

FIGURE TOY

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to a figure toy having a rotating portion rotating about a specific axis.

Description of Related Art

Figure toys mean, for example, not limited, toys having a tool, a doll, an animal, or object having other shape. For such a kind of figure toy, for example, a board baseball has been known. A bat is attached to the board baseball with rotatable on a specific axis. When a player pulls the bat in one's side, a spring as an energizing means connected to the bat under the board baseball is stored energy. When the player releases the bat, the bat rotates about the specific axis by the force of the stored energy of the spring. Then, the rotating bat flips a ball, thereby the player enjoys the game baseball.

For such figure toys, one wherein a rotation start position is predetermined, and the other wherein a rotation start position can be arbitrarily set have been known. For the former wherein a rotation start position is predetermined, one wherein the bat is stopped at the rotation start position, then the stop is released by a button or the like to make the bat

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swing by the force of the stored energy of the energizing means has been known. While the latter wherein a rotation start position can be arbitrarily set, one wherein the bat is pulled to an arbitrary position by a finger, thereafter released, thereby the bat is swung by the force of the stored energy of the energizing means has been known. However, a rotation stop position in each of them is fixed one position, so that it is difficult to change a direction of flying of the ball being hit by the bat at the same position. If it is possible to change the direction of flying of the ball being hit at the same position by the bat, the plays can be further varied.

SUMMARY OF THE INVENTION

The present invention was developed in view of the above-described problem. Therefore, an object of the present invention is to provide a figure toy enabling changing strokes of a rotating portion even if a rotation start position is the same.

In order to accomplish the above-described object, in one aspect of the present invention, a figure toy comprises: a rotating portion rotating about a specific axis; a handling member being able to move back and forth, and making the rotating portion rotate by a movement of the handling member in one direction to lead the rotating portion from a rotation stop

position to a rotation start position; an energizing means for being stored energy by the movement of the handling member in the one direction, and making the rotating portion rotate in an opposite direction of the one direction by a force of stored energy; and a rotation stop position setting means for enabling setting a plurality of rotation stop positions of the rotating portion rotated in the opposite direction.

According to the figure toy, the toy has the rotation stop position setting means for enabling setting a plurality of rotation stop positions of the rotating portion, thereby even if the rotation start position is the same, it is possible to change the strokes of the rotating portion. Accordingly, the varied plays are possible.

With the figure toy, the rotating portion and the handling member can be connected through a rack and pinion mechanism, a rack of the rack and pinion mechanism can be provided to a side of the handling member, and a pinion thereof can be provided to a side of the rotating portion. In this case, it may be preferable that a rotation axis of the pinion or a rotation axis which is parallel to the rotation axis of the pinion is used as the rotation axis of the rotating portion.

According to the figure toy, the rotating portion can rotate through the pinion by the movements of the rack according to the handling of the handling member. Therefore, a large amount of rotation of the rotating portion can be generated by a small movement of the handling member.

With the figure toy, the energizing means can be attached to a rack plate to which the rack is attached. In this case, it may be preferable that the rack makes approximately linear motion.

According to the figure toy, the energizing means is not provided to a side of the pinion which is relatively small, but the energizing means can be provided to a side of the rack which is relatively large. Therefore, it can be suitable for generating the large amount of rotation of the rotating portion by the small movement of the handling member.

With the figure toy, the rotation stop position setting means may be able to set two rotation stop positions, at the one rotation stop position, the rotation stop position setting means can make a stopper enter a stop position of the rack to halfway stop the rack, while at another rotation stop position, the rotation stop position setting means can make the stopper go to a stop releasing position of the rack.

According to the figure toy, the movements of the stopper by the rotation stop position setting means can easily set the stop position of the rack and furthermore the stop position of the rotating portion.

The figure toy can comprise at least a doll of which an arm or a leg can constitute at least a part of the rotating portion.

According to the figure toy, an arm or a leg of the doll can constitute at least a part of the rotating portion, thereby

various toys can be realized. For example, a bat may be attached to a hand with the arm, and the arm with the hand and a torso portion may constitute the rotating portion which rotates clockwise and counterclockwise, so that it can make the doll play the game baseball. An arm with a hand having or flipping a ball may constitute the rotating portion which rotates back and forth, so that it can make the doll play the game bowling. An arm with a hand having a hammer may constitute the rotating portion which rotates clockwise and counterclockwise, so that it can make the doll play the game hammer throw. An arm with a hand having or flipping a shot may constitute the rotating portion which rotates clockwise and counterclockwise, so that it can make the doll play the game shot put.

The figure toy can comprise at least a golfer doll, an upper half of a body can be bent forward, a torso portion including an arm with a hand can constitute the rotating portion so that a club attached to the hand will be swung, and a head portion of the doll can be immovable.

According to the figure toy, the upper half of the body of the golfer doll can be bent forward and the club can be swung down when the torso portion rotates, so that the swing of the club, which can be nearly natural or real can be realized. Therefore, if a ball is put in front of the golfer doll, the ball can be hit by the club, thereby the game golf can be enjoyed.

The figure toy can be provided with plural types of clubs as the club so that the club attached to the hand will be able

to be exchanged with another.

According to the figure toy, the club, such as a driver can be exchanged with an iron or a putter, so that the pleasure can be doubled.

The figure toy can be provided with plural types of head portions so that the head portion of the doll will be able to be exchanged with another.

According to the figure toy, a plurality of persons can enjoy the game golf by exchanging the head portions.

In accordance with another aspect of the present invention, a figure toy comprising: a rotating portion rotating about a specific axis; a handling member moving and returning, and making the rotating portion rotate by a movement of the handling member in one direction to lead the rotating portion from a rotation stop position to a rotation start position; an energizing member being stored energy by the movement of the handling member in the one direction, and making the rotating portion rotate in an opposite direction of the one direction by a force of stored energy; and a rotation stop position setting member enabling setting a plurality of rotation stop positions of the rotating portion rotated in the opposite direction.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will become more fully understood

from the detailed description given hereinbelow and the accompanying drawings which are given by way of illustration only, and thus which are not intended as a definition of the limits of the present invention, and wherein:

FIG. 1 is a perspective view showing a figure toy according to an embodiment of the present invention;

FIG. 2 is a vertical section showing the figure toy of FIG. 1, in a case that the figure toy is shown from right side thereof;

FIG. 3 is a view showing an inner structure of the figure toy according to the embodiment of the present invention;

FIG. 4 is a view showing a structure of a handling portion of the figure toy according to the embodiment of the present invention;

FIG. 5 is a view showing an inner structure of the figure toy according to the embodiment of the present invention; and

FIG. 6 is a view showing an inner structure of the figure toy according to the embodiment of the present invention.

PREFERRED EMBODIMENT OF THE INVENTION

Hereinafter, the figure toy according to the embodiment of the present invention will be explained with reference to FIG. 1 to FIG. 6.

FIG. 1 shows the figure toy according to the embodiment

of the invention. The figure toy comprises a golfer doll. With the golfer doll 1, an upper half of the body is bent forward with respect to a lower half of the body. The golfer doll 1 has a golf club 2 in both hands. The club 2 can be exchanged with another. A housing 4 is attached to heels of legs 3 of the golfer doll 1. The housing 4 is provided with a handling portion 5 which slides and a stop position setting button 6.

When the handling portion 5 is pulled in a direction of a right shoulder of the doll 1, a torso portion 7 and arms 8 of the golfer doll 1 follow it to rotate clockwise to a rotation start position, thereby the club 2 is swung up. Then, when a player releases the handling portion 5, the torso portion 7 and the arms 8 impetuously rotate in an opposite direction of the above-described one, that is, counterclockwise and the club 2 is swung. In a state that the stop position setting button 6 is not pressed, the torso portion 7 and the arms 8 stop at one rotation stop position and a head of the club 2 stops in front of the doll 1. If a ball 9 is placed at the place, the ball 9 is hit by the club 2 to be flown forward.

While in a state that the stop position setting button 6 is pressed, the head of the club 2 does not stop in front of the doll 1 to be swung to the end or maximally, that is, the torso portion 7 and the arms 8 stop at another rotation stop position.

Next, the figure toy 1 will be explained in detail. With

the golfer doll 1, as shown in FIG. 2, the upper half of the body is bent forward with respect to the lower half of the body, and the upper half of the body except a head portion 10, that is, the torso portion 7 and the arms 8 are rotatable with respect to the lower half of the body. The head portion 10 can be exchanged with another head portion. The head portion 10 can be combined with a sleeve or the like extending from the lower half of the body. The inside of the torso portion 7 is fastened to a rotation axis 11 through a mounting member 12. Accordingly, when the rotation axis 11 rotates, the torso portion 7 and the arms 8 attached to the torso portion 7 rotate integrally with the rotation axis 11.

To a lower end of the rotation axis 11, a pinion 13 is attached. As shown in FIG. 3, the pinion 13 engages with a rack 15 of a rack plate 14 which is reciprocally moved right and left or moved rightward to return leftward in the housing 4 with respect to the doll. One end of an extension spring 16 as one of energizing means is hung to the rack plate 14. The other end of the extension spring 16 is hung to a fixed portion 17 in the housing 4. Further, a claw 18 is attached to the rack plate 14. The rack 15 and the claw 18 can be integrally formed with the rack plate 14 as part of the rack plate 14.

Further, as shown in FIG. 3, the handling portion 5 is disposed apart from the rack plate 14. The handling portion 5 slides in a direction which is parallel to the rack plate 14, which is not particularly limited. Under the handling portion

5, a slider 19 is disposed. That is, underneath the handling portion 5, projections 20 and 21 are perpendicularly disposed. As shown in FIGS. 3 and 4, the projections 20 and 21 loosely fit in and pass through the holes 22 and 23 of the slider 19 in the housing 4. One end of an extension spring 24 as one of energizing means is hung to the projection 20. A compression spring 25 is coiled around a portion of the projection 21 between the handling portion 5 and the slider 19. One end of the handling portion 5 is energized upward by the compression spring 25. On the other hand, a projection 26 is perpendicularly disposed on the other end of the handling portion 5. The projection 26 is possible to contact with an upper surface of the slider 19, thereby an upper surface of the handling portion 5 is maintained to be horizontal.

A contacting member 27 contacting with the claw 18 is attached to the slider 19. The contacting member 27 has two functions. One is for making the torso portion 7 and the arms 8 move to a rotation start position with following the movement of the handling portion 5 through the rack plate 14, the other is for restricting a movement range of the rack plate 14.

Between the rack plate 14 and the handling portion 5, the stop position setting button 6 is provided. The stop position setting button 6 is attached to one end of a seesaw member 28 in the housing 4. The stop position setting button 6 is energized upward by a compression spring 29. On the other hand, the other end of the seesaw member 28 extends through an

underside of the contacting member 27. When the stop position setting button 6 is pressed, the seesaw member 28 pushes up the contacting member 27 so that the contacting member 27 will not be in contact with the claw 18.

Then, the function of the figure toy 1 will be explained.

When the handling portion 5 is moved rightward in FIG. 3, the contacting member 27 of the slider 19 is in contact with the claw 18 to make the rack plate 14 move rightward, as shown in FIG. 5. Thereby, the pinion 13 engaging with the rack 15 rotates clockwise and the torso portion 7 and the arms 8 rotate rightward, so that the club 2 is swung up.

In this time, the handling portion 5 is released, thereby the rack plate 14 and the handling portion 5 are forced to return to their original positions by the extension spring 16 and the extension spring 24, respectively. Thereby, the pinion 13 engaging with the rack 15 rotates counterclockwise and the torso portion 7 and the arms 8 rotate leftward, so that the club 2 is swung down. When the head of the club 2 comes in front of the doll 1, the claw 18 strikes the contacting member 27 which returns to the original position, as shown in FIG. 3, thereby the movement of the rack plate 14 is stopped. Then, the rotations of the torso portion 7 and the arms 8 stops and the head of the club 2 stops in front of the doll 1. These action is suitable for a case that the doll 1 has a putter as a club.

On the other hand, from the state as shown in FIG. 5, when

the handling portion 5 is released while pressing the stop position setting button 6, the rack plate 14 and the handling portion 5 are made return to their original positions by the extension spring 16 and the extension spring 24, respectively. Thereby, the pinion 13 engaging with the rack 15 rotates counterclockwise and the torso portion 7 and the arms 8 rotate leftward, so that the club 2 is swung down. In this time, because the stop position setting button 6 is pressed and the contacting member 27 is pushed up by the seesaw member 28, as shown in FIG. 6, the contacting member 27 is not in contact with the claw 18. The rack plate 14 can be stopped by contacting with a wall of housing 4. Thereby, the head of the club 2 does not stop in front of the doll 1 to be swung to the end or maximally. These action is suitable for a case that the doll 1 has a driver as a club.

According to an advantage of a representative figure toy of the present invention, the figure toy comprises a rotating portion rotating about a specific axis, a handling member being able to move back and forth, and making the rotating portion rotate by a movement of the handling member in one direction to lead the rotating portion from a rotation stop position to a rotation start position, an energizing means for being stored energy by the movement of the handling member in one direction, and making the rotating portion rotate in an opposite direction of the one direction by a force of stored energy, and a rotation stop position setting means for enabling setting a plurality

of rotation stop positions of the rotating portion rotated in the opposite direction, thereby even if the rotation start position is the same, it is possible to change the strokes of the rotating portion. Accordingly, the varied plays are possible.

The present invention is not limited to the above-described embodiment. Obviously, many modifications and variations of the present invention in light of the above teaching may be made. It is, therefore, to be understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically described.

The entire disclosure of Japanese Patent Application No. 10-308919 filed on October 29, 1998 including specification, claims, drawings and summary are incorporated herein by reference in its entirety.



What is claimed is:

1. A figure toy comprising:
a rotating portion rotating about a specific axis;
a handling member being able to move back and forth, and making the rotating portion rotate by a movement of the handling member in one direction to lead the rotating portion from a rotation stop position to a rotation start position;
an energizing means for being stored energy by the movement of the handling member in the one direction, and making the rotating portion rotate in an opposite direction of the one direction by a force of stored energy; and
a rotation stop position setting means for enabling setting a plurality of rotation stop positions of the rotating portion rotated in the opposite direction.
2. The figure toy as claimed in claim 1, wherein the rotating portion and the handling member are connected through a rack and pinion mechanism, a rack of the rack and pinion mechanism is provided to a side of the handling member, and a pinion thereof is provided to a side of the rotating portion.
3. The figure toy as claimed in claim 2, wherein the energizing means is attached to a rack plate to which the rack is attached.

4. The figure toy as claimed in claim 2, wherein the rotation stop position setting means is able to set two rotation stop positions, at the one rotation stop position, the rotation stop position setting means makes a stopper enter a stop position of the rack to halfway stop the rack, while at another rotation stop position, the rotation stop position setting means makes the stopper go to a stop releasing position of the rack.

5. The figure toy as claimed in claim 3, wherein the rotation stop position setting means sets two rotation stop positions, at the one rotation stop position, the rotation stop position setting means brings a stopper into contact with a portion of the rack plate to stop a rotation of the rotating portion, while at the other rotation stop position, the rotation stop position setting means does not bring the stopper into contact with the portion of the rack plate.

6. The figure toy as claimed in claim 1, wherein the figure toy comprises at least a doll of which an arm or a leg constitutes at least a part of the rotating portion.

7. The figure toy as claimed in claim 1, wherein the figure toy comprises at least a golfer doll, an upper half of a body is bent forward, a torso portion including an arm with a hand constitutes the rotating portion so that a club attached



to the hand will be swung, and a head portion of the doll is immovable.

8. The figure toy as claimed in claim 7, wherein the figure toy is provided with plural types of clubs as the club so that the club attached to the hand will be able to be exchanged with another.

9. The figure toy as claimed in claim 7, wherein the figure toy is provided with plural types of head portions so that the head portion of the doll will be able to be exchanged with another.

10. A figure toy comprising:

a rotating portion rotating about a specific axis;

a handling member moving and returning, and making the rotating portion rotate by a movement of the handling member in one direction to lead the rotating portion from a rotation stop position to a rotation start position;

an energizing member being stored energy by the movement of the handling member in the one direction, and making the rotating portion rotate in an opposite direction of the one direction by a force of stored energy; and

a rotation stop position setting member enabling setting a plurality of rotation stop positions of the rotating portion rotated in the opposite direction.

