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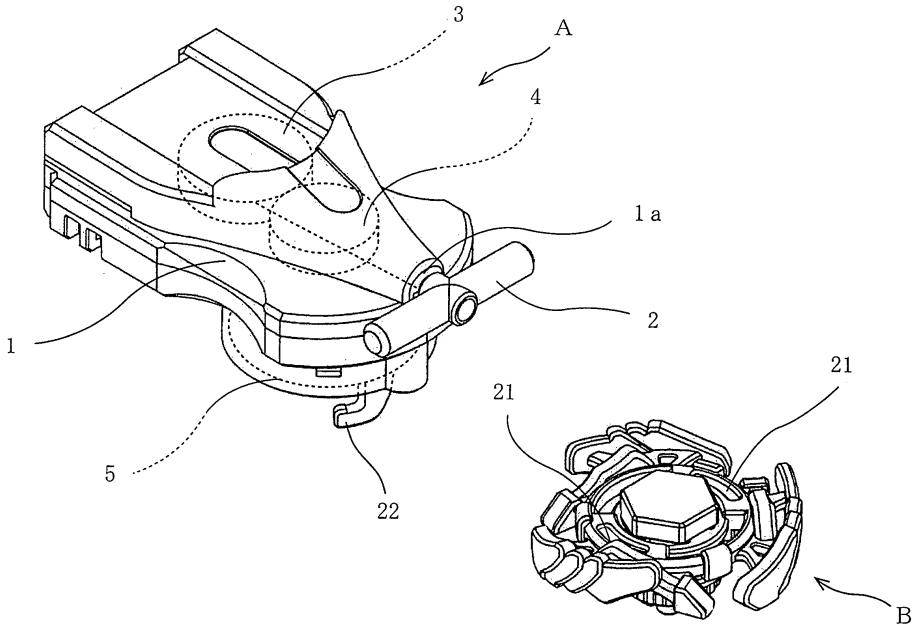
(54) Spinner for toy top

(57) A spinner (A) for a toy top is provided where a toy top (B) can be spun by only loading the toy top (B) on the spinner (A) and pulling a string (6). The spinner (A) includes a spinner main body (1) provided with a first gear (3) formed such that the string (6) can be wound thereon, a second gear (4) meshing with the first gear (3), and a toy top holder (5) rotated according to rotation of the second gear (4). The first gear (3) is linked with a biasing member (13) biasing the first gear (3) in a winding direction of the string (6), one end of the string (6) being attached to the first gear (3), and the other end thereof being protruded outside the spinner main body (1) such that it can be pulled. The toy top holder (5) includes a lower part protruded downwardly from a bottom face of the spinner main body (1) and holding sections (22) provided on a bottom face thereof for holding the toy top (5).

FIG.1



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Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to a spinner for a toy top which rotates the toy top to spin the same.

2. Description of the Related Art

[0002] Conventionally, a toy top is a very popular children's toy, with which a game is played by hitting the toy top against another one to force out an opponent's toy top from a playing board and for which a spinner for rotating the toy top to spin the same has been proposed (for example, see Japanese Patent Application Laid-Open Publication No. 2003-103062). The spinner includes an insertion hole through which a rack belt is inserted formed on a side face of a main body of the spinner, in which a rotation applying mechanism which applies a rotating force to a toy top and a lock mechanism which locks the rotation applying mechanism are arranged. The spinner is configured such that, when the rack belt is inserted in the insertion hole, the locking mechanism is unlocked and the rotation applying mechanism is actuated at a pulling-out operation time of the rack belt to apply a rotating force to the toy top, and when the rack belt is pulled out from the insertion hole, the lock mechanism is activated to stop the rotation applying mechanism instantaneously, and when the rotation applying mechanism is stopped, the toy top rotating due to inertial force is released from the spinner.

[0003] In the abovementioned spinner, it is necessary to perform an operation for pulling out the rack belt from the insertion hole of the main body of the spinner after inserting the rack belt into the insertion hole of the main body of the spinner in order to spin the toy top, which is troublesome as the rack belt must be inserted into the small insertion hole for each spinning and two members, the spinner and the rack belt, must be managed.

SUMMARY OF THE INVENTION

[0004] In view of these circumstances, the present invention has been made. Accordingly, it is an object of the present invention to provide a spinner for a toy top where the toy top can be spun by only loading the toy top on the spinner and pulling a string so that easiness of operation can be achieved and simplification of the spinner can be achieved.

[0005] In order to solve the above problem, according to the present invention, there is provided a spinner for a toy top. The spinner comprises: a spinner main body; a first gear; a second gear meshing with the first gear, the first and second gears being arranged in the spinner main body; a string having one end thereof attached to the first gear and the other end thereof protruded outside the spinner main body so that the other end thereof can be subjected to a pulling operation from the outside, the first gear being formed such that the string can be wound thereon; a toy top holder arranged in the spinner main body to be rotated according to rotation of the second gear; and a biasing member linked with the first gear for biasing the first gear in a direction of winding the string; wherein the toy top holder includes a lower part protruded downwardly from a bottom face of the spinner main body and at least one holding section which is provided on a bottom face of the toy top holder to hold the toy top.

[0006] Incidentally, it is preferable that a clutch be provided between the second gear and the toy top holder.

[0007] According to an embodiment of the present invention, a pair of engagement holes is formed in the toy top and the toy top holder is provided with a pair of the holding sections, so that the toy top is engaged with the toy top holder by inserting the holding sections of the toy top holder into the respective engagement holes of the toy top.

[0008] According to another embodiment of the present invention, the pair of engagement holes of the toy top are each formed in an arc shape, the pair of holding sections are each formed on the bottom face of the toy top holder in an arc shape corresponding to the engagement hole of the toy top and in an approximately L shape in a side view, and the holding sections are each formed such that a back face thereof is inclined downwardly so as to make the holding section narrow toward a lower end and a distal end thereof is protruded from a front face of the holding section in parallel to the bottom face of the toy top holder, so that the distal ends of the holding sections are engaged with lower faces of front end edges of the engagement holes of the toy top.

[0009] According to the present invention, a spinner for a toy top excellent in operability where the toy top can be spun by only loading the toy top on the spinner and pulling the string can be provided. Since the string is returned back to an initial position by the biasing member rapidly after the toy top is spun, there is not the trouble that insertion of the rack belt must be conducted like the conventional spinner, and playing can be started immediately by only setting the toy top.

[0010] According to a preferable embodiment of the present invention, when the toy top holder is caused to hold a toy top, even if excessive force is applied to the toy top holder, the force can be released by the clutch and it is not transmitted to mechanisms positioned downstream of the second gear, so that failure does not occur in the spinner for the toy top.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Fig. 1 is a perspective view of a spinner for a toy top according to the present invention;

[0012] Fig. 2 is an exploded perspective view showing an internal structure of the spinner for the toy top;

[0013] Fig. 3 is a perspective view showing a state

where a toy top is loaded on the spinner for the toy top;

[0014] Fig. 4 is an explanatory view for explaining movements of a first gear, a second gear, and a toy top holder when an operation for pulling out a string is performed; and

[0015] Fig. 5 is a perspective view showing a state where the operation for pulling out the string is stopped and a toy top is spun.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0016] Fig. 1 is a perspective view showing an embodiment of a spinner A for a toy top according to the present invention and Fig. 2 is an exploded perspective view showing an internal structure of the spinner A for the toy top. The spinner A is configured such that a first gear 3 and a second gear 4 disposed inside a spinner main body 1 of the spinner A are rotated by a pulling operation of a handle 2 disposed in front of the spinner main body 1 and a toy top holder 5 is rotated according to rotation of the second gear 4 so that a toy top B held on the toy top holder 5 can be released while being spun.

[0017] A drum 7 to which one end of a string 6 is fixed and on which the string 6 is wound is formed on an upper face of the first gear 3 integrally with the first gear 3, and a lid body 8 is disposed above the drum 7, so that the wound string 6 is prevented from being released from the drum 7. The lid body 8 and the first gear 3 are coupled to a spring case 11 by screws 10, and the first gear 3 and the spring case 11 can be integrally rotated about a supporting shaft 12.

[0018] The spring case 11 includes an upper case member 11a and a lower case member 11b. A spiral spring 13 serving as a biasing member is accommodated in the spring case 11, wherein one end or starting end 13a of the spiral spring 13 is attached to a slit 15 formed in the supporting shaft 12, and the other end or terminal end 13b of the spiral spring 13 is attached to a slit 16 of the lower case member 11b. Incidentally, the supporting shaft 12 is supported by a bearing (not shown) formed in the spinner main body 1, and an upper part 12a of the supporting shaft 12 is formed in a square column shape, so that the supporting shaft 12 cannot be rotated.

[0019] The string 6 can be wound on the drum 7 such that the handle 2 abuts on a front end 1a of the spinner main body 1 in a wound-back state of the spiral spring 13.

[0020] The second gear 4 is disposed in the spinner main body 1 so as to mesh with the first gear 3, and rotation of the second gear 4 is transmitted to the toy top holder 5 via a clutch 20. The clutch 20 is for preventing an external force from being transmitted to the second gear 4 when the external force is applied to the toy top holder 5.

[0021] A pair of holding sections 22 engageable with a pair of arc-shaped engagement holes 21 formed in the toy top B is formed on the toy top holder 5 so as to protrude from a bottom face of the toy top holder 5 downwardly. The holding sections 22 are formed in an arc shape in a plan view corresponding to the engagement holes 21 of the toy top B and in an approximately L shape in a side view, so that the toy top B is held by the holding sections 22 by rotating the toy top B while the engagement holes 21 of the toy top B engage the holding sections 22.

[0022] Incidentally, back faces 22a of the holding sections 22 are each formed in a downwardly inclined face to make the holding section 22 narrow toward the lower end such that the held toy top B is released easily. On the other hand, front faces of the holding sections 22 are each formed such that it extends perpendicularly to the bottom face of the toy top holder 5 and then protrudes up to a distal end thereof approximately in parallel with the bottom face.

[0023] Next, a manner of using the spinner A for the toy top will be explained. The holding sections 22 of the toy top holder 5 are inserted into the respective engagement holes 21 of the toy top B, the toy top B is rotated in a clockwise direction as viewed from the bottom face side such that the toy top B is not released from the holding sections 22 to cause the front end edges of the engagement holes 21 to abut on the front faces of the holding sections 22, and the distal ends of the holding sections 22 are caused to engage lower faces of the front end edges of the engagement holes 21 so that the toy top B is attached to the toy top holder 5 (see Fig. 3).

[0024] Even if the toy top holder 5 is forcibly reversed by rotating the toy top B more than necessary, since the toy top holder 5 and the second gear 4 are coupled to each other through the clutch 20, a strong force does not act on the second gear 4 and the first gear 3.

[0025] After causing the toy top holder 5 to hold the toy top B, a player holds the spinner main body 1 by his/her one hand, and he/she grasps the handle 2 by his/her other hand to perform a pulling operation of the handle 2 with great force. Since the string 6 is connected to the handle 2, the string 6 is pulled so that the first gear 3 is forcibly rotated in a counterclockwise direction indicated by an arrow "a" as shown in Fig. 4. At this time, the spring case 11 is rotated integrally with the first gear 3, but since the starting end 13a of the spiral spring 13 is attached to the slit 15 formed in the supporting shaft 12, the terminal end 13b of the spiral spring 13 is rotated together with the spring case 11, so that the spiral spring 13 is wound up so as to be wound on the supporting shaft 12.

[0026] When the first gear 3 is rotated in the counterclockwise direction, the second gear 4 meshing with the first gear 3 is rotated in the clockwise direction indicated by an arrow "b", and the toy top B held by the toy top holder 5 is also rotated in the clockwise direction.

[0027] When the pulling operation of the handle 2 is stopped, rotation of the first gear 3 is stopped, which results in stopping of the second gear 4, but the first gear 3 is biased in a reversely rotating direction by a winding-back force of the spiral spring 13 to be stopped rapidly so that the toy top holder 5 integrated with the second gear 4 is also stopped rapidly.

[0028] Since the toy top B is rotating due to an inertial force even if the toy top holder 5 stops, the engagement holes 21 of the toy top B move relative to the holding sections 22 so that the distal ends of the holding sections 22 are disengaged from the lower faces of the front end edges of the engagement holes 21, the rear end edges of the engagement holes 21 abut on the back faces 22a of the holding sections 22 and the rear end edges are guided along the inclined back faces 22a downwardly, so that the toy top B is released from the holding sections 22 while being rotated. Thus, the toy top B is spun away from the spinner A in a state where the toy top B has a rotating force applied thereto.

[0029] As described above, the toy top B can be spun by only loading the toy top B on the spinner main body 1 and pulling the handle 2 to pull the string 6, so that it is not required to conduct an operation where a player inserts the rack belt into the spinner main body in each case and pulls out the inserted rack belt, which is required in the conventional spinner for a toy top. Accordingly, a new spinner for the toy top where the toy top can be spun easily and a player is released from the trouble that he/she must hold the spinner main body and the rack belt together can be realized.

Claims

1. A spinner (A) for a toy top (B), comprising:

a spinner main body (1);
a first gear (3);
a second gear (4) meshing with the first gear (3), the first and second gears (3, 4) being arranged in the spinner main body (1);
a string (6) having one end thereof attached to the first gear (3) and the other end thereof protruded outside the spinner main body (1) so that the other end thereof can be subjected to a pulling operation from the outside, the first gear (3) being formed such that the string (6) can be wound thereon;
a toy top holder (5) arranged in the spinner main body (1) to be rotated according to rotation of the second gear (4); and
a biasing member (13) linked with the first gear (3) for biasing the first gear (3) in a direction of winding the string (6);

wherein the toy top holder (5) includes a lower part protruded downwardly from a bottom face of the spinner main body (1) and at least one holding section (22) which is provided on a bottom face of the toy top holder (5) to hold the toy top (B).

2. The spinner (A) for the toy top (B) according to claim 1, further comprising a clutch (20) provided between the second gear (4) and the toy top holder (5).

3. The spinner (A) for the toy top (B) according to claim 1, wherein a pair of engagement holes (21) is formed in the toy top (B) and the at least one holding section (22) of the toy top holder (5) includes a pair of holding sections, so that the toy top (B) is engaged with the toy top holder (5) by inserting the holding sections (22) of the toy top holder (5) into the respective engagement holes (21) of the toy top (B).

4. The spinner (A) for the toy (B) top according to claim 3, wherein the pair of engagement holes (21) of the toy top (B) are each formed in an arc shape, the pair of holding sections (22) are each formed on the bottom face of the toy top holder (5) in an arc shape corresponding to the engagement hole (21) of the toy top (B) and in an approximately L shape in a side view, and the holding sections (22) are each formed such that a back face (22a) thereof is inclined downwardly so as to make the holding section (22) narrow toward a lower end and a distal end of the holding section (22) is protruded from a front face of the holding section (22) in parallel to the bottom face of the toy top holder (5), so that the distal ends of the holding sections (22) are engaged with lower faces of front end edges of the engagement holes (21) of the toy top (B).

FIG.1

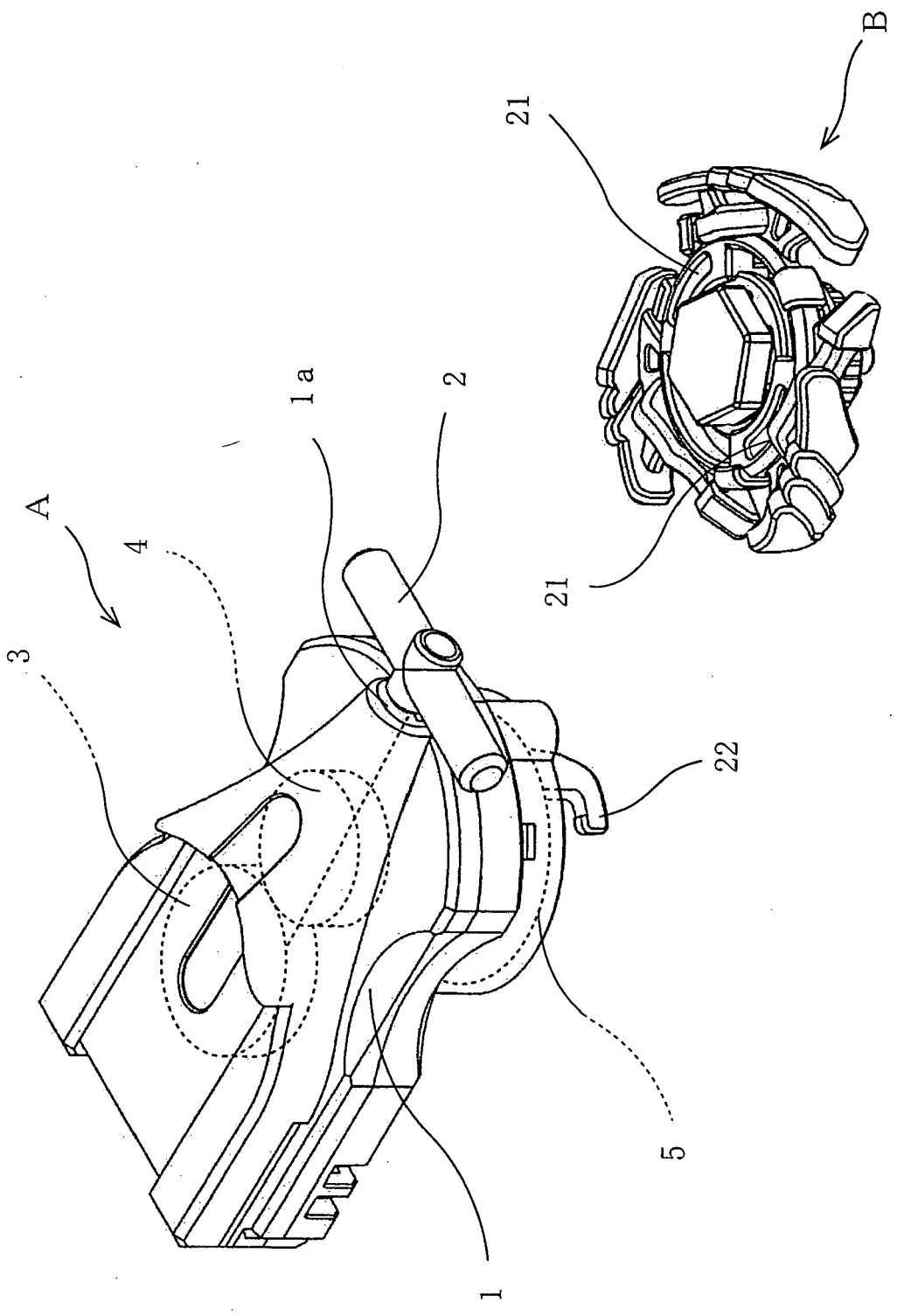


FIG.2

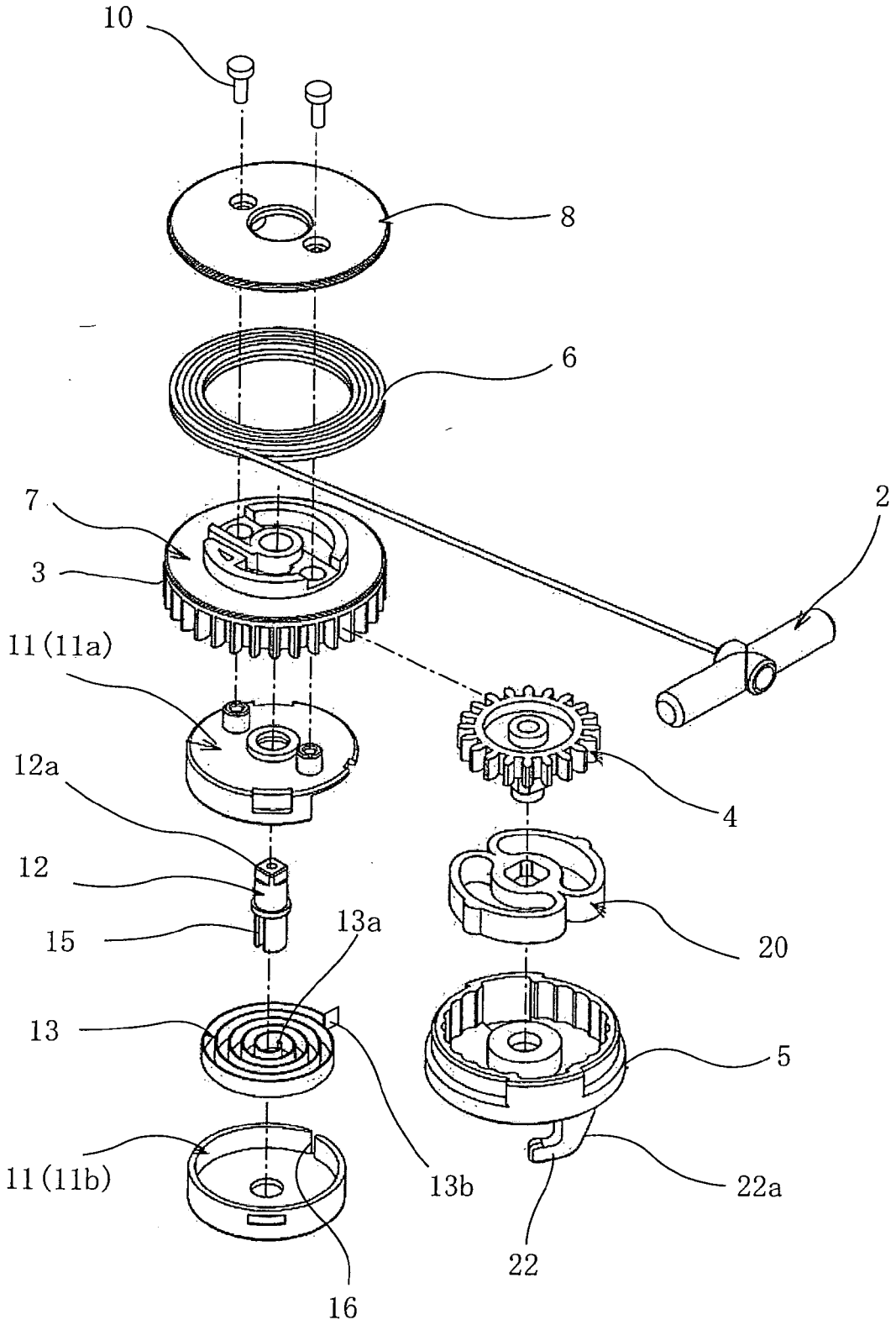


FIG.3

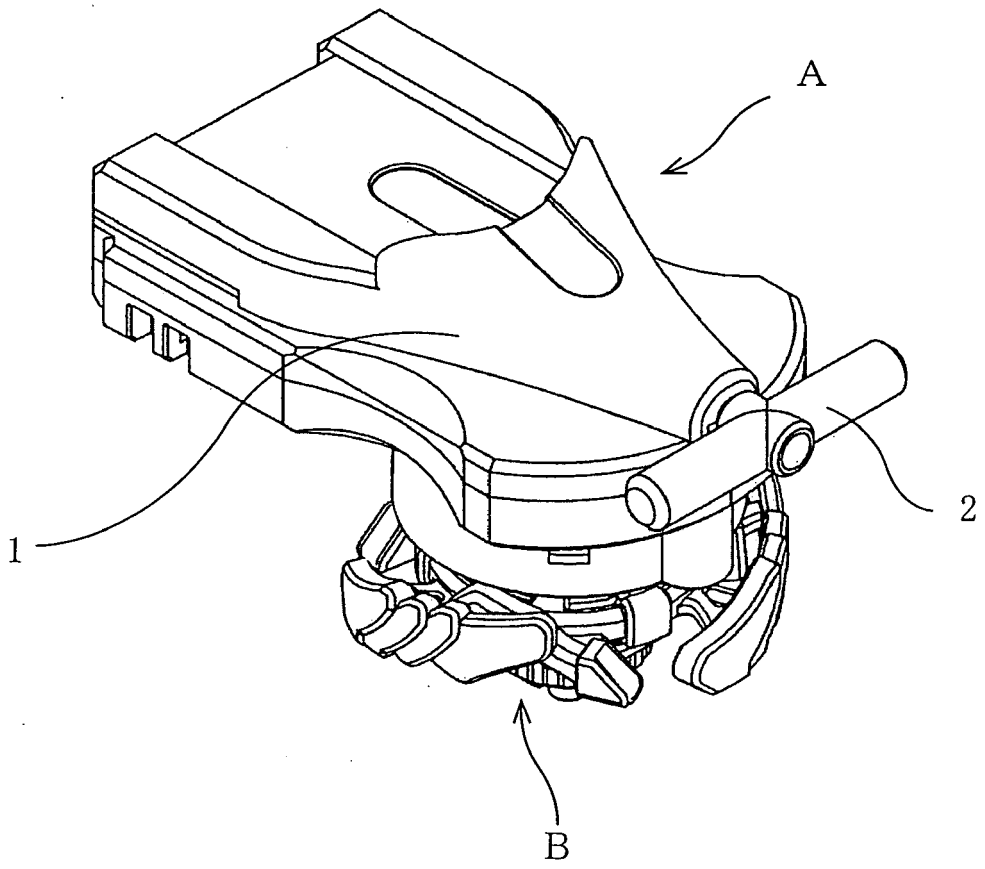


FIG.4

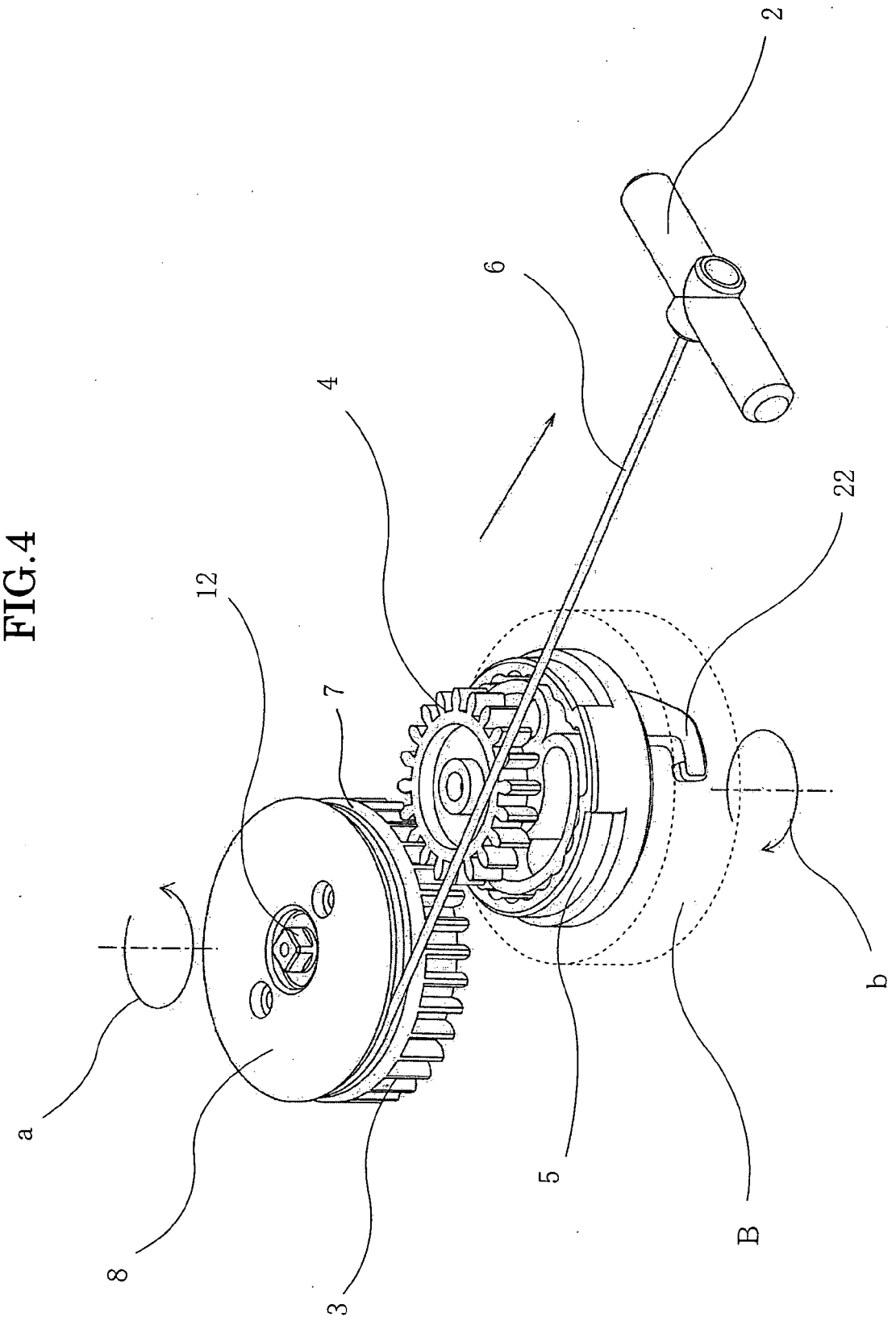
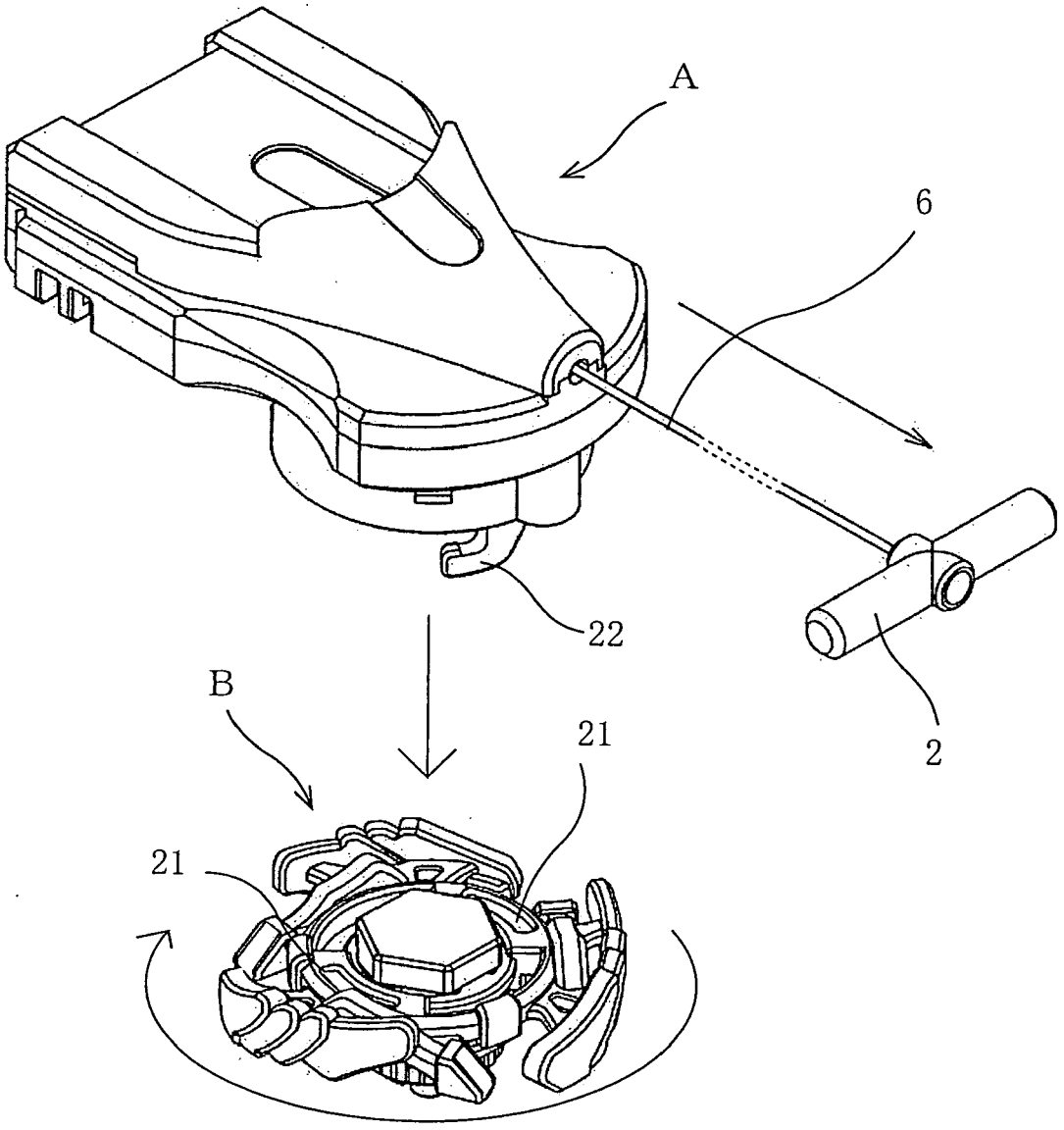


FIG.5



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EUROPEAN SEARCH REPORT

Application Number
EP 08 25 3249

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X	FR 766 329 A (VICTOR BUISSON) 26 June 1934 (1934-06-26) * figures 1-3 *	1	
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Y A	DE 202 07 253 U1 (TAKARA CO LTD [JP]) 19 September 2002 (2002-09-19) * abstract; figures 1-16 *	3,4 2	
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	22 July 2009	Shmonin, Vladimir

CATEGORY OF CITED DOCUMENTS

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