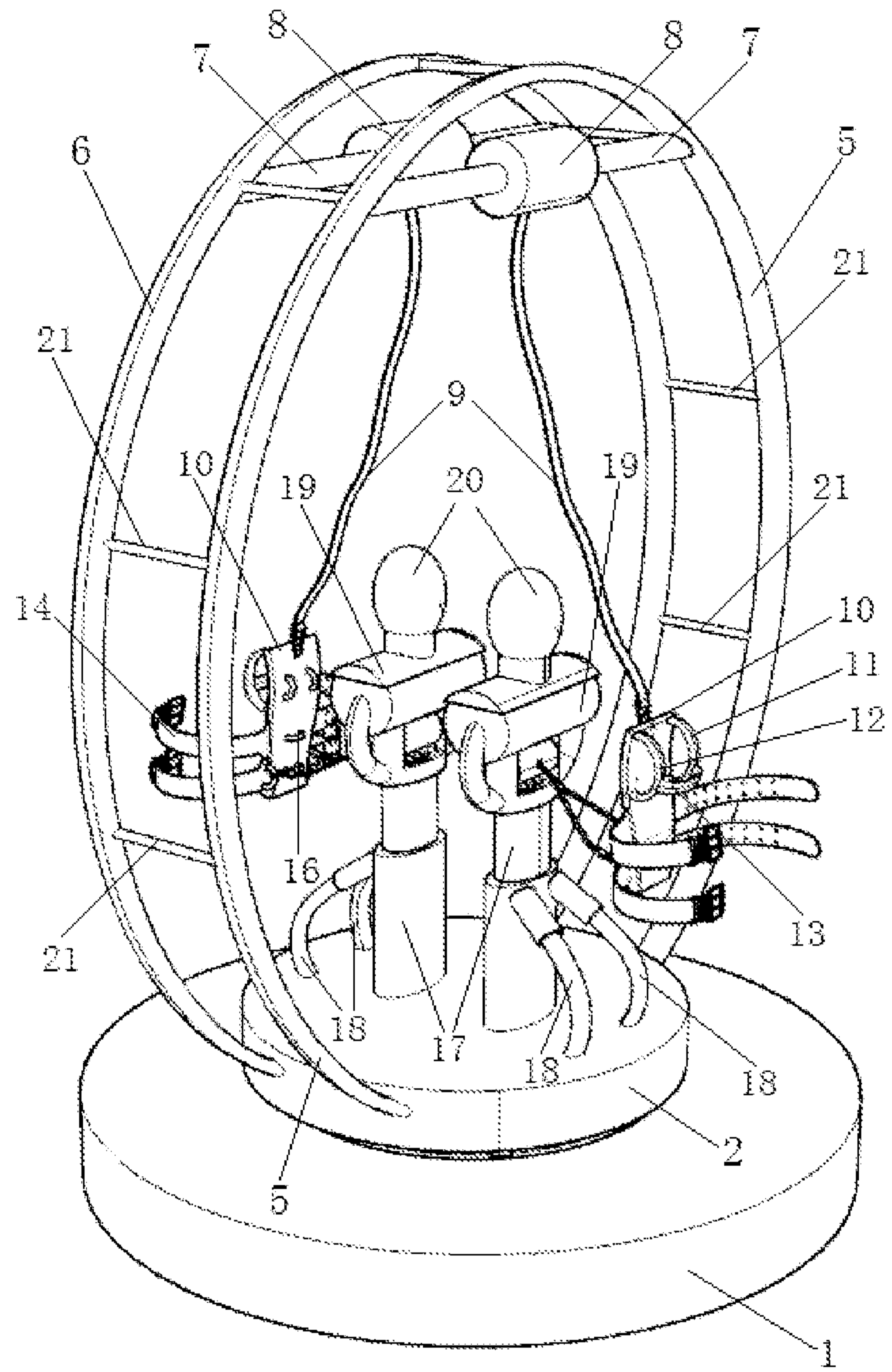


Fig. 1

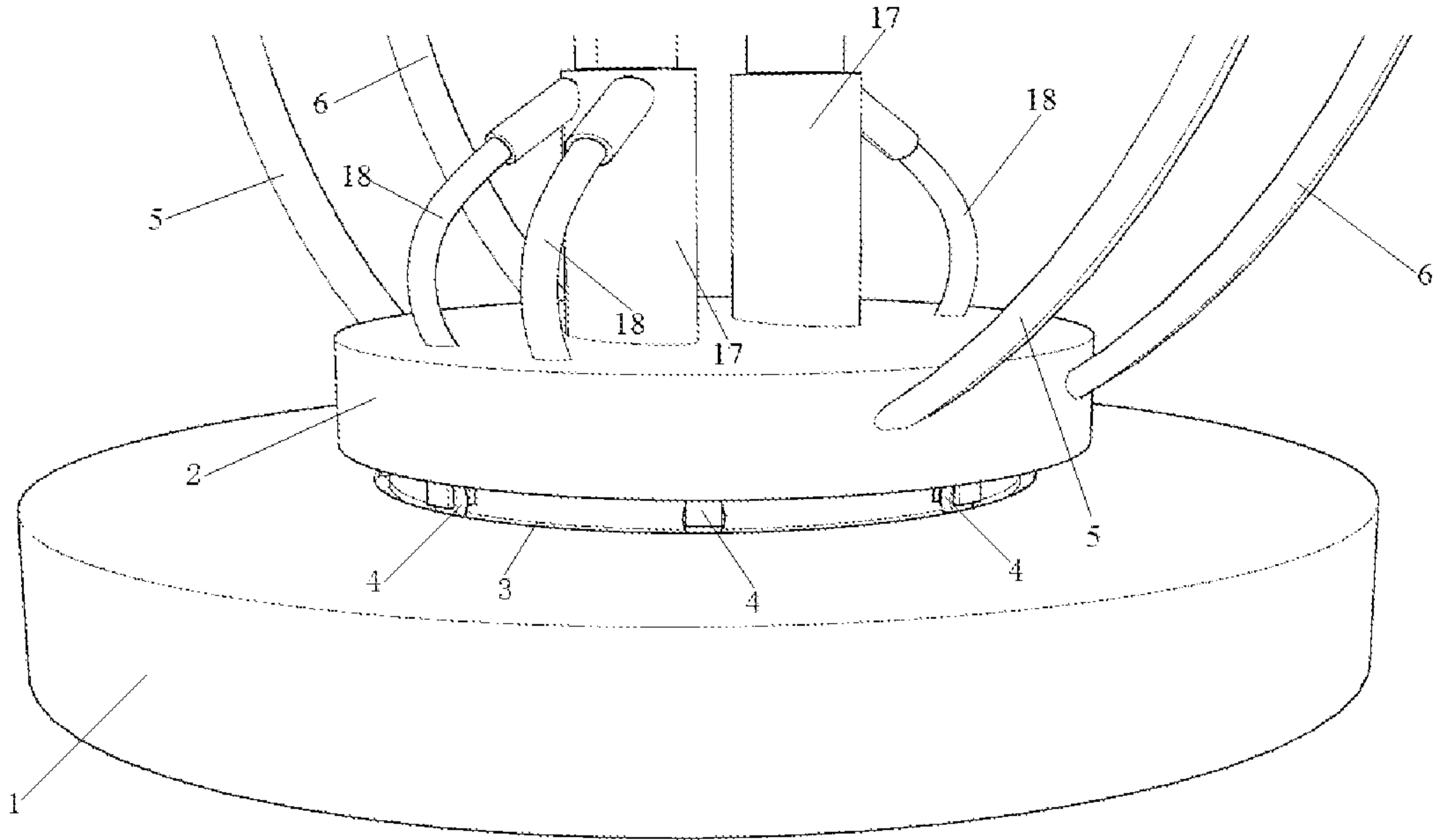


Fig. 2

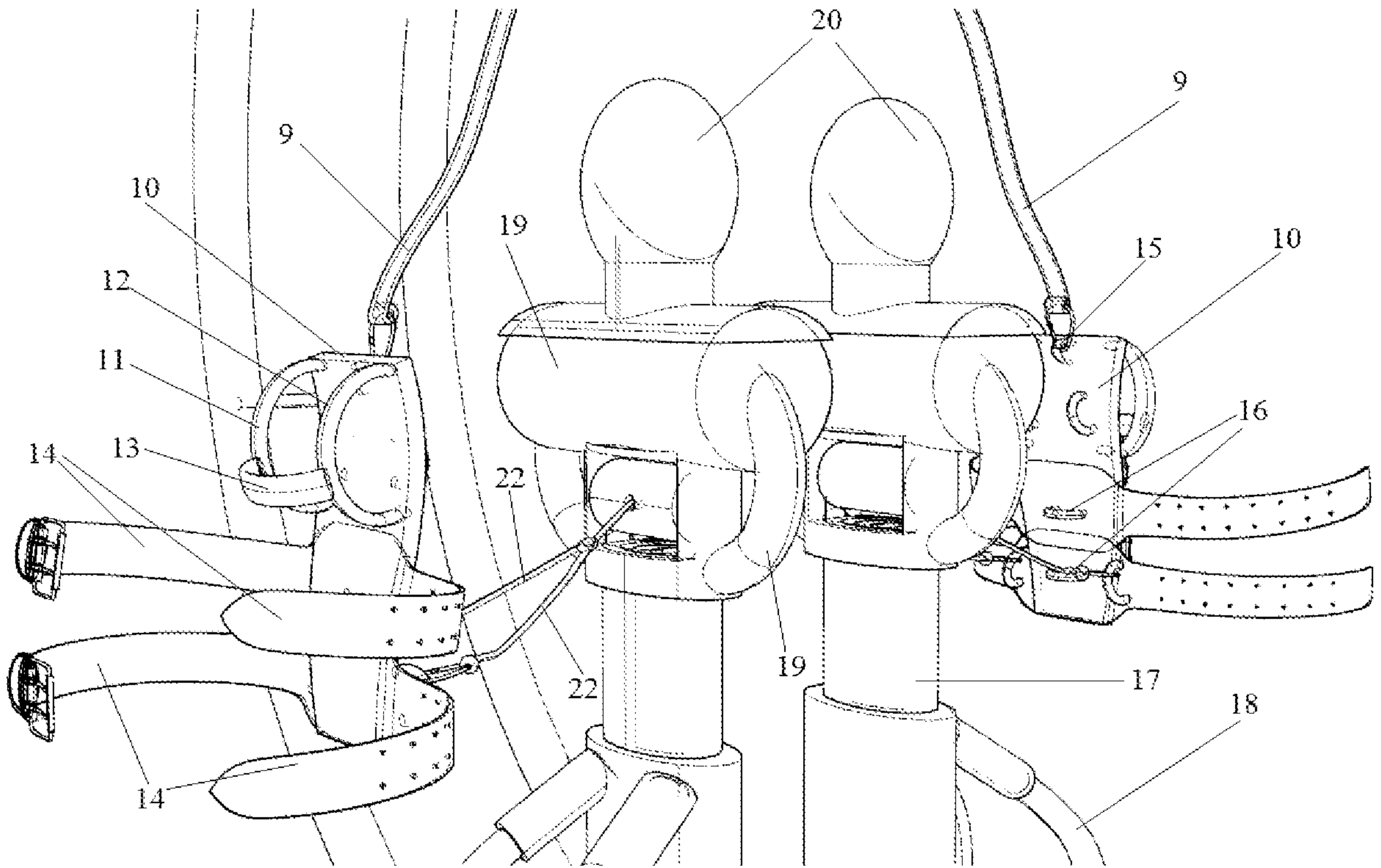


Fig. 3