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(54) FILM PACKING DEVICE

FILMVERPACKUNGSVORRICHTUNG

DISPOSITIF D'EMBALLAGE À FILM

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Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to a film packing device, and more particularly to a film packing device for a roll of film having or not having a reel.

2. Description of the Prior Art

[0002] The actual method of film packing device is using a roll of film on a paper reel, bend over, walk backwards and pull on the roll manually. This causes back pain, unsafe situations and inconsistent application of the film, resulting in bad load stabilization and transport damage. Also in practice the roll drops on the floor and will be useless because of the occurred damage.

[0003] FIG. 1 is a perspective view of a conventional film packing device for a roll of film having a reel. FIG. 2 is a partial sectional view of FIG. 1. A conventional film packing device 300 for a roll of film having a paper reel comprises a handle 5. Two ends of the handle 5 have screw holes 6, such that the handle 5 is pivotally connected with a film application unit 7 through the screw holes 6. The two ends of the handle 5 are further pivotally connected with a roller unit 8 corresponding to the film application unit 7 for the film packing device 300 to pack an article.

[0004] FIG. 3 is a perspective view of a conventional film packing device for a roll of film not having a reel which is coreless film. FIG. 4 is a partial sectional view of FIG. 3. A conventional film packing device 200 for a roll of film not having a paper reel comprises a handle 1. Two ends of the handle 1 have positioning recesses 2, such that the handle 1 is pivotally connected with a film application unit 3 through the positioning recesses 2. The two ends of the handle 1 are further pivotally connected with a roller unit 4 corresponding to the film application unit 3 for the film packing device 200 to pack an article.

[0005] Referring to FIG. 2 and FIG. 4, the conventional film packing device 300 is threadedly connected with the film application unit 7 through the screw holes 6. The conventional film packing device 200 is connected with the film application unit 3 through the positioning recesses 2. The conventional film packing device can be mounted with a specific film application unit only. If the user has to use different types of film application units, it is necessary to prepare for different types of film packing devices. This is very inconvenient for use. Accordingly, the inventor of the present invention has devoted himself based on his many years of practical experiences to solve these problems.

[0006] DE 20 2014 102 068 U1 discloses a film packing device having a film application unit comprising a coupling rod. This coupling rod is provided with a retaining member comprising one retaining portion in which a first

positioning portion of the film application unit may be mounted.

SUMMARY OF THE INVENTION

[0007] The present invention is to provide a film packing device for a roll of film having or not having a reel. The film packing device can be mounted with a roll of film having a reel or a roll of film not having a reel.

[0008] In order to achieve the aforesaid object, the film packing device for a roll of film having or not having a reel of the present invention comprises a handle, a first film application unit, and a second film application unit. Two ends of the handle extend in the same direction and are provided with a coupling rod and a base, respectively. The coupling rod is provided with a quick-release unit. The quick-release unit comprises an elastic member and a retaining member. The elastic member elastically holds against the retaining member. The retaining member has a first retaining portion and a second retaining portion. The base is provided with a limit unit. The limit unit comprises a first limit portion and a second limit portion. The first film application unit comprises a first film seat and a second film seat. The first film seat and the second film seat are disposed oppositely. The first film seat comprises a first fixing portion corresponding to the second retaining portion. The second film seat comprises a second fixing portion corresponding to the limit unit. The second film application unit comprises an axial rod. The axial rod comprises a first positioning portion and a second positioning portion corresponding to the first retaining portion and the second first limit portion, respectively; Through the first film application unit, the film packing device can be mounted with a roll of film having a paper reel. Through the second film application unit, the film packing device can be mounted with a roll of film not having a paper reel. The film packing device can be applied to a roll of film having or not having a paper reel and can be replaced with different types of film in a quick, simple and convenient way.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009]

FIG. 1 is a perspective view of a conventional film packing device for a roll of film having a

FIG. 2 is a partial sectional view of FIG. 1;

FIG. 3 is a perspective view of a conventional film packing device for a roll of film not having a reel;

FIG. 4 is a partial sectional view of FIG. 3;

FIG. 5 is a perspective view according to a first embodiment of the present invention;

FIG. 6 is an exploded view according to the first embodiment of the present invention;

FIG. 7 is an exploded view showing the roller unit according to the first embodiment of the present invention;

FIG. 8 is a partial sectional view according to the first embodiment of the present invention;

FIG. 9 is another partial sectional view according to the first embodiment of the present invention;

FIG. 10 is a schematic view according to the first embodiment of the present invention when in use;

FIG. 11 is a perspective view according to a second embodiment of the present invention;

FIG. 12 is an exploded view according to the second embodiment of the present invention;

FIG. 13 is an exploded view showing the roller unit according to the second embodiment of the present invention;

FIG. 14 is a partial sectional view according to the second embodiment of the present invention;

FIG. 15 is another partial sectional view according to the second embodiment of the present invention; and

FIG. 16 is a schematic view showing the first connecting rod of the present invention when in use.

FIG. 17 is a perspective view according to a third embodiment of the present invention;

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0010] Embodiments of the present invention will now be described, by way of example only, with reference to the accompanying drawings.

[0011] FIG. 5 is a perspective view according to a first embodiment of the present invention. FIG. 6 is an exploded view according to the first embodiment of the present invention. The present invention discloses a film packing device 100 for a roll of film having or not having a reel. The film packing device 100 comprises a handle 10 and a roller unit 20.

[0012] Two ends of the handle 10 extend in the same direction and are provided with a coupling rod 11 and a base 12, respectively. The handle 10 has a grip 131 between the coupling rod 11 and the base 12. Two ends of the grip 131 are provided with two curved pipes 13. The curved pipes 13 are connected with the coupling rod 11

and the base 12, respectively. In this embodiment, the handle 10 can be selectively installed with a grip 131 in a different length. Referring to FIG. 8 and FIG. 9, the coupling rod 11 is provided with a quick-release unit 14. The quick-release unit 14 comprises an elastic member 141 and a retaining member 142. One end of the elastic member 141 is fixed to the coupling rod 11, and another end of the elastic member 141 elastically holds against the retaining member 142. The retaining member 142 has a first retaining portion 1421 and a second retaining portion 1422. The first retaining portion 1421 is a retaining trough which is formed with a bottom surface 1423. The bottom surface 1423 is an oblique surface. The bottom surface 1423 is gradually reduced from the first retaining portion 1421 toward the second retaining portion 1422. The second retaining portion 1422 is a retaining screw hole disposed on the bottom surface 1423. The first retaining portion 1421 has an inner diameter greater than that of the second retaining portion 1422. The base 12 is provided with a limit unit 15. The limit unit 15 comprises a first limit portion 151. The first limit portion 151 is a limit screw hole. In the first embodiment of the present invention, the limit unit 15 comprises a limit screw nut disposed in the base 12. The limit screw nut has the first limit portion 151.

[0013] The roller unit 20 is pivotally connected between the base 12 and the coupling rod 11. Referring to FIG. 7, the roller unit 20 comprises a first roller 21 and a second roller 22. Two ends of the first roller 21 and the second roller 22 are provided with a first gear assembly 23 and a second gear assembly 24, respectively. The first gear assembly 23 meshes with the second gear assembly 24. The first gear assembly 23 comprises a first axle gear 231. The first axle gear 231 is fixed to one end of the first roller 21. An outer toothed portion of the first axle gear 231 meshes with an inner toothed portion of a drive gear 232. The second gear assembly 24 comprises a second axle gear 241. The second axle gear 241 is fixed to one end of the second roller 22. An outer toothed portion of the second axle gear 241 meshes with an inner toothed portion of a reduction gear 242. An outer toothed portion of the reduction gear 242 meshes with an outer toothed portion of the drive gear 232. The outer toothed portion of the reduction gear 242 has teeth more than those of the outer toothed portion of the drive gear 232. The outer circumference of the first axle gear 231 and the outer circumference of the second axle gear 241 can be selectively fitted with the drive gear 232 and the reduction gear 242 having different numbers of teeth. The gear ratio of the teeth on the reduction gear 242 and the drive gear 232 is in the range of 1.1 to 1.3. In the first embodiment of the present invention, the number of the teeth on the reduction gear 242 is 62. The number of the teeth on the drive gear 232 is 48. This is just an embodiment, and the present invention is not limited to this embodiment. The number of the teeth on the reduction gear 242 and the number of the teeth of the drive gear 232 and their gear ratio can be different. At least one of the outer

wall of the first roller 21 and the outer wall of the second roller 22 is provided with a tension judgement member 29. The tension judgement member 29 is a pattern. The pattern is selected from one of a convex pattern and a concave pattern or a combination thereof. The outer sides of the first roller 21 and the second roller 22 are provided with a casing 25, respectively. The roller unit 20 further comprises a first connecting rod 26 and a second connecting rod 27. The first connecting rod 26 and the second connecting rod 27 are disposed in the first roller 21 and the second roller 22, respectively. The first connecting rod 26 and the first roller 21 are coaxial. The second connecting rod 27 and the second roller 22 are coaxial. Two ends of the first connecting rod 26 and the second connecting rod 27 are pivotally connected with the coupling rod 11 and the base 12, respectively. One end of the first connecting rod 26 is provided with an adjustment knob 28 corresponding to the first gear set 23. Another end of the first connecting rod 26 is provided with an engaging surface 261, such that the first connecting rod 26 is fixed to the base 12 through the engaging surface 261. The two ends of the second connecting rod 27 are pivotally connected with the coupling rod 11 and the base 12, respectively.

[0014] The film packing device of the first embodiment of the present invention further comprises a first film application unit 40.

[0015] The first film application unit 40 comprises a first film seat 41 and a second film seat 42. The first film seat 41 and the second film seat 42 are disposed oppositely. The first film seat 41 comprises a first fixing portion 411 corresponding to the second retaining portion 1422. The second film seat 42 comprises a second fixing portion 421 corresponding to the limit unit 15. Both the first fixing portion 411 and the second fixing portion 421 are screws. The first fixing portion 411 and the second fixing portion 421 are screwed to the second retaining portion 1422 and the limit unit 15, respectively, such that the first film application unit 40 is pivotally connected to the coupling rod 11 and the base 12 through the first fixing portion 411 and the second fixing portion 421. In the first embodiment of the present invention, the first film application unit 40 further comprises a paper reel between the first film seat 41 and the second film seat 42.

[0016] Referring to FIG. 6, FIG. 8, and FIG. 9, when in use, a roll of film having the paper reel is first mounted to the first film application unit 40, and then the film is pulled out to pass through the first roller 21 and the second roller 22. After that, the film is attached to an article for packing. Because the roller unit 20 is pivotally connected between the base 12 and the coupling rod 11, the roller unit 20 has larger turning angle and range. In cooperation with the gear ratio of the first gear set 23 and the second gear set 24, the roller unit 20 can generate larger pulling force and binding force when packing the article. Thus, the present invention can adjust the direction, the pulling force and the tightness of packing as desired, so that the user can pack the article quickly and

tightly and adjust the strength of film.

[0017] The gear ratio can be selected or determined based on existing and new to develop types of high technology packaging films as known as nano tech films. This will result in an optimal reproducible and consistent application of the packaging film what is essential for the use of film to stabilize loads on pallets. This is unique and new.

[0018] In addition, through the roller unit 20, the film packing device can generate even and stable pulling force and binding force for packing the article so that the user can pack the article on the pallet securely.

[0019] When the user wants to replace the roll of film having the paper reel on the first film application unit 40, the first film seat 41 is pushed to compress the elastic member 141 of the quick-release unit 14, such that the roll of film having the paper reel can disengage from the second film seat 42 with ease for the user to take out the roll of film having the paper reel to get it replaced. Through the quick-release unit 14, the user can replace or take out the roll of film having the paper reel quickly and conveniently.

[0020] When the user wants to disassemble or replace the first film application unit 40, the roll of film having the paper reel on the first film application unit 40 is first disassembled, and then the the first fixing portion 411 is unscrewed out of the second retaining portion 1422 and the second fixing portion 421 is unscrewed out of the limit unit 15. In this way, the user can take out the first film application unit 40 to get it replaced.

[0021] FIG. 11 is a perspective view according to a second embodiment of the present invention.

[0022] FIG. 12 is an exploded view according to the second embodiment of the present invention.

[0023] Referring to FIG. 14 and FIG. 15, the second embodiment and the first embodiment are substantially similar with the exceptions described hereinafter. The limit unit 15 comprises a first limit portion 151 and a second limit portion 152. The first limit portion 151 is a limit screw hole. The second limit portion 152 is a limit block. One end of the limit block is screwed to the limit screw hole. Another end of the limit block extends out of the base 12. A second film application unit 30 is pivotally connected between the base 12 and the coupling rod 11. The second film application unit 30 comprises an axial rod 31. The axial rod 31 comprises a first positioning portion 311 and a second positioning portion 312 corresponding to the first retaining portion 1421 and the second limit portion 152 respectively. The first positioning portion 311 is a positioning protrusion. The second positioning portion 312 is a positioning recess. The second film application unit 30 is pivotally connected to the coupling rod 11 and the base 12 through the first positioning portion 311 and the second positioning portion 312. The first retaining portion 1421 of the quick-release unit 14 is biased by the elastic member 141 to fit on the first positioning portion 311. In the second embodiment of the present invention, the axial rod 31 can be provided with

a roll of film not having a paper reel.

[0024] Referring to FIG. 13, FIG. 14, and FIG. 15, when the user wants to install the second film application unit 30 or replace the roll of film not having the paper reel, the first positioning portion 311 at one end of the axial rod 31 is pushed against the first retaining portion 1421 of the quick-release unit 14 for the retaining portion 1421 to compress the elastic member 141, and the second positioning portion 312 at the other end of the axial rod 31 disengages from a protruding portion 152 of the limit unit 15, such that the second film application unit 30 can be taken out for the user to take out the roll of film not having the paper reel to get it replaced.

[0025] Through the quick-release unit 14, the user can take out the second film application unit 30 quickly to replace or take out the roll of film not having the paper reel conveniently.

[0026] Referring to FIG. 8, FIG. 9 as well as FIG. 14, FIG. 15, through the first film application unit 40, the film packing device can be mounted with a roll of film having a paper reel, and through the second film application unit 30, the film packing device can be mounted with a roll of film not having a paper reel. By a replacement of few parts, the film packing device can be applied to different types of rolls of film having or not having a paper reel and provide a stable packing effect.

[0027] The present invention is made to solve a problem of the way the packing film is applied manually. The purpose of the packing film is:

- 1 stabilize the load on pallets
- 2 protect products against UV light
- 3 avoid tamper by hiding the products in opaque film
- 4 bundle multiple parcels to 1 package to save on transport costs

[0028] The present invention will allow the user to stabilize a pallet load fast, without bending, safely walking forward with a consistent and reproducible force to the load. With the invention the roll of film can be used till the very end.

[0029] Referring to FIG. 6 and FIG. 12, it is noted that the handle can be selectively mounted with the handle 131 in a different length to form a different interval between the coupling rod 11 and the base 12 for installation of different lengths of film application units so as to adjust different types of film.

[0030] Referring to FIG. 7 and FIG. 13, the drive gear 232 and the reduction gear 242 can be connected and positioned quickly through the first axle gear 231 and the second axle gear 241 to form the first gear set 23 and the second gear set 24. The gear ratio of the drive gear 232 and the reduction gear 242 can be adjusted according to different films to provide the best application effect.

[0031] Accordingly, the film packing device can be ap-

plied for various occasions and cooperate with an on-coming film effectively to achieve the best effect.

[0032] Referring to FIG. 16, another end of the first connecting rod 26 is provided with the engaging surface 261 for the end of the first connecting rod 26 to be secured to the base 12. The user can turn the adjustment knob 28 at one end of the first connecting rod 26 to tighten the first connecting rod 26 so as to slightly adjust the tension of the film.

[0033] It is noted that the film packing device of the present invention can be used stably without bending down when in use and it can be operated with a single hand. If a roll gets damaged by dropping on the floor the roll is on most cases useless. With the invention the operator will be able to use the roll of packaging film till the very end.

[0034] Referring to FIG. 16 and FIG. 10, the present invention is provided with the tension judgement member 29. The tension judgement member 29 is a pattern. The pattern is selected from one of a convex pattern and a concave pattern or a combination thereof. Also the tension judgement member 29 comprise a unique series number. When the film passes through the tension judgement member 29, the pattern is transferred to the film. Thus, the user can judge the tension of the film through the size of the deformed pattern after the film is pulled to extend.

[0035] The tension judgement member 29 or any other embossing will allow the user to check the result and therefore the quality of the way the film is applied. This is new and unique. In general, the tension judgement member 29 will reduce waste of packaging film due to the optimal application. Producers of film can offer optimal use of their products. The present invention will activate the thermoplastic film to make it elastic. After application the film wants to return to its original "position". This will add extra force to load after a period of time.

[0036] Referring to FIG. 17, the coupling rod 11 and the base 12 are provided with a magnets member 16, the user can hang the film packing device 100 on a metal surface. This will make it easier to grab the film packing device 100 on a convenient ergonomic height, also extend life time of the film packing device 100, avoid damage.

[0037] Although particular embodiments of the present invention have been described in detail for purposes of illustration, various modifications and enhancements may be made within the scope of the appended claims.

Claims

1. A film packing device comprising a handle (10) having two ends being provided with a coupling rod (11) and a base (12) respectively, the coupling rod (11) being provided with a retaining member (142), **characterized in that** the retaining member (142) having a first retaining

portion (1421) and a second retaining portion (1422), the base (12) being provided with a limit unit (15), the limit unit (15) comprising a first limit portion (151) and a second limit portion (152); and

a first film application unit (40) comprising a first film seat (41) and a second film seat (42), the first film seat (41) and the second film seat (42) being disposed oppositely, the first film seat (41) comprising a first fixing portion (411) corresponding to the second retaining portion (1422), the second film seat (42) comprising a second fixing portion (421) corresponding to the limit unit (15);

a second film application unit (30) comprising an axial rod (31), the axial rod (31) comprising a first positioning portion (311) and a second positioning portion (312) corresponding to the first retaining portion (1421) and the second limit portion (152) respectively;

thereby, through the first film application unit (40), the film packing device (100) being mounted with a roll of film having a paper reel, or through the second film application unit (30), the film packing device (100) being mounted with a roll of film not having a paper reel.

2. The film packing device according to claim 1, **characterized in that** the coupling rod (11) being provided with a quick-release unit, the quick-release unit (14) comprising an elastic member (141) and the retaining member (142), the elastic member (141) elastically holding against the retaining member (142).
3. The film packing device according to claim 1 or 2, **characterized in that** the first retaining portion (1421) is a retaining trough, the retaining member (142) being formed with a bottom surface (1423), the second retaining portion (1422) being a retaining screw hole disposed on the bottom surface (1423), the first retaining portion (1421) having an inner diameter greater than that of the second retaining portion (1422).
4. The film packing device according to anyone of claims 1 to 3, **characterized in that** the first limit portion (151) is a limit screw hole and the second limit portion (152) is a limit block, one end of the limit block being screwed to the limit screw hole, another end of the limit block extending out of the base (12).
5. The film packing device according to anyone of the foregoing claims, **characterized in that** the first positioning portion (311) is a positioning protrusion, and the second positioning portion (312) is a positioning recess.
6. The film packing device according to anyone of the foregoing claims, , **characterized in that** the first fix-

ing portion (411) and the second fixing portion (421) are screws.

7. The film packing device according to anyone of the foregoing claims, further **characterized by** a roller unit (20), the roller unit (20) being pivotally connected between the base (12) and the coupling rod (11), the roller unit (20) comprising a first roller (21) and a second roller (22), two ends of the first roller (21) and the second roller (22) being provided with a first gear assembly (23) and a second gear assembly (24) respectively, the first gear assembly (23) meshing with the second gear assembly (24), the first gear assembly (23) comprising a first axle gear (231), the first axle gear (231) being fixed to one end of the first roller (21), an outer toothed portion of the first axle gear (231) meshing with an inner toothed portion of a drive gear (232), the second gear assembly (24) comprising a second axle gear (241), the second axle gear (241) being fixed to one end of the second roller (22), an outer toothed portion of the second axle gear (241) meshing with an inner toothed portion of a reduction gear (242), an outer toothed portion of the reduction gear (242) meshing with an outer toothed portion of the drive gear (232).
8. The film packing device according to claim 7, **characterized in that** at least one of an outer wall of the first roller (21) and an outer wall of the second roller (22) is provided with a tension judgement member (29), the tension judgement member being a pattern, the pattern being selected from one of a convex pattern and a concave pattern or a combination thereof.
9. The film packing device according to claim 7 or 8, **characterized in that** outer sides of the first roller (21) and the second roller (22) are provided with a casing (25) respectively, the roller unit (20) further comprising a first connecting rod (26) and a second connecting rod (27), the first connecting rod (26) and the second connecting rod (27) being disposed in the first roller (21) and the second roller (22) respectively, the first connecting rod (26) and the first roller (21) being coaxial, the second connecting rod (27) and the second roller (22) being coaxial, one of the two ends of the first connecting rod (26) being provided with an adjustment knob (28), the other of the two ends of the first connecting rod (26) being fixed to the base (12), the two ends of the second connecting rod (27) being pivotally connected with the coupling rod (11) and the base (12) respectively.
10. The film packing device according to anyone of claims 7 to 9, **characterized in that** the number of teeth on the reduction gear (242) is greater than that of teeth on the drive gear (232).
11. The film packing device according to anyone of the

foregoing claims, **characterized in that** the handle (10) has a grip (131), two ends of the grip (131) being provided with two curved pipes (13), the curved pipes (13) being connected with the coupling rod (11) and the base (12), respectively.

Patentansprüche

1. Filmpack-Vorrichtung, umfassend einen Handgriff (10) mit zwei Enden, die mit einer Kupplungsstange (11) bzw. einer Basis (12) versehen sind, wobei die Kupplungsstange (11) einen Rückhaltekörper (142) aufweist, **dadurch gekennzeichnet, daß** der Rückhaltekörper (142) einen ersten Rückhalteteil (1421) und einen zweiten Rückhalteteil (1422) aufweist, die Basis (12) mit einer Begrenzungseinheit (15) versehen ist, und diese Begrenzungseinheit (15) einen ersten Begrenzungsteil (151) und einen zweiten Begrenzungsteil (152) aufweist; daß eine erste Filmanwendungseinheit (40) vorhanden ist, die einen ersten Filmsitz (41) und einen zweiten Filmsitz (42) aufweist, wobei der erste Filmsitz (41) und der zweite Filmsitz (42) entgegengesetzt angeordnet sind, und der erste Filmsitz (41) einen ersten Fixierteil (411) besitzt, der dem zweiten Rückhalteteil (1422) entspricht, während der zweite Filmsitz (42) einen zweiten Fixierteil (421) hat, der der Begrenzungseinheit (15) entspricht; ferner **gekennzeichnet durch** eine zweite Filmanwendungseinheit (30), die eine axiale Stange (31) aufweist, welche mit einem ersten Positionierungsteil (311) und einem zweiten Positionierungsteil (312) versehen ist, die dem ersten Rückhalteteil (1421) bzw. dem zweiten Rückhalteteil (152) entspricht, wodurch durch die erste Filmanwendungseinheit (40) die Filmverpackungs-Vorrichtung (100) mit einer Filmrolle versehen ist, die eine Papierspule aufweist oder durch die zweite Filmanwendungseinheit (30) die Filmverpackungs-Vorrichtung (100) mit einer Filmrolle versehen ist, die keine Papierspule aufweist.
2. Filmpack-Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, daß** die Kupplungsstange (11) mit einer Schnelllöseeinheit (14) versehen ist, die einen elastischen Körper (141) und den Rückhaltekörper (142) aufweist, wobei der elastische Körper (141) elastisch gegen den Rückhaltekörper (142) drückt.
3. Filmpack-Vorrichtung nach Anspruch 1 oder 2, **dadurch gekennzeichnet, daß** der erste Rückhalteteil (1421) eine Rückhalterinne ist, daß der Rückhaltekörper (142) mit einer Bodenoberfläche (1423) versehen ist, daß der zweite Rückhalteteil (1422) ein Rückhalte-Schraubloch ist, das sich auf der Bodenoberfläche (1423) befindet, und daß der erste Rückhalteteil (1421) einen Innendurchmesser aufweist, der größer als der zweite Rückhalteteil (1422) ist.

4. Filmpack-Vorrichtung nach einem der Ansprüche 1 bis 3, **dadurch gekennzeichnet, daß** der erste Begrenzungsteil (151) ein Begrenzungsschraubloch ist und der zweite Begrenzungsteil (152) ein Begrenzungsblock ist, und daß das eine Ende des Begrenzungsblocks mit dem Begrenzungsschraubloch verschraubt ist, während das andere Ende des Begrenzungsblocks sich aus der Basis (12) erstreckt.
5. Filmpack-Vorrichtung nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, daß** der erste Positionierungsteil (311) ein Positionierungsvorsprung ist und der zweite Positionierungsteil (312) eine Positionierungsvertiefung ist.
6. Filmpack-Vorrichtung nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, daß** der erste Fixierungsteil (411) und der zweite Fixierungsteil (421) Schrauben sind.
7. Filmpack-Vorrichtung nach einem der vorhergehenden Ansprüche, ferner **gekennzeichnet durch** eine Rolleneinheit (20), die zwischen der Basis (12) und der Kupplungsstange (11) drehbar verbunden ist und eine erste Rolle (21) sowie eine zweite Rolle (22) aufweist, wobei die Enden der ersten Rolle (21) und der zweiten Rolle (22) mit einer ersten Zahnrad-Anordnung (23) bzw. einer zweiten Zahnrad-Anordnung (24) versehen sind, und die erste Zahnrad-Anordnung (23) mit der zweiten Zahnrad-Anordnung (24) kämmt, und die erste Zahnrad-Anordnung (23) ein erstes Achsenzahnrad (231) aufweist, das mit einem Ende der ersten Rolle (21) fest verbunden ist, wobei ferner ein äußerer gezahnter Teil des ersten Achsenzahnrades (231) mit einem inneren gezahnten Teil eines Antriebszahnades (232) kämmt, die zweite Zahnrad-Anordnung (24) ein zweites Achsenzahnrad (241) aufweist, das mit dem einen Ende der zweiten Rolle (22) fest verbunden ist, ein äußerer gezahnter Teil des zweiten Achsenzahnades (241) mit einem inneren gezahnten Teil eines Untersetzungs-Zahnades (242) kämmt, und ein äußerer gezahnter Teil des Untersetzungs-Zahnades (242) mit einem äußeren gezahnten Teil des Antriebszahnades (232) kämmt.
8. Filmpack-Vorrichtung nach Anspruch 7, **dadurch gekennzeichnet, daß** wenigstens eine äußere Wand der ersten Rolle (21) und eine äußere Wand der zweiten Rolle (22) mit einem Spannungseinstellkörper (29) versehen sind, der ein Muster ist, ausgewählt aus einem konvexen Muster und einem konkaven Muster oder einer Kombination beider.
9. Filmpack-Vorrichtung nach Anspruch 7 oder 8, **dadurch gekennzeichnet, daß** die Außenseiten der ersten Rolle (21) und der zweiten Rolle (22) entsprechend mit einem Gehäuse (25) versehen sind, daß

die Rolleneinheit (20) des weiteren eine erste Verbindungsstange (26) und eine zweite Verbindungsstange (27) aufweist, wobei die erste Verbindungsstange (26) und die zweite Verbindungsstange (27) in der ersten Rolle (21) bzw. der zweiten Rolle (22) angeordnet sind, die erste Verbindungsstange (26) und die erste Rolle (21) koaxial sind, die zweite Verbindungsstange (27) und die zweite Rolle (22) koaxial sind, eines der beiden Enden der ersten Verbindungsstange (26) mit einem Einstellknopf (28) versehen ist, das andere der beiden Enden der ersten Verbindungsstange (26) mit der Basis (12) fest verbunden ist, und die beiden Enden der zweiten Verbindungsstange (27) mit der Kupplungsstange (11) bzw. der Basis (12) gelenkig verbunden sind.

10. Filmpack-Vorrichtung nach einem der Ansprüche 7 bis 9, **dadurch gekennzeichnet, daß** die Zahl der Zähne auf dem Untersetzungs-Zahnrad (242) größer ist als die Zahl der Zähne auf dem Antriebszahnrad (232).

11. Filmpack-Vorrichtung nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, daß** der Handgriff (10) einen Griff (131) hat, daß zwei Enden des Griffes (131) mit zwei gekrümmten Rohren (13) versehen sind, und daß die gekrümmten Rohre (13) mit der Kupplungsstange (11) bzw. der Basis (12) verbunden sind.

Revendications

1. Dispositif d'emballage à film comprenant une poignée (10) ayant deux extrémités qui sont munies d'une tige de couplage (11) et d'une base (12) respectivement, la tige de couplage (11) étant munie d'un élément de retenue (142), **caractérisé en ce que** l'élément de retenue (142) a une première portion de retenue (1421) et une deuxième portion de retenue (1422), la base (12) est munie d'une unité de limitation (15), l'unité de limitation (15) comprenant une première portion de limitation (151) et une deuxième portion de limitation (152) ; et une première unité d'application de film (40) comprend un premier siège de film (41) et un deuxième siège de film (42), le premier siège de film (41) et le deuxième siège de film (42) étant disposés en opposition, le premier siège de film (41) comprenant une première portion de fixation (411) correspondant à la deuxième portion de retenue (1422), le deuxième siège de film (42) comprenant une deuxième portion de fixation (421) correspondant à l'unité de limitation (15) ; une deuxième unité d'application de film (30) comprend une tige axiale (31), la tige axiale (31) comprenant une première portion de positionnement

(311) et une deuxième portion de positionnement (312) correspondant à la première portion de retenue (1421) et à la deuxième portion de limitation (152) respectivement ;

grâce à quoi, au moyen de la première unité d'application de film (40), le dispositif d'emballage à film (100) est monté avec une bobine de film ayant un rouleau en papier, ou, au moyen de la deuxième unité d'application de film (30), le dispositif d'emballage à film (100) est monté avec une bobine de film n'ayant pas de rouleau en papier.

2. Dispositif d'emballage à film selon la revendication 1, **caractérisé en ce que** la tige de couplage (11) est munie d'une unité de relâchement rapide, l'unité de relâchement rapide (14) comprenant un élément élastique (141) et l'élément de retenue (142), l'élément élastique (141) étant maintenu élastiquement contre l'élément de retenue (142).

3. Dispositif d'emballage à film selon la revendication 1 ou 2, **caractérisé en ce que** la première portion de retenue (1421) est une goulotte de retenue, l'élément de retenue (142) étant formé avec une surface de fond (1423), la deuxième portion de retenue (1422) étant un trou de vis de retenue disposé sur la surface de fond (1423), la première portion de retenue (1421) ayant un diamètre intérieur supérieur à celui de la deuxième portion de retenue (1422).

4. Dispositif d'emballage à film selon l'une quelconque des revendications 1 à 3, **caractérisé en ce que** la première portion de limitation (151) est un trou de vis de limitation, et la deuxième portion de limitation (152) est un bloc de limitation, une extrémité du bloc de limitation étant vissée au trou de vis de limitation, une autre extrémité du bloc de limitation s'étendant à l'extérieur de la base (12).

5. Dispositif d'emballage à film selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la première portion de positionnement (311) est une projection de positionnement, et la deuxième portion de positionnement (312) est un renforcement de positionnement.

6. Dispositif d'emballage à film selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la première portion de fixation (411) et la deuxième portion de fixation (421) sont des vis.

7. Dispositif d'emballage à film selon l'une quelconque des revendications précédentes, **caractérisé en outre par** une unité de bobine (20), l'unité de bobine (20) étant reliée de manière pivotante entre la base (12) et la tige de couplage (11), l'unité de bobine (20) comprenant une première bobine (21) et une deuxième bobine (22), deux extrémités de la première bo-

bobine (21) et de la deuxième bobine (22) étant munies d'un premier assemblage d'engrenages (23) et d'un deuxième assemblage d'engrenages (24) respectivement, le premier assemblage d'engrenages (23) étant en engrènement avec le deuxième assemblage d'engrenages (24), le premier assemblage d'engrenages (23) comprenant un premier engrenage d'axe (231), le premier engrenage d'axe (231) étant fixé à une extrémité de la première bobine (21), une portion dentée extérieure du premier engrenage d'axe (231) étant en engrènement avec une portion dentée intérieure d'un engrenage d'entraînement (232), le deuxième assemblage d'engrenages (24) comprenant un deuxième engrenage d'axe (241), le deuxième engrenage d'axe (241) étant fixé à une extrémité de la deuxième bobine (22), une portion dentée extérieure du deuxième engrenage d'axe (241) étant en engrènement avec une portion dentée intérieure d'un engrenage réducteur (242), une portion dentée extérieure de l'engrenage réducteur (242) étant en engrènement avec une portion dentée extérieure de l'engrenage d'entraînement (232).

8. Dispositif d'emballage à film selon la revendication 7, **caractérisé en ce qu'**au moins une paroi parmi une paroi extérieure de la première bobine (21) et une paroi extérieure de la deuxième bobine (22) est munie d'un élément de jugement de tension (29), l'élément de jugement de tension étant un motif, le motif étant choisi soit parmi un motif convexe, un motif concave, soit encore une combinaison de ceux-ci.
9. Dispositif d'emballage à film selon la revendication 7 ou 8, **caractérisé en ce que** les côtés extérieurs de la première bobine (21) et de la deuxième bobine (22) sont munis d'un boîtier (25) respectivement, l'unité de bobine (20) comprenant en outre une première tige de connexion (26) et une deuxième tige de connexion (27), la première tige de connexion (26) et la deuxième tige de connexion (27) étant disposées dans la première bobine (21) et la deuxième bobine (22) respectivement, la première tige de connexion (26) et la première bobine (21) étant coaxiales, la deuxième tige de connexion (27) et la deuxième bobine (22) étant coaxiales, une des deux extrémités de la première tige de connexion (26) étant munie d'un bouton de réglage (28), l'autre des deux extrémités de la première tige de connexion (26) étant fixée à la base (12), les deux extrémités de la deuxième tige de connexion (27) étant reliées de manière pivotante à la tige de couplage (11) et à la base (12) respectivement.
10. Dispositif d'emballage à film selon l'une quelconque des revendications 7 à 9, **caractérisé en ce que** le nombre de dents de l'engrenage réducteur (242) est

supérieur à celui des dents de l'engrenage d'entraînement (232).

11. Dispositif d'emballage à film selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la poignée (10) a une partie de préhension (131), deux extrémités de la partie de préhension (131) étant munies de deux tubes incurvés (13), les tubes incurvés (13) étant reliés à la tige de couplage (11) et à la base (12), respectivement.

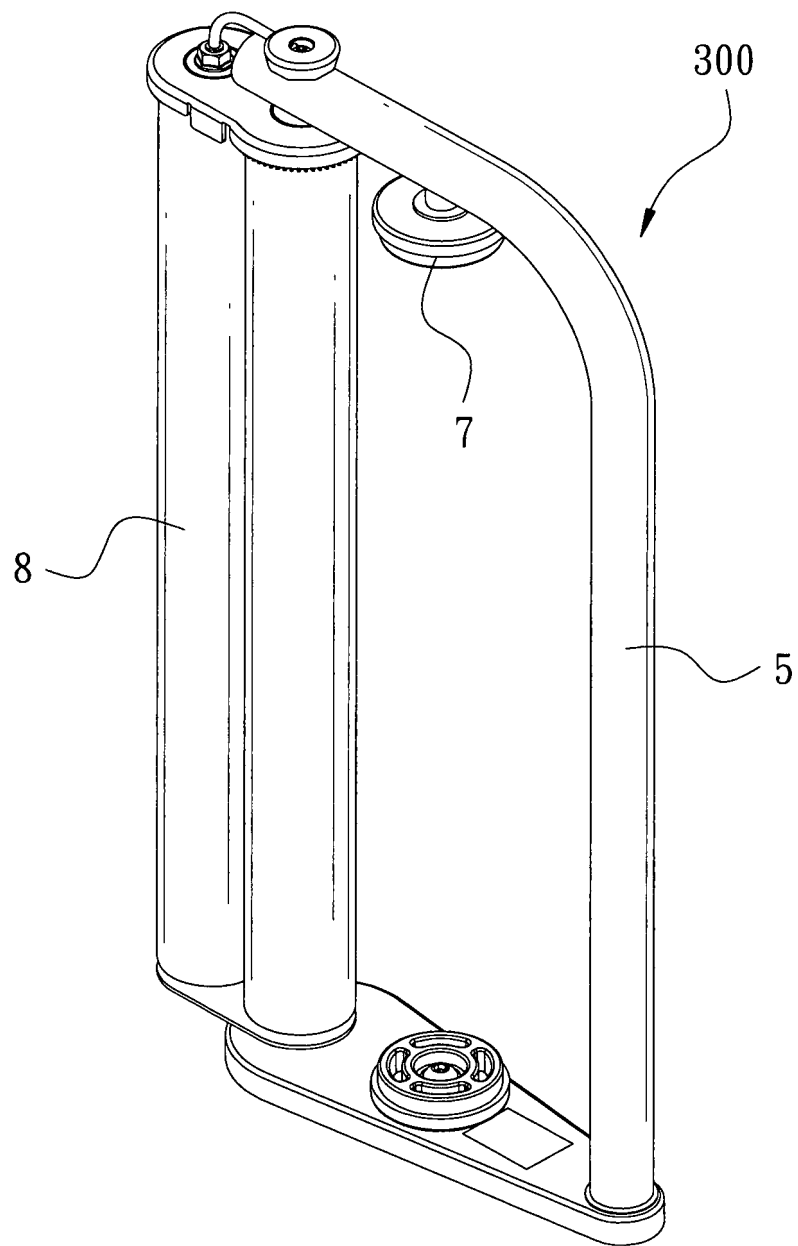


FIG. 1
PRIOR ART

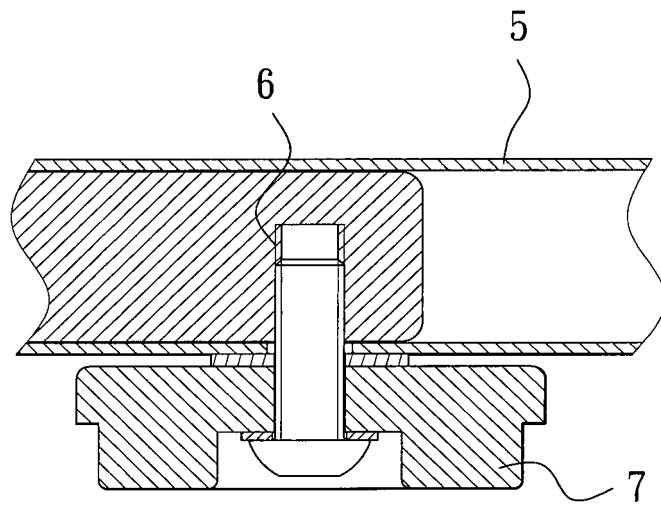


FIG. 2
PRIOR ART

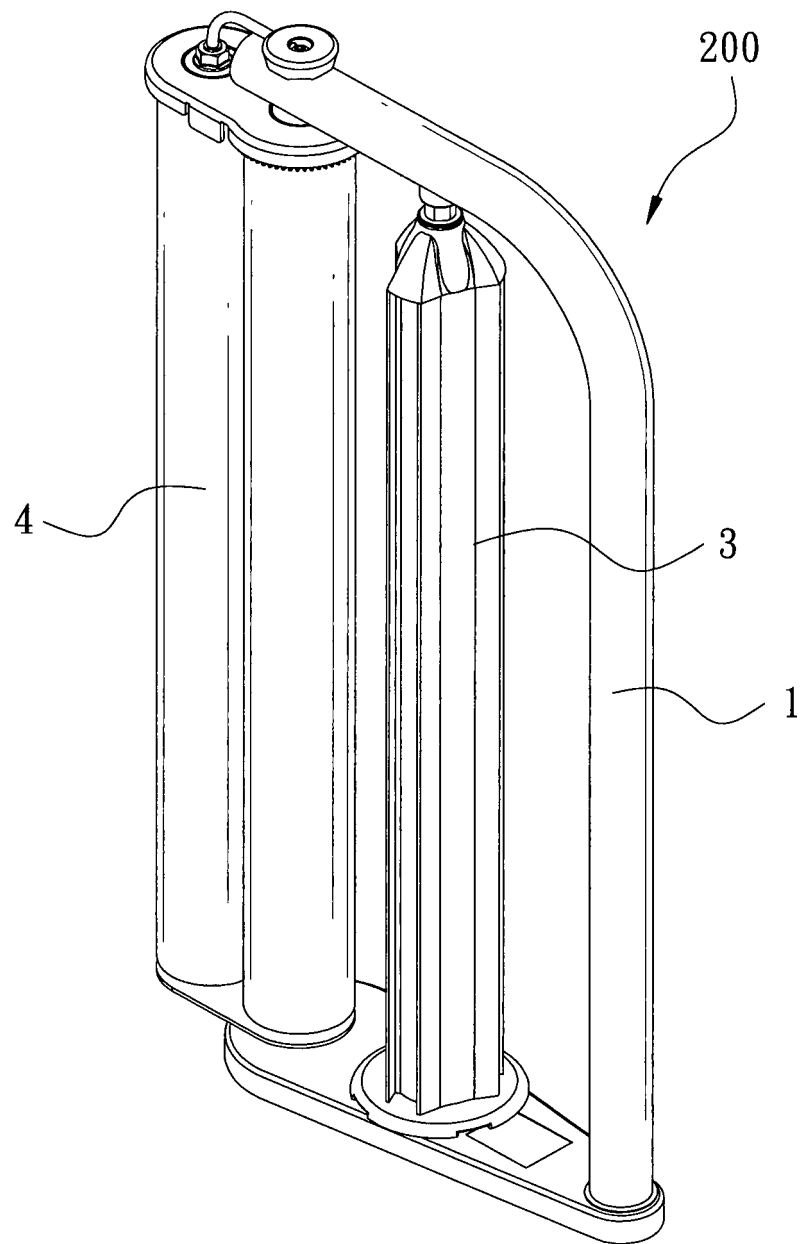


FIG. 3
PRIOR ART

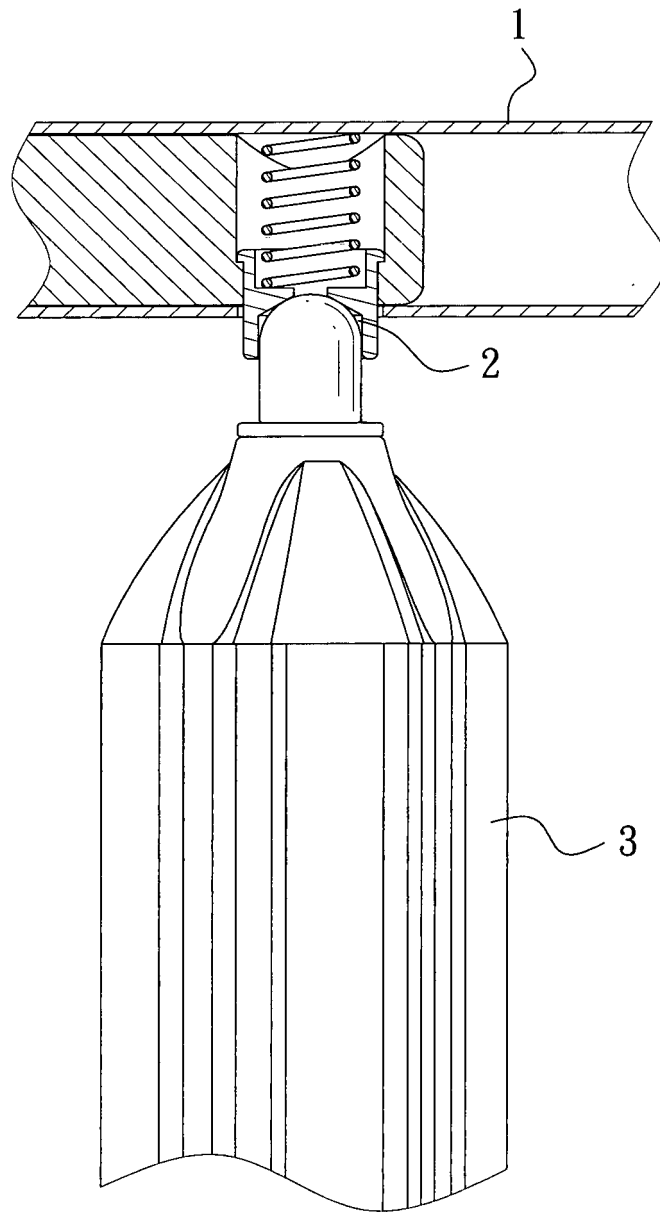


FIG. 4
PRIOR ART

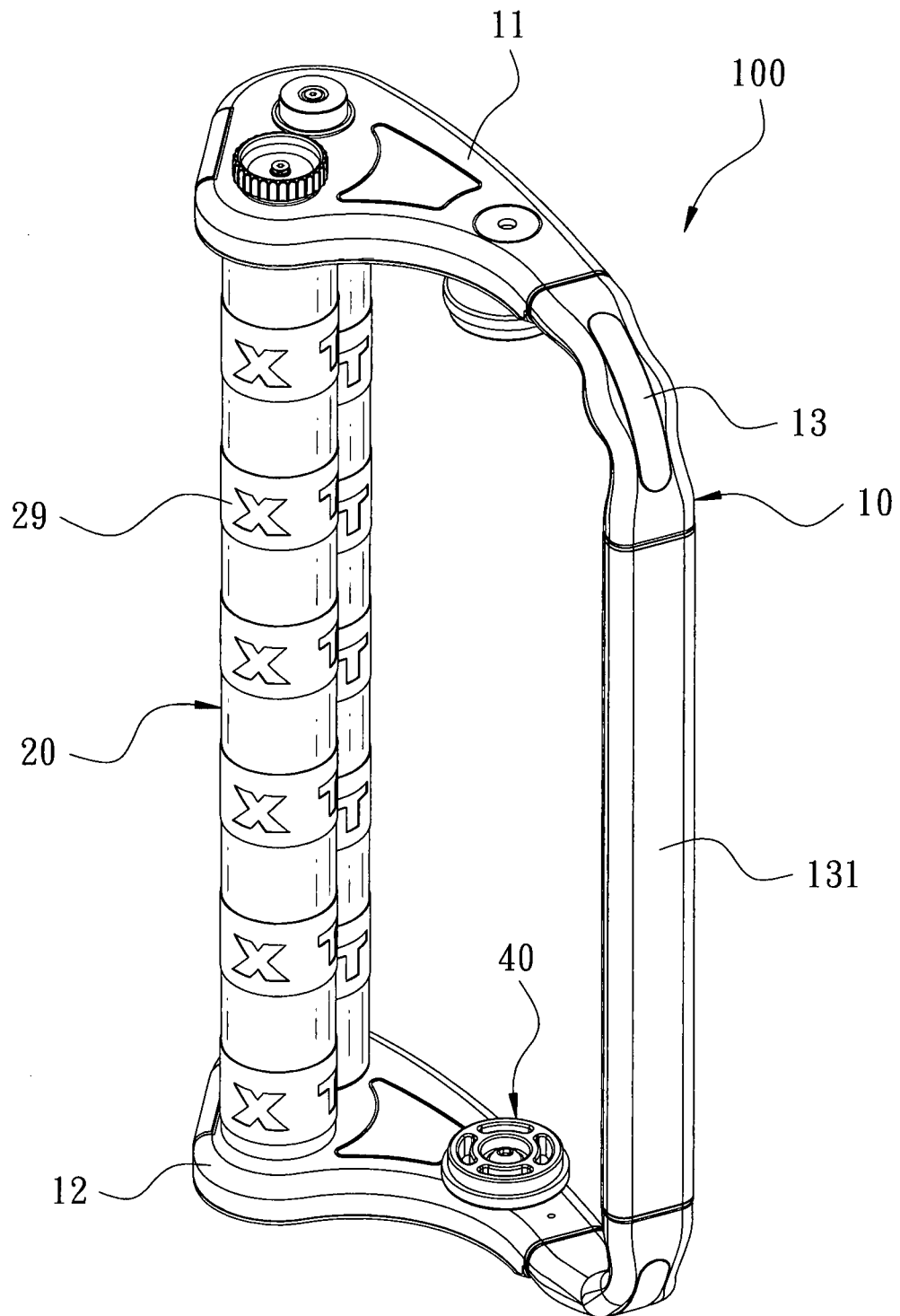


FIG. 5

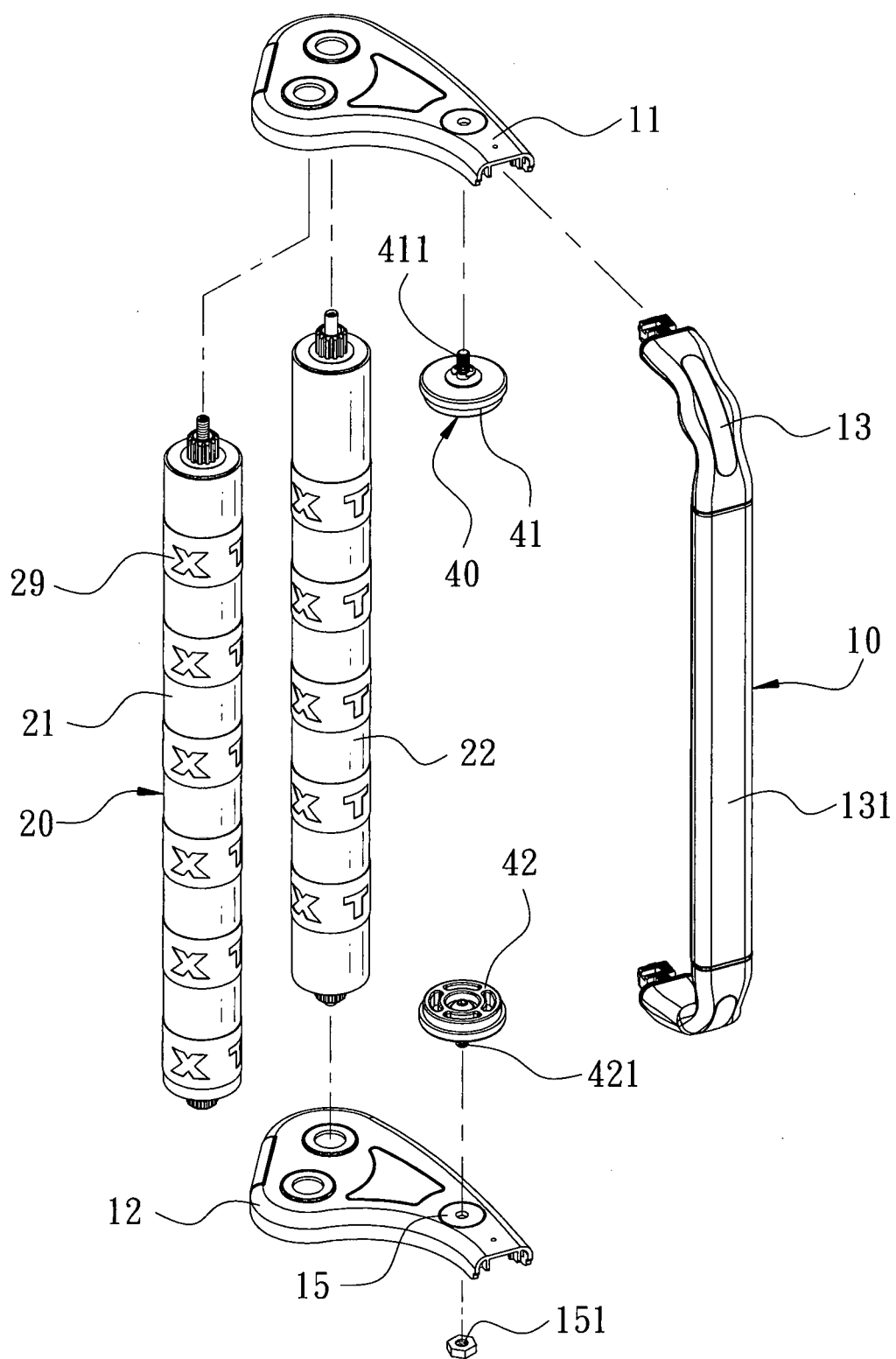


FIG. 6

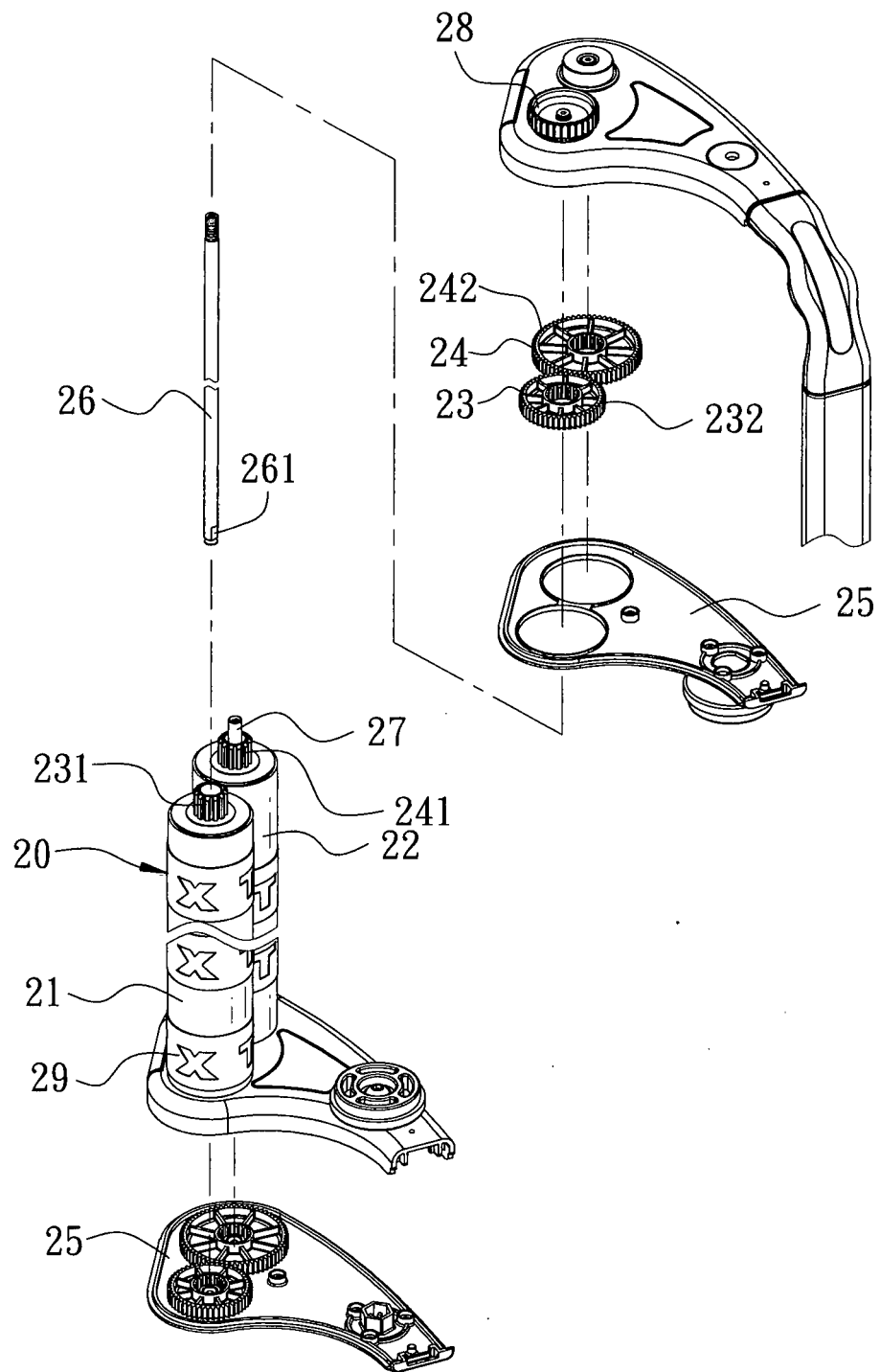
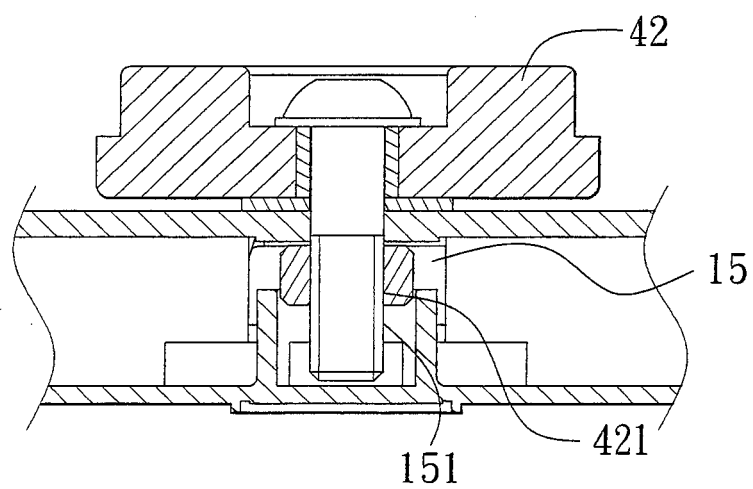
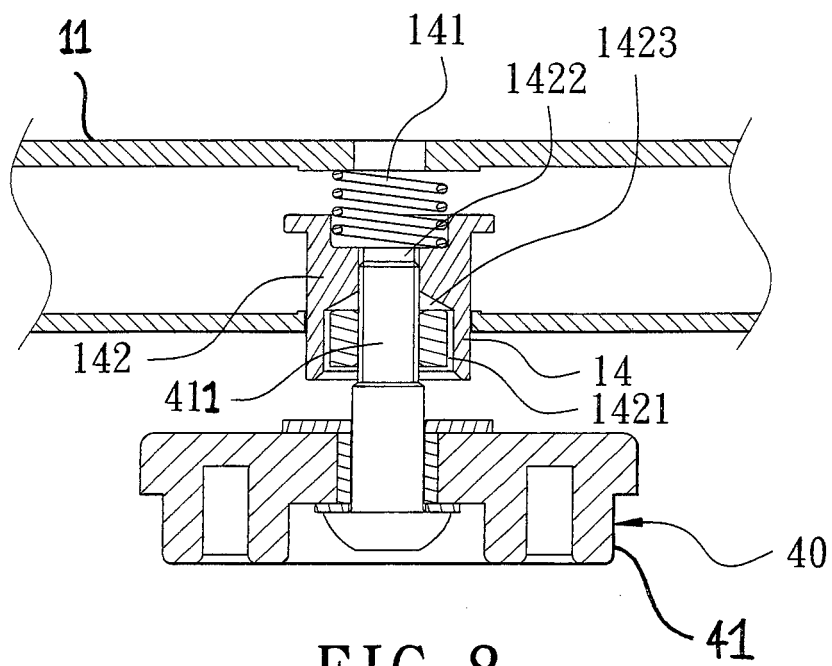


FIG. 7



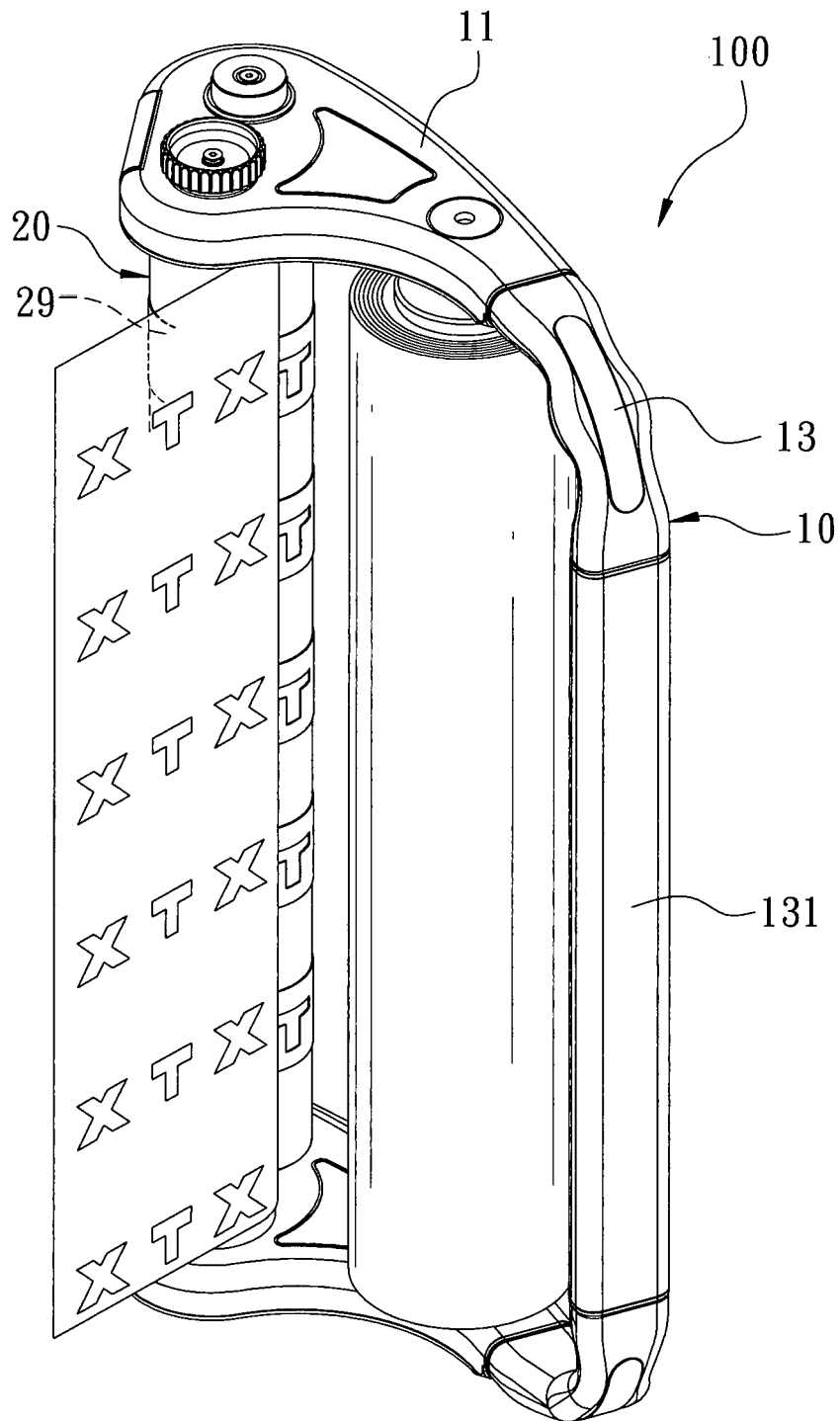


FIG. 10

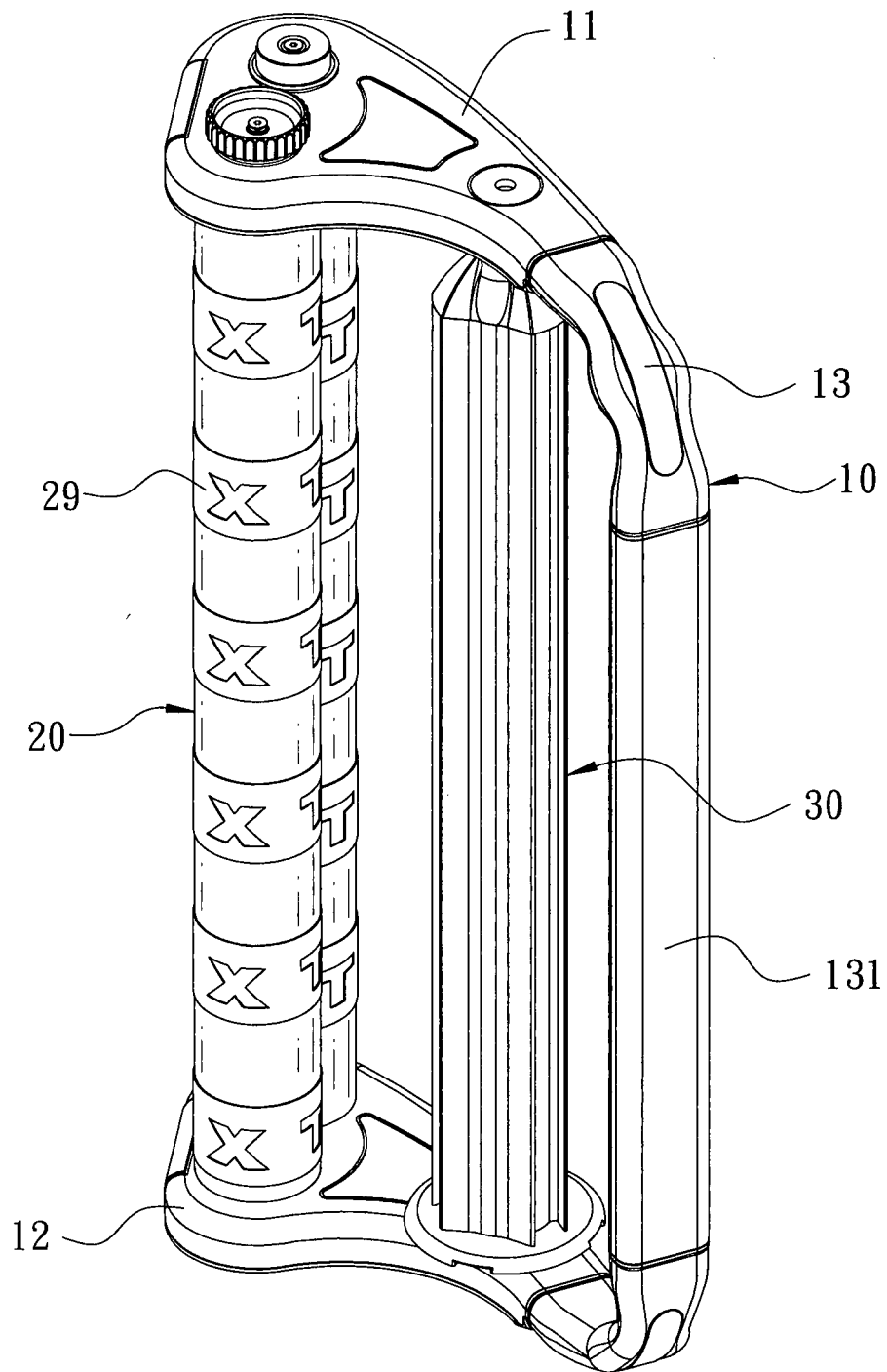


FIG. 11

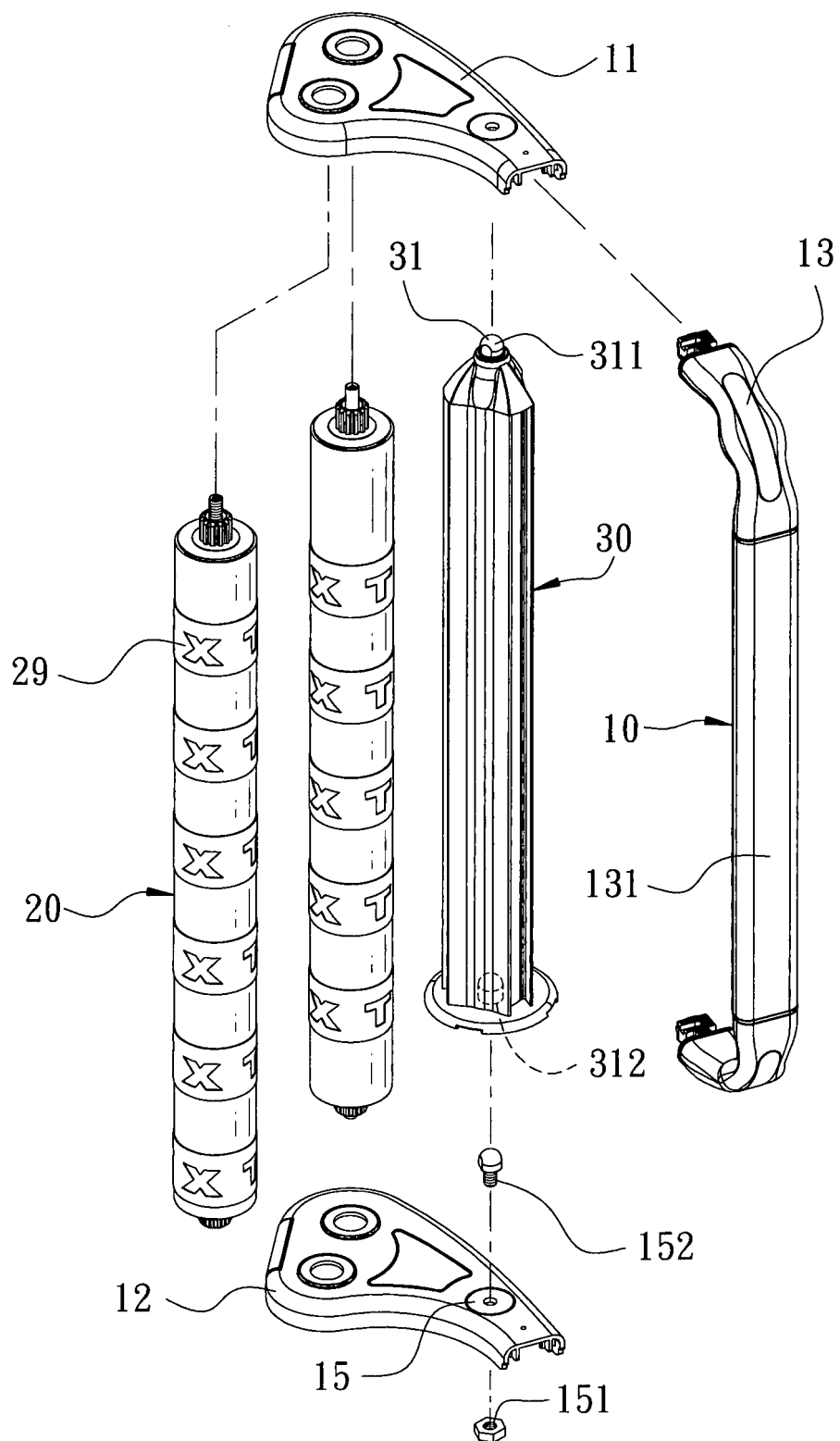


FIG. 12

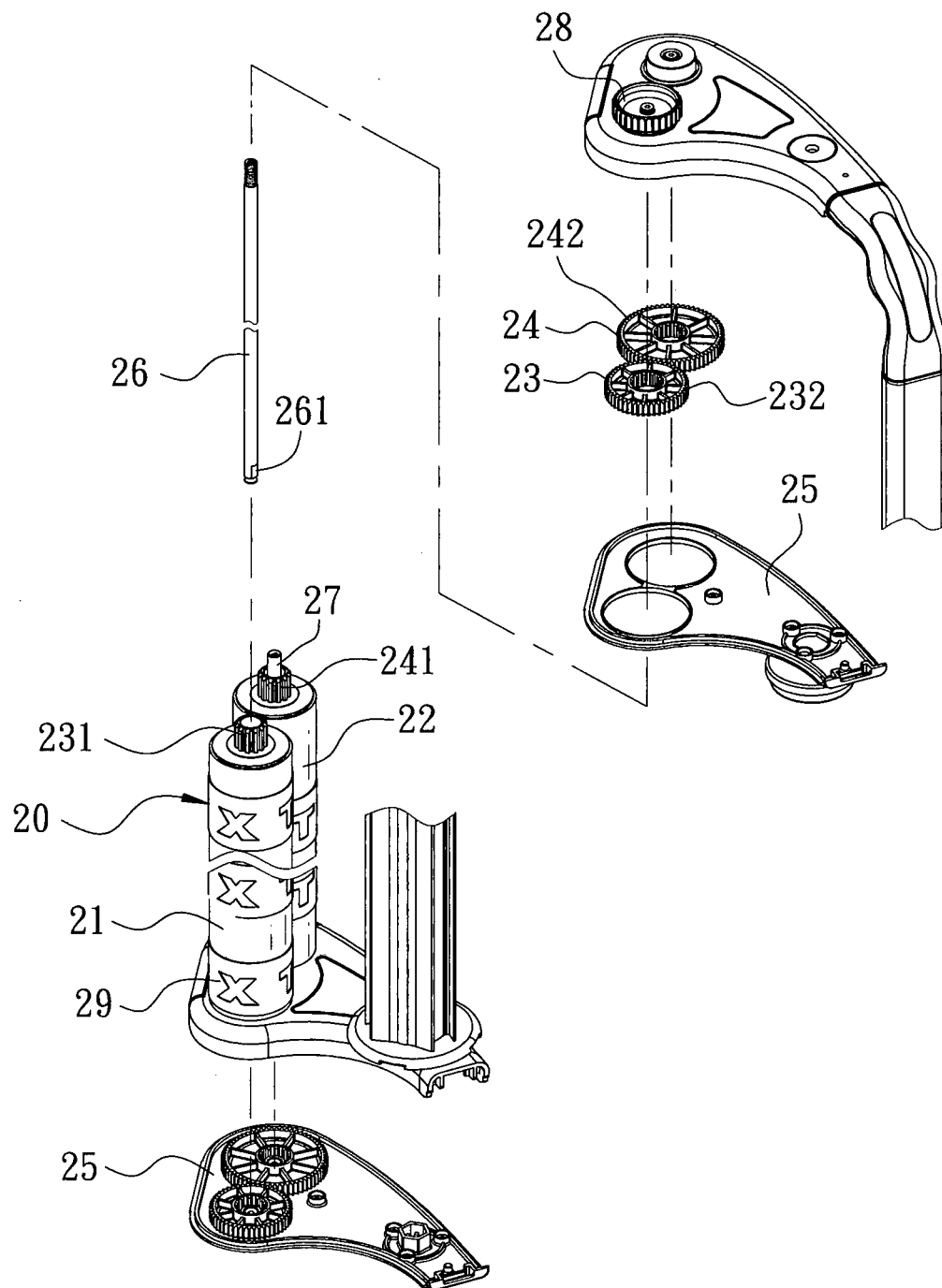


FIG. 13

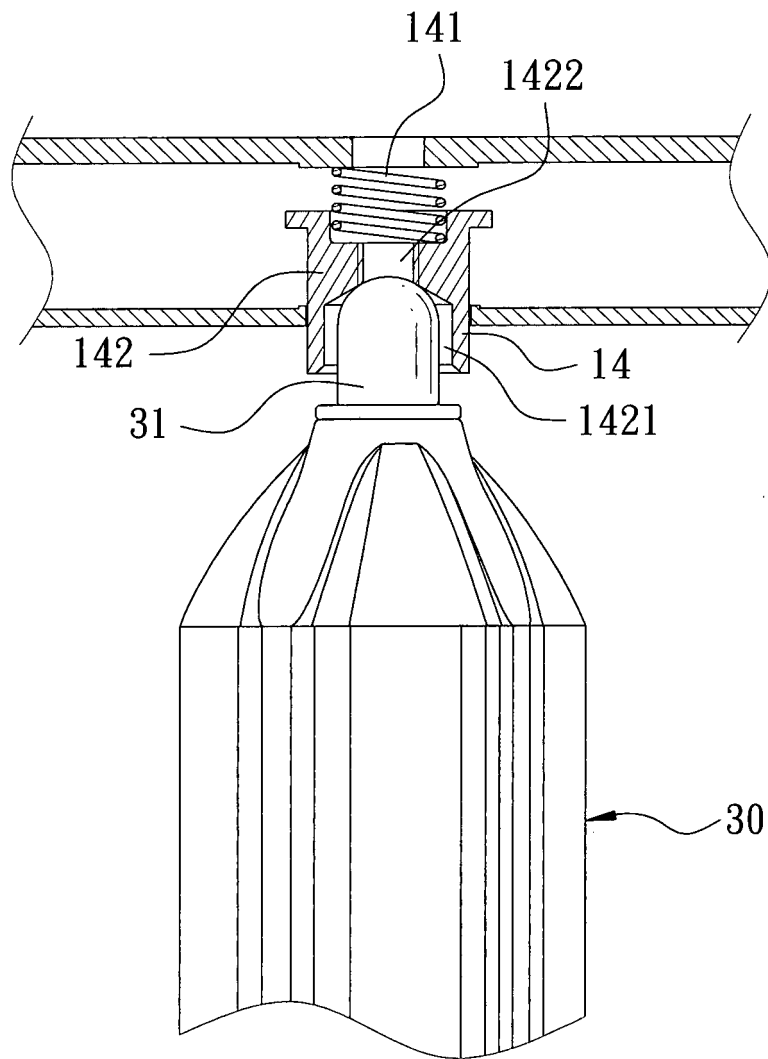


FIG. 14

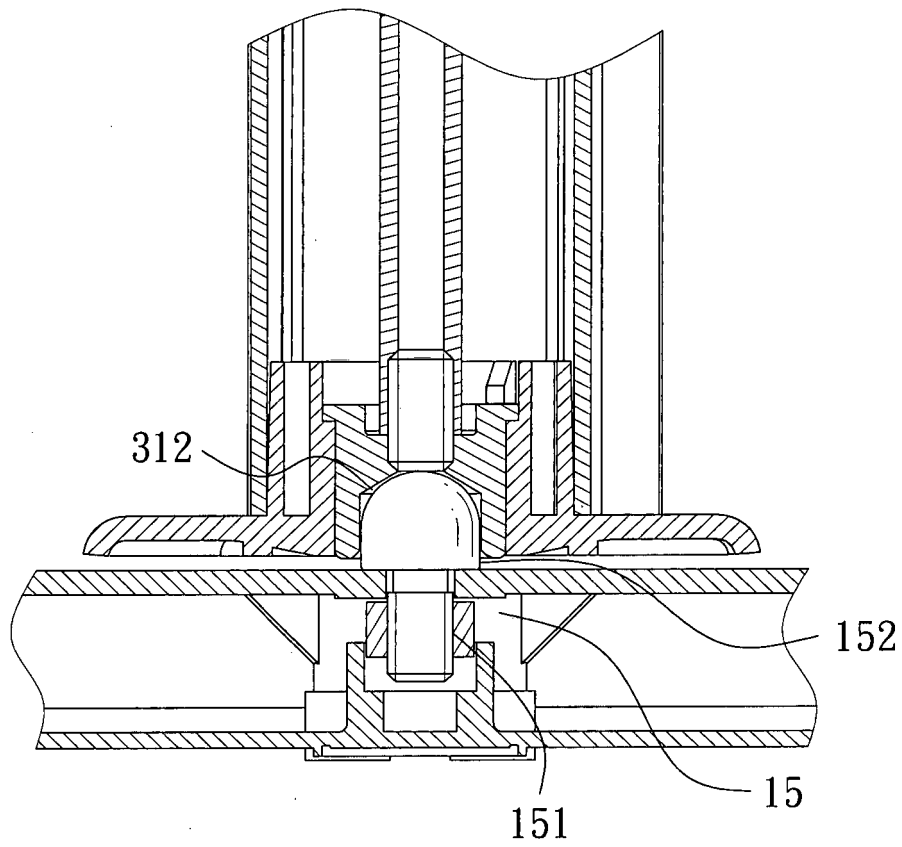


FIG. 15

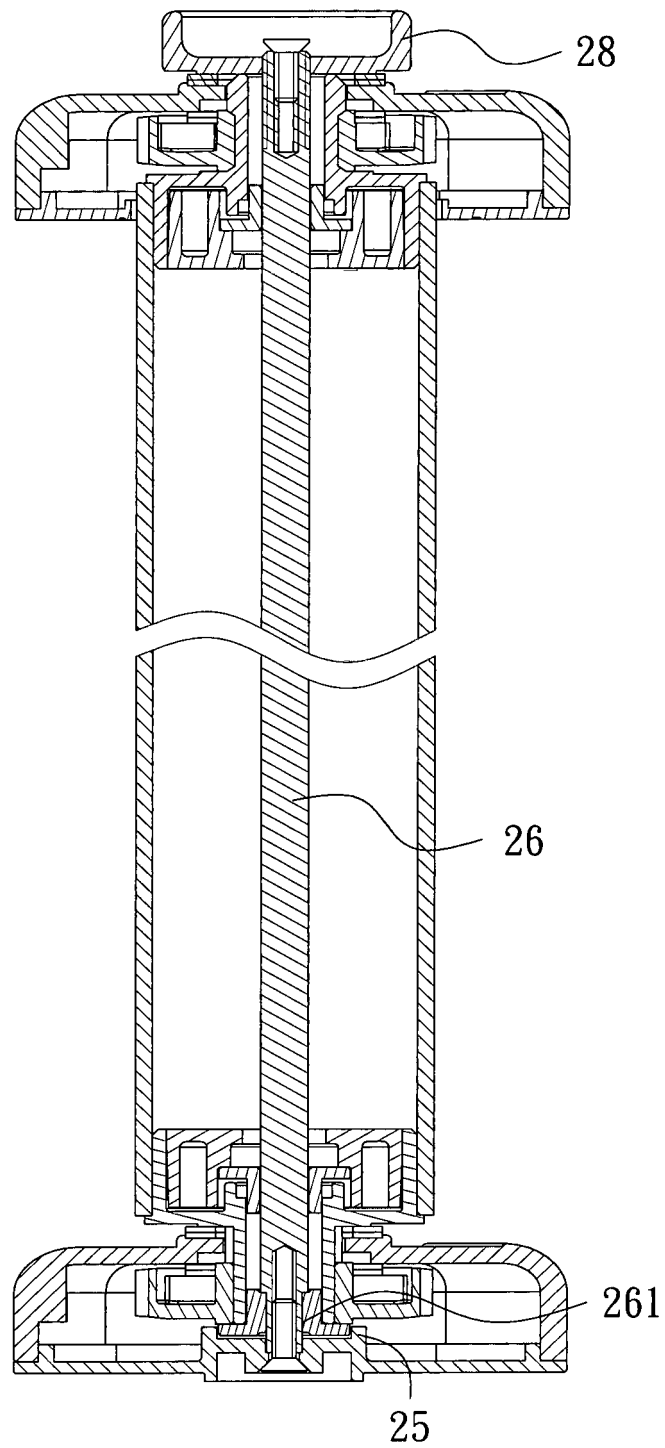


FIG. 16

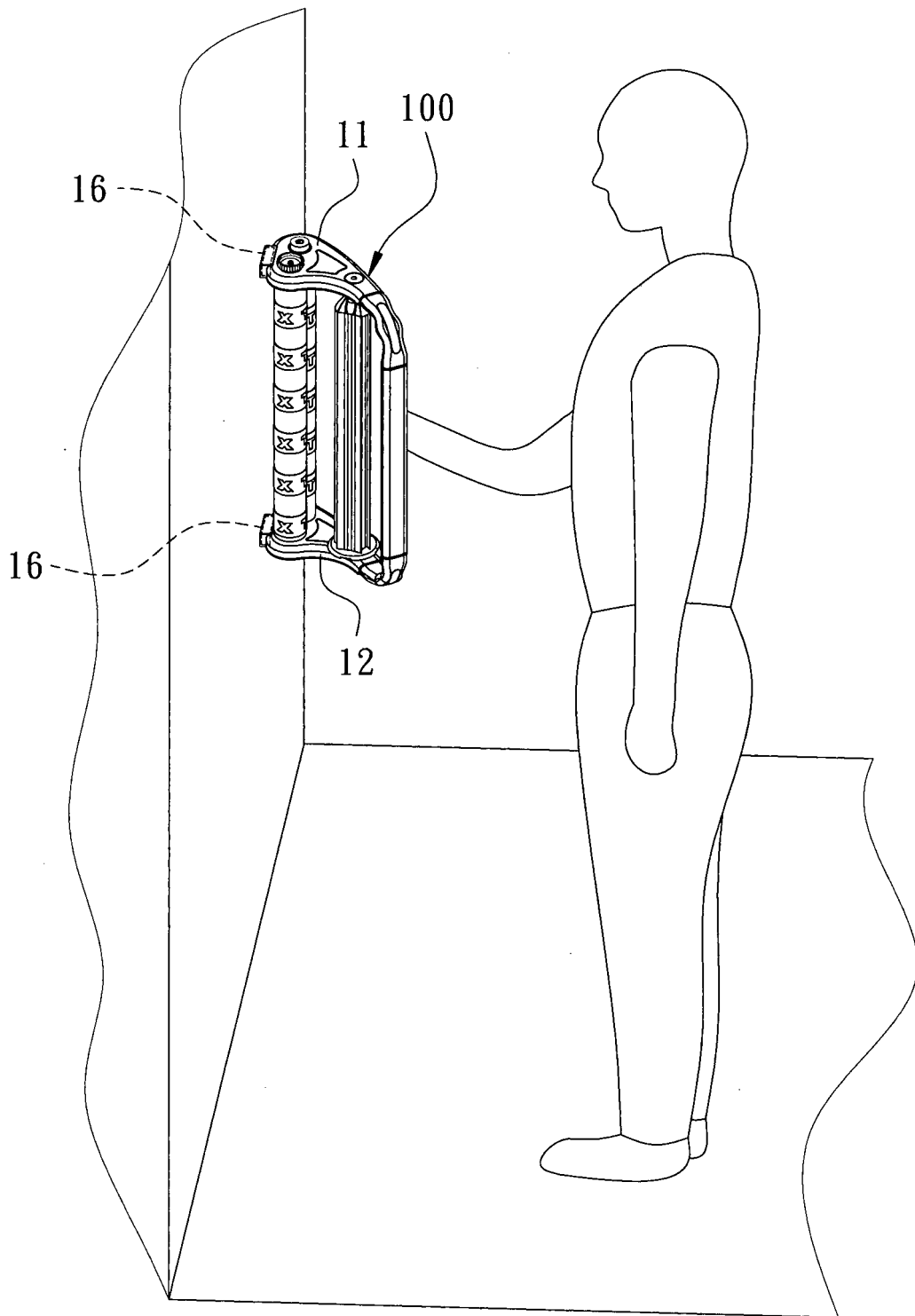


FIG. 17

REFERENCES CITED IN THE DESCRIPTION

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