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(54) EXERCISE DEVICE

ÜBUNGSVORRICHTUNG

DISPOSITIF D'EXERCICE

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Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to an exercise device.

Description of the Prior Art

[0002] Recently, people pay more attention to exercise and physical health. However, due to the crowded environment, poor air quality of the urban area or bad weather, people tend to exercise indoors, for example, using exercise devices such as rowing machine, treadmill, exercise bike or the like in a gym to conduct weight training and maintain physical health and fitness.

[0003] Specifically, a conventional fan-type exercise bike includes a main body, a fan wheel disposed on the main body and a magnetic resistance unit which is configured to provide different resistance according to using requirements. However, the conventional fan-type exercise bike has insufficient resistance, which cannot meet using requirements; the magnetic resistance unit has a complicated structure, which is inconvenient to manufacture and maintain. US-A-2019/255376 discloses an example of an exercise device.

[0004] The present invention is, therefore, arisen to obviate or at least mitigate the above-mentioned disadvantages.

SUMMARY OF THE INVENTION

[0005] The main object of the present invention is to provide an exercise device which provides sufficient operating resistance and has a simple magnetic resistance adjusting structure.

[0006] To achieve the above and other objects, the present invention provides an exercise device, including: a main body, two fan wheels and a magnetic resistance assembly. The main body includes an axle disposed thereon. The two fan wheels are connected to the axle and rotatable relative to the main body. The magnetic resistance assembly includes two magnetoresistive rings disposed respectively on the two fan wheels and around the axle, a magnetic unit and a controlling unit. The magnetic unit includes two magnetic portions respectively corresponding to the two magnetoresistive rings. The controlling unit includes a lever rotatably disposed on the main body at a pivot point, and the magnetic unit and an operating portion are disposed on the lever and located by two opposite sides with respect to the pivot point. The pivot point being eccentrically arranged in relation to the axle. Movement of the two magnetic portions driven by the lever changes magnetic active force between the two magnetic portions and the two magnetoresistive rings.

[0007] The present invention will become more obvious from the following description when taken in connection with the accompanying drawings, which show, for purpose of illustrations only, the preferred embodiment(s) in accordance with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008]

Fig. 1 is a stereogram of a preferable embodiment of the present invention;
Fig. 2 is a breakdown drawing of a preferable embodiment of the present invention;
Fig. 3 is a partial enlargement of a preferable embodiment of the present invention;
Figs. 4 to 6 are schematic diagrams showing operation of a preferable embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0009] Please refer to Figs. 1 to 6 for a preferable embodiment of the present invention. An exercise device 1 of the present invention includes a main body 10, two fan wheels 20 and a magnetic resistance assembly 30.

[0010] The main body 10 includes an axle 11 disposed thereon. The two fan wheels 20 are connected to the axle 11 and rotatable relative to the main body 10. The magnetic resistance assembly 30 includes two magnetoresistive rings 31 disposed respectively on the two fan wheels 20 and around the axle 11, a magnetic unit 32 and a controlling unit 33. The magnetic unit 32 includes two magnetic portions 321 respectively corresponding to the two magnetoresistive rings 31. The controlling unit 33 includes a lever 331 rotatably disposed on the main body 10 at a pivot point 332, and the magnetic unit 32 and an operating portion 333 are disposed on the lever 331 and located by two opposite sides with respect to the pivot point 332. The pivot point 332 and the axle 11 are eccentrically arranged. Movement of the two magnetic portions 321 driven by the lever 331 changes magnetic active force between the two magnetic portions 321 and the two magnetoresistive rings 31. Therefore, the two fan wheels 20 and the magnetic resistance assembly 30 provide sufficient operating resistance and the magnetic resistance assembly 30 has a simple structure and is easy to adjust.

[0011] The lever 331 includes a first end 334 and a second end 335 located at two opposite sides of the pivot point 332. The magnetic unit 32 is disposed at the first end 334, the operating portion 333 is disposed at the second end 335, and the second end 335 is adjustably positioned on the main body 10. The main body 10 further has a first engaging portion 12, and the second end 335 has a second engaging portion 336 which is engageable with the first engaging portion 12 so as to adjustably position the magnetic unit 32. Specifically, one of the first

engaging portion 12 and the second engaging portion 336 includes at least one engaging convex, and the other of the first engaging portion 12 and the second engaging portion 336 includes at least one engaging concave. In this embodiment, the first engaging portion 12 includes a plurality of said engaging concaves 121 spacingly disposed on the main body 10, and the second engaging portion 336 includes one said engaging convex 337 protruding toward the first engaging portion 12, which has a simple structure and is easy to operate. Preferably, a distance between the magnetic unit 32 and the pivot point 332 is shorter than a distance between the operating portion 333 and the pivot point 332 so that a swinging path of the operating portion 333 is longer than a swinging path of the magnetic unit 32 and a position of the magnetic unit 32 is accurately and finely adjustable. However, the distance between the magnetic unit and the pivot point may be equal to or larger than the distance between the operating portion and the pivot point.

[0012] The two magnetoresistive rings 31 are made of magnetic metal so as to generate magnetic resistance with the magnetic unit 32 during rotation. Each of the two magnetoresistive rings 31 includes a plurality of segments 311 and a plurality of connecting members 312, and each of the plurality of connecting members 312 detachably connects adjacent two of the plurality of segments 311, which is easy to assemble, maintain and replace. However, the two magnetoresistive rings may be integrally made in one piece, respectively. The plurality of connecting members 312 are detachably connected between the two fan wheels 20 and the two magnetoresistive rings 31. In other words, each of the two fan wheels 20 and one of the two magnetoresistive rings 31 are spacingly connected with each other by part of the plurality of connecting members 312 so that the two magnetoresistive rings 31 are axially closer to the two magnetic portions 321 for preferable magnetic resistance effect.

[0013] The magnetic unit 32 further includes a base 322 located between the two magnetoresistive rings 31 and integrally connected with the lever 331, and the two magnetic portions 321 are disposed on two opposite sides of the base 322 and each include at least one magnet 323 which has an arrangement corresponding to part of one of the two magnetoresistive rings 31 so as to have preferable magnetic resistance effect. In this embodiment, each of the two magnetic portions 321 includes a receiving member 324 which is detachably disposed on the base 322 and has a plurality of recessions 325 receiving the at least one magnet 323 so that the receiving member 324 is replaceable to receive magnets with different shapes and a number of the at least one magnet 323 received within the plurality of recessions 325 are adjustable according using requirements; arrangement of the plurality of recessions 325 corresponds to the part of one of the two magnetoresistive rings 31. In other embodiments, the at least one magnet may have a shape corresponding to the part of one of the two magnetoresistive rings and be directly attached to the base. The two magnetic portions 321 are movable relative to the two magnetoresistive rings 31 between a first position and a second position. When the two magnetic portions 321 are in the first position, the at least one magnet 323 of each of the two magnetic portions 321 is entirely axially overlapped with the two magnetoresistive rings 31 so as to provide maximum magnetic resistance between the two magnetic portions 321 and the two magnetoresistive rings 31 , as shown in figure 5; when the magnetic portions 321 are in the second position, the at least one magnet 323 of each of the two magnetic portions 321 is axially dislocated with the two magnetoresistive rings 31 so as to provide minimum magnetic resistance between the two magnetic portions 321 and the two magnetoresistive rings 31 , as shown in figure 6.

[0014] The exercise device 1 further includes a casing 40 and two protecting grilles 50. The casing 40 is disposed on the main body 10 and surrounds the two fan wheels 20, and the two protecting grilles 50 are detachably disposed on two opposite sides of the casing 40 and cover the two fan wheels 20, which allows air circulation and avoids direct contact with the two fan wheels 20. However, the two protecting grilles may be directly connected with each other without the casing.

[0015] Although particular embodiments of the invention have been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the scope of the invention. Accordingly, the invention is not to be limited except as by the appended claims.

Claims

1. An exercise device (1), including:

a main body (10), including an axle (11) disposed thereon;
two fan wheels (20), connected to the axle (11) and being rotatable relative to the main body (10);
a magnetic resistance assembly (30), including two magnetoresistive rings (31) disposed respectively on the two fan wheels (20) and around the axle (11), a magnetic unit (32) and a controlling unit (33), the magnetic unit (32) including two magnetic portions (321) respectively corresponding to the two magnetoresistive rings (31), the controlling unit (33) including a lever (331) rotatably disposed on the main body (10) at a pivot point (332), and the magnetic unit (32) and an operating portion (333) being disposed on the lever (331) and located by two opposite sides with respect to the pivot point (332), the pivot point (332) being eccentrically arranged in relation to the the axle (11), movement of the two magnetic portions (321) driven by the lever (331) changing the magnetic active force between the

two magnetic portions (321) and the two magnetoresistive rings (31).

2. The exercise device (1) of claim 1, wherein the lever (331) includes a first end (334) and a second end (335) located at two opposite sides of the pivot point (332), the magnetic unit (32) is disposed at the first end (334), the operating portion (333) is disposed at the second end (335), and the second end (335) is adjustably positioned on the main body (10).

3. The exercise device (1) of claim 2, wherein the main body (10) further has a first engaging portion (12), and the second end (335) has a second engaging portion (336) which is engageable with the first engaging portion (12).

4. The exercise device (1) of claim 1, wherein a distance between the magnetic unit (32) and the pivot point (332) is shorter than a distance between the operating portion (333) and the pivot point (332).

5. The exercise device (1) of claim 1, wherein each of the two magnetoresistive rings (31) includes a plurality of segments (311) and a plurality of connecting members (312), and each of the plurality of connecting members (312) connects adjacent two of the plurality of segments (311).

6. The exercise device (1) of claim 5, wherein the plurality of connecting members (312) are detachably connected between the two fan wheels (20) and the two magnetoresistive rings (31).

7. The exercise device (1) of claim 1, wherein the magnetic unit (32) further includes a base (322) located between the two magnetoresistive rings (31) and connected with the lever (331), and the two magnetic portions (321) are disposed on two opposite sides of the base (322) and each include at least one magnet (323).

8. The exercise device (1) of claim 1, wherein the two magnetic portions (321) each include at least one magnet (323) which has an arrangement corresponding to part of one of the two magnetoresistive rings (31), the two magnetic portions (321) are movable relative to the two magnetoresistive rings (31) between a first position and a second position; when the two magnetic portions (321) are in the first position, the at least one magnet (323) of each of the two magnetic portions (321) is entirely axially overlapped with the two magnetoresistive rings (31); when the magnetic portions (321) are in the second position, the at least one magnet (323) of each of the two magnetic portions (321) is axially dislocated with the two magnetoresistive rings (31).

9. The exercise device (1) of claim 1, further including a casing (40) and two protecting grilles (50), wherein the casing (40) is disposed on the main body (10) and surrounds the two fan wheels (20), and the two protecting grilles (50) are detachably disposed on two opposite sides of the casing (40) and cover the two fan wheels (20).

10. The exercise device (1) of claim 3, wherein a distance between the magnetic unit (32) and the pivot point (332) is shorter than a distance between the operating portion (333) and the pivot point (332); each of the two magnetoresistive rings (31) includes a plurality of segments (311) and a plurality of connecting members (312), and each of the plurality of connecting members (312) detachably connects adjacent two of the plurality of segments (311); the plurality of connecting members (312) are detachably connected between the two fan wheels (20) and the two magnetoresistive rings (31); the magnetic unit (32) further includes a base (322) located between the two magnetoresistive rings (31) and integrally connected with the lever (331), and the two magnetic portions (321) are disposed on two opposite sides of the base (322) and each include at least one magnet (323) which has an arrangement corresponding to part of one of the two magnetoresistive rings (31), the two magnetic portions (321) are movable relative to the two magnetoresistive rings (31) between a first position and a second position; when the two magnetic portions (321) are in the first position, the at least one magnet (323) of each of the two magnetic portions (321) is entirely axially overlapped with the two magnetoresistive rings (31); when the magnetic portions (321) are in the second position, the at least one magnet (323) of each of the two magnetic portions (321) is axially dislocated with the two magnetoresistive rings (31); the two magnetoresistive rings (31) are made of magnetic metal; each of the two magnetic portions (321) includes a receiving member (324) which is detachably disposed on the base (322) and has a plurality of recessions (325) receiving the at least one magnet (323); arrangement of the plurality of recessions (325) corresponds to the part of one of the two magnetoresistive rings (31); the exercise device (1) further includes a casing (40) and two protecting grilles (50), the casing (40) is disposed on the main body (10) and surrounds the two fan wheels (20), and the two protecting grilles (50) are detachably disposed on two opposite sides of the casing (40) and cover the two fan wheels (20); one of the first engaging portion (12) and the second engaging portion (336) includes at least one engaging convex, and the other of the first engaging portion (12) and the second engaging portion (336) includes at least one engaging concave.

Patentansprüche

1. Übungsgerät (1), umfassend:

einen Hauptkörper (10), der eine darauf angeordnete Achse (11) enthält;
zwei Lüfterräder (20), die mit der Achse (11) verbunden und relativ zum Hauptkörper (10) drehbar sind;
eine magnetische Widerstandsbaugruppe (30), die zwei magnetoresistive Ringe (31), die jeweils auf den beiden Lüfterrädern (20) und um die Achse (11) herum angeordnet sind, eine magnetische Einheit (32) und eine Steuereinheit (33) umfasst, wobei die magnetische Einheit (32) zwei magnetische Abschnitte (321) umfasst, die jeweils den beiden magnetoresistiven Ringen (31) entsprechen,
wobei die Steuereinheit (33) einen Hebel (331) umfasst, der drehbar auf dem Hauptkörper (10) an einem Drehpunkt (332) angeordnet ist, und die magnetische Einheit (32) und ein Betätigungsabschnitt (333) auf dem Hebel (331) angeordnet sind und sich an zwei gegenüberliegenden Seiten in Bezug auf den Drehpunkt (332) befinden, wobei der Drehpunkt (332) exzentrisch in Bezug auf die Achse (11) angeordnet ist, wobei die Bewegung der beiden magnetischen Abschnitte (321), die durch den Hebel (331) angetrieben werden, die magnetische aktive Kraft zwischen den beiden magnetischen Abschnitten (321) und den beiden magnetoresistiven Ringen (31) verändert.

2. Übungsgerät (1) nach Anspruch 1, wobei der Hebel (331) ein erstes Ende (334) und ein zweites Ende (335) aufweist, die sich an zwei gegenüberliegenden Seiten des Drehpunkts (332) befinden, die Magneteinheit (32) am ersten Ende (334) angeordnet ist, der Betätigungsabschnitt (333) am zweiten Ende (335) angeordnet ist und das zweite Ende (335) einstellbar am Hauptkörper (10) positioniert ist.

3. Übungsgerät (1) nach Anspruch 2, wobei der Hauptkörper (10) ferner einen ersten Eingriffsabschnitt (12) aufweist und das zweite Ende (335) einen zweiten Eingriffsabschnitt (336) aufweist, der mit dem ersten Eingriffsabschnitt (12) in Eingriff bringbar ist.

4. Übungsgerät (1) nach Anspruch 1, wobei ein Abstand zwischen der Magneteinheit (32) und dem Drehpunkt (332) kürzer ist als ein Abstand zwischen dem Betätigungsabschnitt (333) und dem Drehpunkt (332).

5. Übungsgerät (1) nach Anspruch 1, wobei jeder der beiden magnetoresistiven Ringe (31) eine Vielzahl von Segmenten (311) und eine Vielzahl von Verbindungselementen (312) aufweist und jedes der Vielzahl von Verbindungselementen (312) zwei benachbarte der Vielzahl von Segmenten (311) verbindet.

6. Übungsgerät (1) nach Anspruch 5, wobei die Vielzahl von Verbindungselementen (312) lösbar zwischen den beiden Lüfterrädern (20) und den beiden magnetoresistiven Ringen (31) verbunden sind.

7. Übungsgerät (1) nach Anspruch 1, wobei die magnetische Einheit (32) ferner eine Basis (322) aufweist, die zwischen den beiden magnetoresistiven Ringen (31) angeordnet und mit dem Hebel (331) verbunden ist, und die beiden magnetischen Abschnitte (321) auf zwei gegenüberliegenden Seiten der Basis (322) angeordnet sind und jeweils mindestens einen Magneten (323) aufweisen.

8. Übungsgerät (1) nach Anspruch 1, wobei die beiden magnetischen Abschnitte (321) jeweils mindestens einen Magneten (323) aufweisen, der eine Anordnung hat, die einem Teil eines der beiden magnetoresistiven Ringe (31) entspricht, wobei die beiden magnetischen Abschnitte (321) relativ zu den beiden magnetoresistiven Ringen (31) zwischen einer ersten Position und einer zweiten Position bewegbar sind; wenn sich die beiden magnetischen Abschnitte (321) in der ersten Position befinden, ist der mindestens eine Magnet (323) jedes der beiden magnetischen Abschnitte (321) vollständig axial mit den beiden magnetoresistiven Ringen (31) überlappt; wenn sich die magnetischen Abschnitte (321) in der zweiten Position befinden, ist der mindestens eine Magnet (323) jedes der beiden magnetischen Abschnitte (321) axial mit den beiden magnetoresistiven Ringen (31) dislozierd.

9. Übungsgerät (1) nach Anspruch 1, ferner mit einem Gehäuse (40) und zwei Schutzgittern (50), wobei das Gehäuse (40) an dem Hauptkörper (10) angeordnet ist und die beiden Lüfterräder (20) umgibt und die beiden Schutzgitter (50) an zwei gegenüberliegenden Seiten des Gehäuses (40) abnehmbar angeordnet sind und die beiden Lüfterräder (20) abdecken.

10. Übungsgerät (1) nach Anspruch 3, wobei ein Abstand zwischen der Magneteinheit (32) und dem Drehpunkt (332) kürzer ist als ein Abstand zwischen dem Betätigungsabschnitt (333) und dem Drehpunkt (332); wobei jeder der beiden magnetoresistiven Ringe (31) eine Vielzahl von Segmenten (311) und eine Vielzahl von Verbindungselementen (312) beinhaltet, und jedes der Vielzahl von Verbindungselementen (312) zwei benachbarte der Vielzahl von Segmenten (311) lösbar verbindet; wobei die Vielzahl von Verbindungselementen (312) lösbar zwischen den beiden Lüfterrädern (20) und den beiden

magnetoresistiven Ringen (31) verbunden ist; wobei die magnetische Einheit (32) ferner eine Basis (322) aufweist, die zwischen den beiden magnetoresistiven Ringen (31) angeordnet und einstückig mit dem Hebel (331) verbunden ist, und die beiden magnetischen Abschnitte (321) auf zwei gegenüberliegenden Seiten der Basis (322) angeordnet sind und jeweils mindestens einen Magneten (323) aufweisen, der eine Anordnung hat, die einem Teil eines der beiden magnetoresistiven Ringe (31) entspricht, wobei die beiden magnetischen Abschnitte (321) relativ zu den beiden magnetoresistiven Ringen (31) zwischen einer ersten Position und einer zweiten Position bewegbar sind; wenn sich die beiden magnetischen Abschnitte (321) in der ersten Position befinden, ist der mindestens eine Magnet (323) jedes der beiden magnetischen Abschnitte (321) vollständig axial mit den beiden magnetoresistiven Ringen (31) überlappt; wenn die magnetischen Abschnitte (321) in der zweiten Position sind, ist der mindestens eine Magnet (323) von jedem der zwei magnetischen Abschnitte (321) axial zu den zwei magnetoresistiven Ringen (31) versetzt, wobei die zwei magnetoresistiven Ringe (31) aus magnetischem Metall hergestellt sind, wobei jeder der beiden magnetischen Abschnitte (321) ein Aufnahmeelement (324) aufweist, das lösbar an der Basis (322) angeordnet ist und eine Vielzahl von Ausnehmungen (325) aufweist, die den mindestens einen Magneten (323) aufnehmen, wobei die Anordnung der Vielzahl von Ausnehmungen (325) dem Teil eines der beiden magnetoresistiven Ringe (31) entspricht, wobei das Übungsgerät (1) ferner ein Gehäuse (40) und zwei Schutzgitter (50) aufweist, das Gehäuse (40) an dem Hauptkörper (10) angeordnet ist und die beiden Lüfterräder (20) umgibt, und die beiden Schutzgitter (50) an zwei gegenüberliegenden Seiten des Gehäuses (40) abnehmbar angeordnet sind und die beiden Lüfterräder (20) abdecken, wobei einer von dem ersten Eingriffsabschnitt (12) und dem zweiten Eingriffsabschnitt (336) mindestens eine konvexe Eingriffsfläche aufweist, und der andere von dem ersten Eingriffsabschnitt (12) und dem zweiten Eingriffsabschnitt (336) mindestens eine konkave Eingriffsfläche aufweist.

Revendications

1. Dispositif d'exercice (1), incluant :

   un corps principal (10), incluant un essieu (11) disposé sur celui-ci ;
   deux roues de ventilateur (20), raccordées à l'essieu (11) et étant rotatives par rapport au corps principal (10) ;
   un ensemble de résistance magnétique (30), incluant deux anneaux magnétorésistifs (31) disposés respectivement sur les deux roues de ventilateur (20) et autour de l'essieu (11), une unité magnétique (32) et une unité de commande (33), l'unité magnétique (32) incluant deux portions magnétiques (321) correspondant respectivement aux deux anneaux magnétorésistifs (31), l'unité de commande (33) incluant un levier (331) disposé de manière rotative sur le corps principal (10) au niveau d'un point pivot (332), et l'unité magnétique (32) et une portion de fonctionnement (333) étant disposées sur le levier (331) et situées sur deux côtés opposés par rapport au point pivot (332), le point pivot (332) étant agencé de manière excentrique par rapport à l'essieu (11), le mouvement des deux portions magnétiques (321) entraînées par le levier (331) modifiant la force active magnétique entre les deux portions magnétiques (321) et les deux anneaux magnétorésistifs (31).

2. Dispositif d'exercice (1) selon la revendication 1, dans lequel le levier (331) inclut une première extrémité (334) et une seconde extrémité (335) situées sur deux côtés opposés du point pivot (332), l'unité magnétique (32) est disposée au niveau de la première extrémité (334), la portion de fonctionnement (333) est disposée à la seconde extrémité (335), et la seconde extrémité (335) est positionnée de manière ajustable sur le corps principal (10).

3. Dispositif d'exercice (1) selon la revendication 2, dans lequel le corps principal (10) présente en outre une première portion d'engagement (12), et la seconde extrémité (335) présente une seconde portion d'engagement (336) qui peut s'engager avec la première portion d'engagement (12).

4. Dispositif d'exercice (1) selon la revendication 1, dans lequel une distance entre l'unité magnétique (32) et le point pivot (332) est plus courte qu'une distance entre la portion de fonctionnement (333) et le point pivot (332).

5. Dispositif d'exercice (1) selon la revendication 1, dans lequel chacun des deux anneaux magnétorésistifs (31) inclut une pluralité de segments (311) et une pluralité d'éléments de raccordement (312), et chacun de la pluralité d'éléments de raccordement (312) raccorde deux adjacents de la pluralité de segments (311).

6. Dispositif d'exercice (1) selon la revendication 5, dans lequel la pluralité d'éléments de raccordement (312) sont raccordés de manière détachable entre les deux roues de ventilateur (20) et les deux anneaux magnétorésistifs (31).

7. Dispositif d'exercice (1) selon la revendication 1,

dans lequel l'unité magnétique (32) inclut en outre une base (322) située entre les deux anneaux magnétorésistifs (31) et raccordée au levier (331), et les deux portions magnétiques (321) sont disposées sur deux côtés opposés de la base (322) et incluent chacune au moins un aimant (323).

8. Dispositif d'exercice (1) selon la revendication 1, dans lequel les deux portions magnétiques (321) incluent chacune au moins un aimant (323) qui présente un agencement correspondant à une partie d'un des deux anneaux magnétorésistifs (31), les deux portions magnétiques (321) sont mobiles par rapport aux deux anneaux magnétorésistifs (31) entre une première position et une seconde position ; lorsque les deux portions magnétiques (321) sont dans la première position, le au moins un aimant (323) de chacune des deux portions magnétiques (321) est chevauché entièrement axialement par les deux anneaux magnétorésistifs (31) ; lorsque les portions magnétiques (321) sont dans la seconde position, le au moins un aimant (323) de chacune des deux portions magnétiques (321) est axialement disloqué avec les deux anneaux magnétorésistifs (31).

9. Dispositif d'exercice (1) selon la revendication 1, incluant en outre un boîtier (40) et deux grilles de protection (50), dans lequel le boîtier (40) est disposé sur le corps principal (10) et entoure les deux roues de ventilateur (20), et les deux grilles de protection (50) sont disposées de manière détachable sur deux côtés opposés du boîtier (40) et recouvrent les deux roues de ventilateur (20).

10. Dispositif d'exercice (1) selon la revendication 3, dans lequel une distance entre l'unité magnétique (32) et le point pivot (332) est plus courte qu'une distance entre la portion de fonctionnement (333) et le point pivot (332) ; chacun des deux anneaux magnétorésistifs (31) inclut une pluralité de segments (311) et une pluralité d'éléments de raccordement (312), et chacun de la pluralité d'élément de raccordement (312) raccorde de manière détachable deux adjacents de la pluralité de segments (311) ; la pluralité d'éléments de raccordement (312) sont raccordés de manière détachable entre les deux roues de ventilateur (20) et les deux anneaux magnétorésistifs (31) ; l'unité magnétique (32) inclut en outre une base (322) située entre les deux anneaux magnétorésistifs (31) et intégralement raccordée au levier (331), et les deux portions magnétiques (321) sont disposées sur deux côtés opposés de la base (322) et incluent chacune au moins un aimant (323) qui présente un agencement correspondant à une partie d'un des deux anneaux magnétorésistifs (31), les deux portions magnétiques (321) sont mobiles par rapport aux deux anneaux magnétorésistifs (31) entre une première position et une seconde position ; lorsque les deux portions magnétiques (321) sont dans la première position, le au moins un aimant (323) de chacune des deux portions magnétiques (321) est chevauché entièrement axialement par les deux anneaux magnétorésistifs (31) ; lorsque les portions magnétiques (321) sont dans la seconde position, le au moins un aimant (323) de chacune des deux portions magnétiques (321) est axialement disloqué avec les deux anneaux magnétorésistifs (31) ; les deux anneaux magnétorésistifs (31) sont faits de métal magnétique ; chacune des deux portions magnétiques (321) inclut un élément de réception (324) qui est disposé de manière détachable sur la base (322) et présente une pluralité de renfoncements (325) recevant le au moins un aimant (323) ; l'agencement de la pluralité de renfoncements (325) correspond à la partie d'un des deux anneaux magnétorésistifs (31) ; le dispositif d'exercice (1) inclut en outre un boîtier (40) et deux grilles de protection (50), le boîtier (40) est disposé sur le corps principal (10) et entoure les deux roues de ventilateur (20), et les deux grilles de protection (50) sont disposées de manière détachable sur deux côtés opposés du boîtier (40) et recouvrent les deux roues de ventilateur (20) ; une de la première portion d'engagement (12) et de la seconde portion d'engagement (336) inclut au moins un convexe d'engagement, et l'autre de la première portion d'engagement (12) et de la seconde portion d'engagement (336) inclut au moins un concave d'engagement.

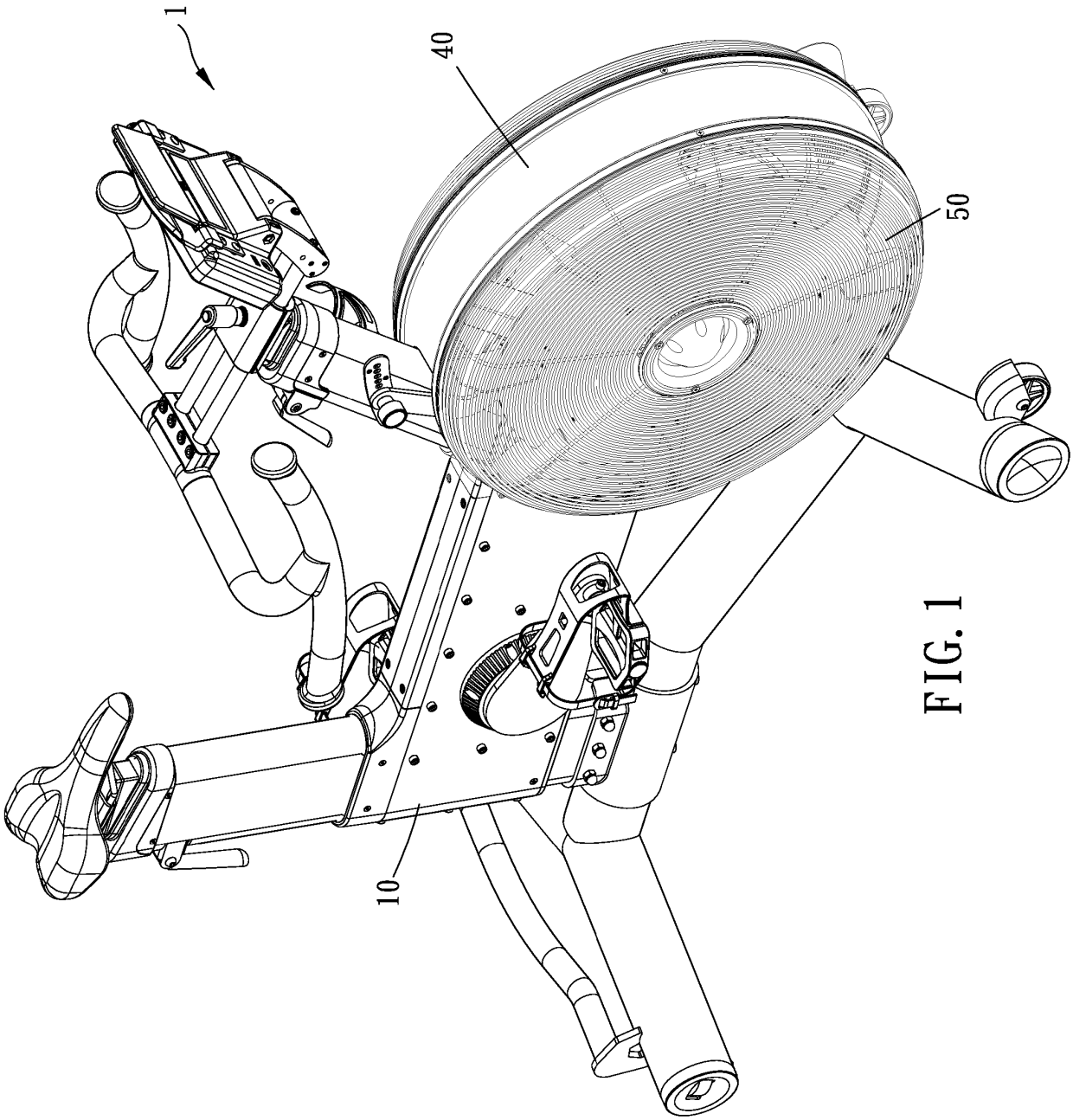

FIG. 1

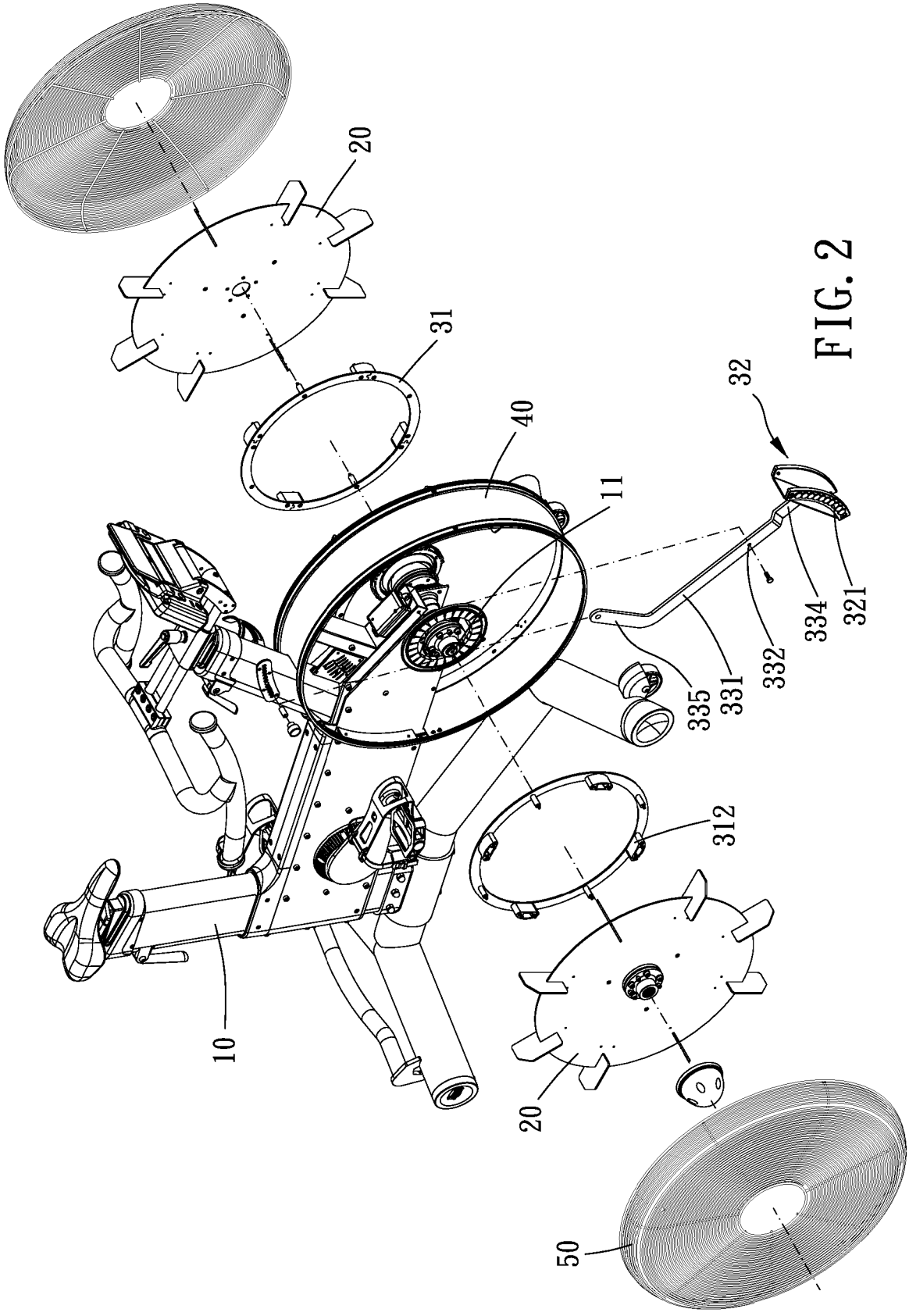

FIG. 2

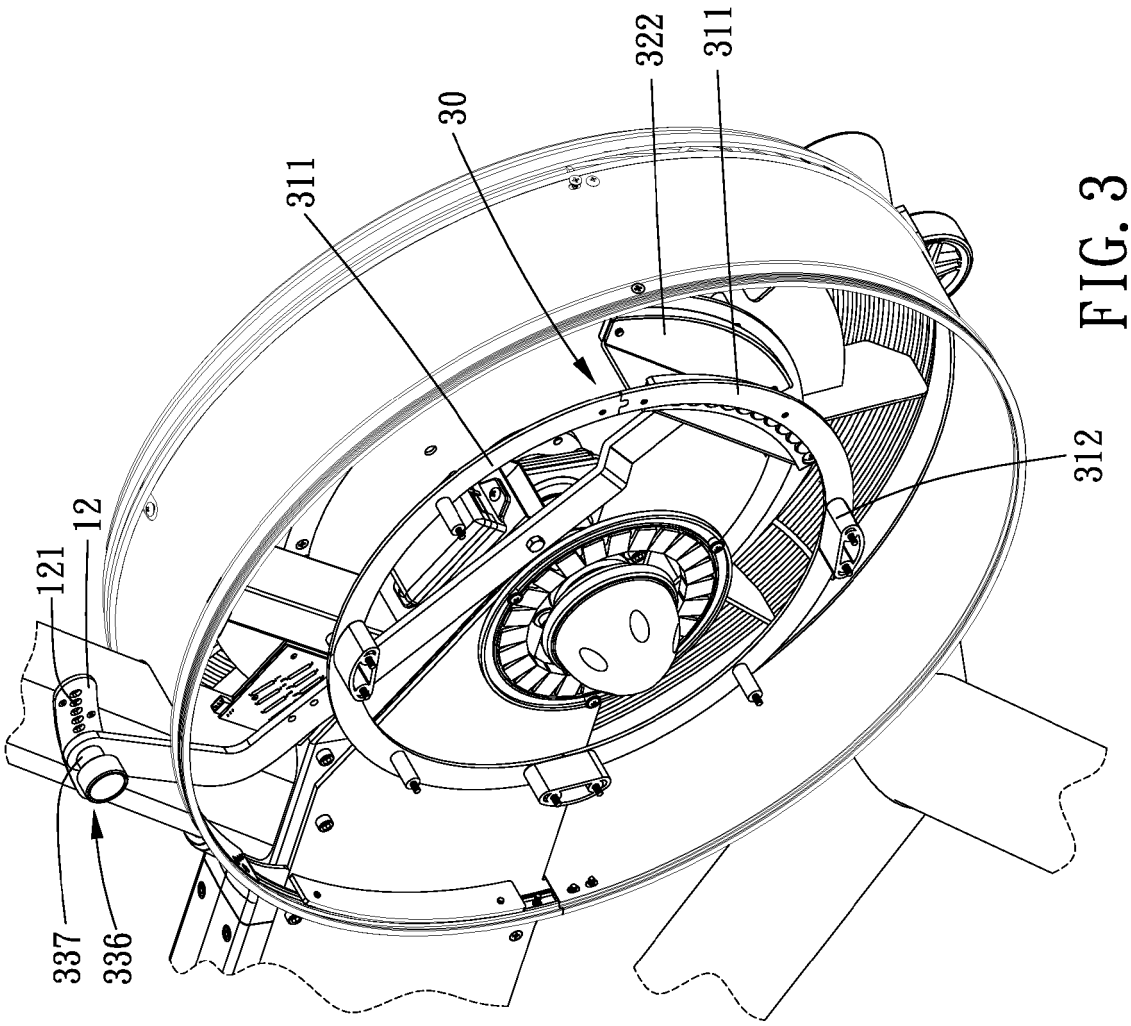

FIG. 3

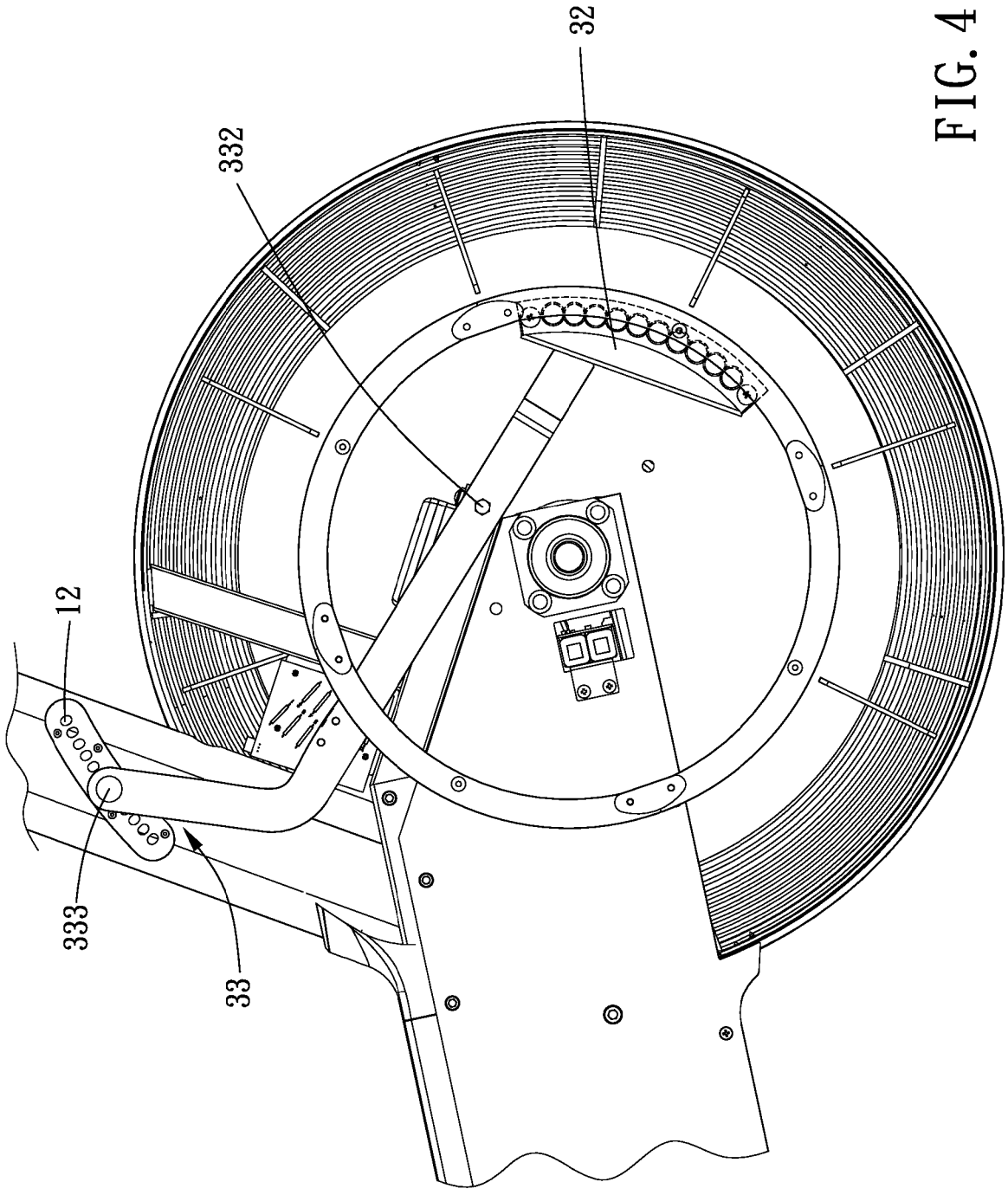

FIG. 4

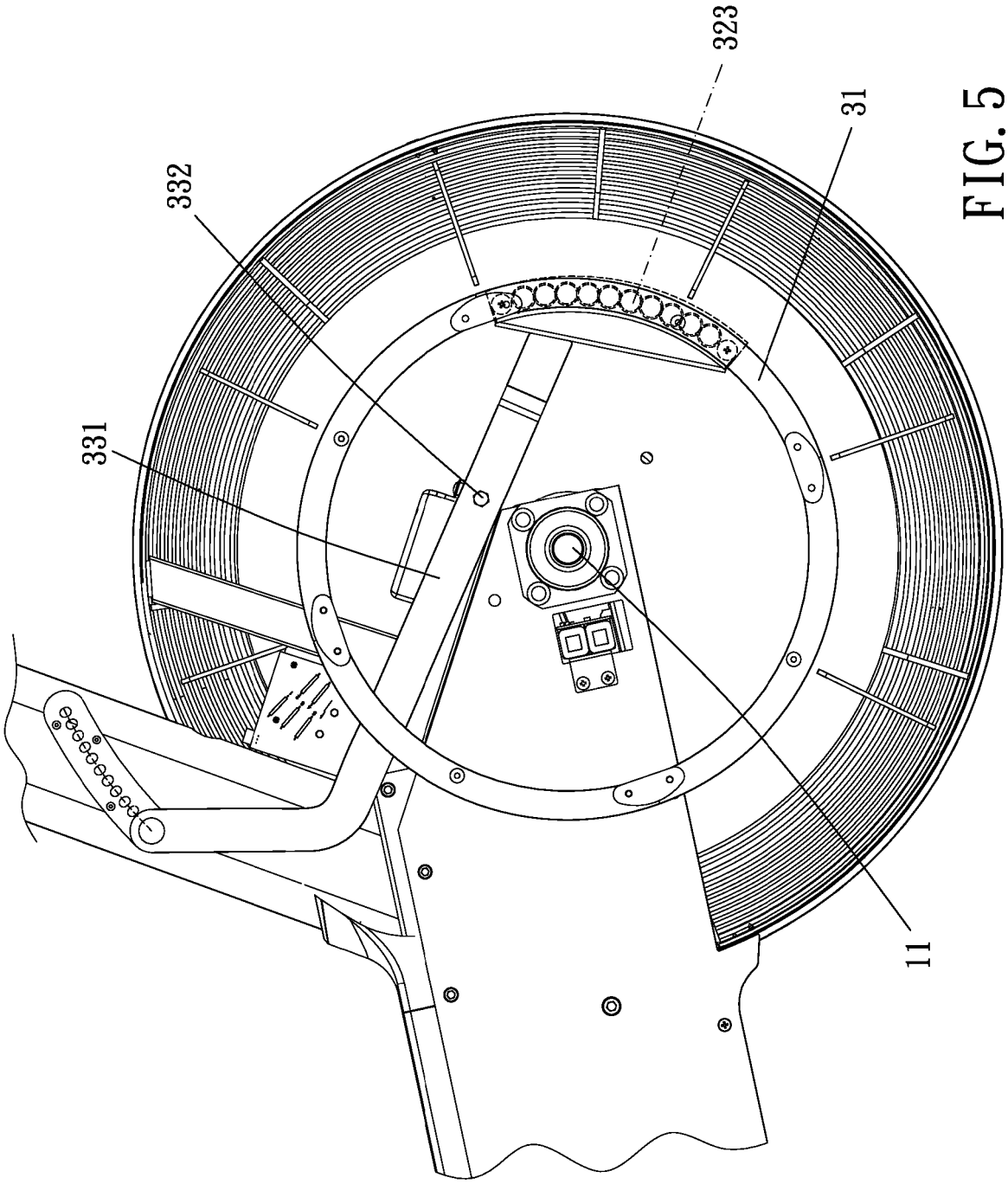

FIG. 5

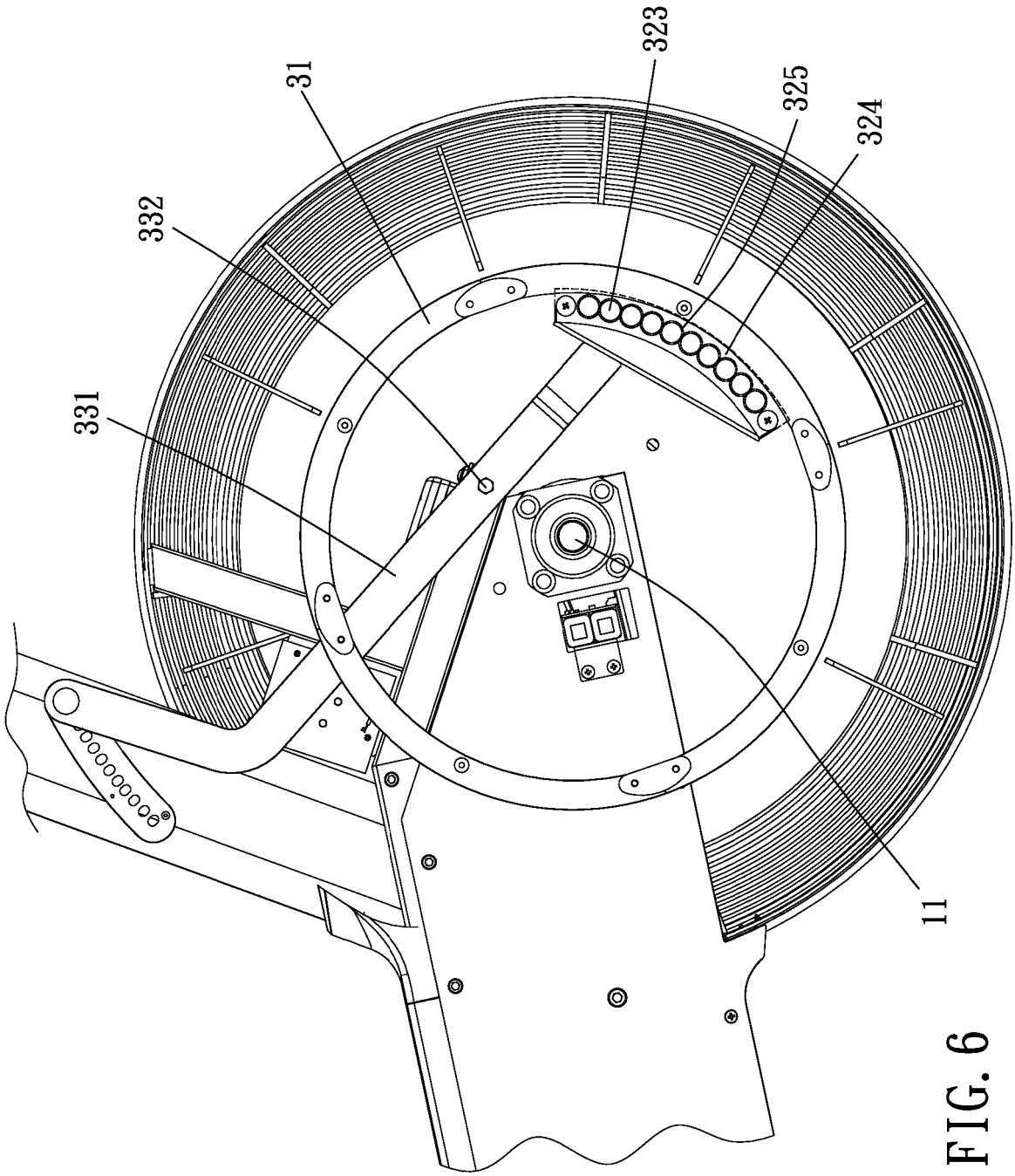

FIG. 6

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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