

## Appeal decision

Appeal No. 2016-16977

USA

Appellant

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The case of appeal against the examiner's decision of refusal of Japanese Patent Application No. 2014-147088, entitled "VEHICLE WITH VIBRATING MOTOR, PARTICULARLY SELF-RIGHTING TOY ROBOT" (the application published on October 23, 2014, Japanese Unexamined Patent Application Publication No. 2014-198264) has resulted in the following appeal decision.

### Conclusion

The appeal of the case was groundless.

### Reason

#### No. 1 History of the procedures

The present application was filed on July 17, 2014, as Patent Application No. 2014-147088, which is a divisional application from Patent Application No. 2012-531075 filed on September 24, 2010 (priority claim under the Paris Convention was received by the foreign receiving office on September 25, 2009 in the US), and the past procedures are as follows.

November 12, 2015	Notice of reasons for refusal
April 6, 2016	Written opinion, written amendment
August 22, 2016	Examiner's decision of refusal
November 14, 2016	Request for appeal
July 14, 2017	Notice of reasons for refusal
October 5, 2017	Written opinion, written amendment

#### No. 2 Judgment by the body

##### 1 Details of amendment

The inventions according to Claims of the present application (hereinafter referred to as "Invention 1" to "Invention 41") are to be specified by the matters described in Claims in the scope of claims amended as of October 5, 2017, and the description thereof is as follows.

"[Claim 1]

A toy robot comprising

a plurality of legs and a vibration drive, the legs being arranged in two rows and having an average axial cross section which is at least 5% of a length between a leg base

and a leg tip,

characterized in that the center of gravity of the body or the center of gravity of the toy robot is positioned close to or on the axis of rotation of the vibration drive,

the vibration drive generates a force ( $F_v$ ) that is suitable for deflecting at least front legs when directed downward and for making the toy robot hop or for lifting the front legs of the legs from the ground surface when directed upward, to move the toy robot forward,

the body or a part of the toy robot is positioned between the two rows of legs, and extends to below the leg base of the legs in a direction of the leg tip of the legs,

a rotation axis of the vibration drive extends along a longitudinal axis of the toy robot,

and 2, 3, 4, 5 or 6 legs are arranged in each row of the legs.

[Claim 2]

The toy robot described in Claim 1, characterized in that the toy robot is constructed to rotate and right itself due to the effect of the torque of the vibration drive.

[Claim 3]

The toy robot described in Claim 1 or Claim 2, characterized in that the top surface of the toy robot projects, in order to simplify the self-righting of the toy robot during the vibration.

[Claim 4]

The toy robot described in any one of Claims 1 to 3, characterized in that a high point is provided on the top surface of the toy robot, so that the toy robot cannot lie completely turned over on its back.

[Claim 5]

The toy robot described in any one of Claims 1 to 4, characterized in that a fin, plate, or flipper for simplifying self-righting is arranged on its back.

[Claim 6]

The toy robot described in any one of Claims 1 to 5, characterized in that fins, plates, or flippers for simplifying self-righting are arranged on the side of the toy robot.

[Claim 7]

The toy robot described in Claim 5 or Claim 6, characterized in that the fins, plates, or flippers are constructed such that their outer points lie close to or on a virtual cylinder.

[Claim 8]

The toy robot described in any one of Claims 1 to 7, characterized in that a space, in particular, a V-shaped recess, is provided between the body of the toy robot and the legs of the toy robot, so that the legs can deflect inward during a righting rotation.

[Claim 9]

The toy robot described in any one of Claims 1 to 8, characterized in that the legs are arranged on the toy robot, in particular, at the side of the axis of rotation of the vibration drive.

[Claim 10]

The toy robot described in any one of Claims 1 to 9, characterized in that the legs are attached to the toy robot above the center of gravity.

[Claim 11]

The toy robot described in any one of Claims 1 to 10, characterized in that the legs are attached at the side and above the axis of rotation of the vibration drive.

[Claim 12]

The toy robot described in any one of Claims 1 to 11, characterized in that the legs of the toy robot are curved and flexible.

[Claim 13]

The toy robot described in any one of Claims 1 to 12, characterized in that the vibration drive can generate a force ( $F_v$ ) that is directed downward and is suitable for deflecting at least the front legs of the legs, so that the toy robot moves forward.

[Claim 14]

The toy robot described in any one of Claims 1 to 13, characterized in that the legs of the toy robot are inclined in a direction that is offset from the vertical.

[Claim 15]

The toy robot described in any one of Claims 1 to 14, characterized in that the base of the leg is arranged on the toy robot farther forward relative to the tip of the leg.

[Claim 16]

The toy robot described in any one of Claims 1 to 15, characterized in that two or more legs, in particular, the front legs, are adapted to bend when the toy robot vibrates due to the vibration drive.

[Claim 17]

The toy robot described in any one of Claims 1 to 16, characterized in that the vibration drive can generate a force ( $F_h$ ) that is directed to the side and generates a tendency for the toy robot to rotate when the nose of the toy robot is lifted.

[Claim 18]

The toy robot described in any one of Claims 1 to 17, characterized in that the toy robot is constructed such that only the back legs of the toy robot slide along behind, but do not hop.

[Claim 19]

The toy robot described in any one of Claims 1 to 18, characterized in that the geometry of the back legs is constructed such that a braking or dragging effect different from the effect of the front legs is achieved.

[Claim 20]

The toy robot described in any one of Claims 1 to 19, characterized in that the geometry of the back legs is constructed such that the tendency for rotation around the rotation axis due to the vibration of the vibration drive is counteracted.

[Claim 21]

The toy robot described in any one of Claims 1 to 20, characterized in that more weight is disposed onto one front leg in comparison to the other front leg of the legs.

[Claim 22]

The toy robot described in any one of Claims 1 to 21, characterized in that the length of one back leg is increased in comparison to the other back leg.

[Claim 23]

The toy robot described in any one of Claims 1 to 22, characterized in that the stiffness of the legs on one side is increased in comparison to the legs on the other side.

[Claim 24]

The toy robot described in any one of Claims 1 to 23, characterized in that one of the back legs has a thicker construction in comparison to the other back leg on the other side.

[Claim 25]

The toy robot described in any one of Claims 1 to 24, characterized in that one of the back legs is arranged farther forward than the other back leg.

[Claim 26]

The toy robot described in any one of Claims 1 to 25, characterized in that legs are connected to each other with braces in order to increase the stiffness of the legs.

[Claim 27]

The toy robot described in any one of Claims 1 to 26, characterized in that back legs are provided such that they can be adjusted in height independent of each other.

[Claim 28]

The toy robot described in any one of Claims 1 to 27, characterized in that the stiffness of the front legs of the legs is lower in comparison to the stiffness of the back legs.

[Claim 29]

The toy robot described in any one of Claims 1 to 28, characterized in that the braking or dragging force of the back legs is reduced in comparison to the front or drive legs.

[Claim 30]

The toy robot described in any one of Claims 1 to 29, characterized in that the toy robot can right itself again when it is lying on its back or on one side.

[Claim 31]

The toy robot described in any one of Claims 1 to 30, characterized in that the toy robot has an elastic nose or an elastic front part, so that the toy robot rebounds when it impacts on an obstacle.

[Claim 32]

The toy robot described in Claim 31, characterized in that the elastic nose or the elastic front part is made from rubber.

[Claim 33]

The toy robot described in Claim 31 or Claim 32, characterized in that the elastic nose or the elastic front part has a construction extending forward.

[Claim 34]

The toy robot described in any one of Claims 1 to 33, characterized in that the vibration drive has a motor and an eccentric weight.

[Claim 35]

The toy robot described in Claim 34, characterized in that the eccentric weight is arranged in front of the motor.

[Claim 36]

The toy robot described in Claim 34 or Claim 35, characterized in that the eccentric weight is arranged in front of the front legs.

[Claim 37]

The toy robot described in any one of Claims 34 to 36, characterized in that a battery is arranged on the rear part of the toy robot.

[Claim 38]

The toy robot described in Claim 37, characterized in that both the battery and the motor are arranged between the legs.

[Claim 39]

The toy robot described in any one of Claims 34 to 38, characterized in that a switch is arranged between the motor and the battery.

[Claim 40]

The toy robot described in any one of Claims 1 to 39, characterized in that the toy robot has the shape of a beetle, an insect, a reptile, or some other animal.

[Claim 41]

The toy robot described in any one of Claims 1 to 40, characterized in that the toy robot is configured to rotate in a direction opposite the rotation direction of the motor and to right itself due to the effect of the torque of the vibration drive."

## 2 Reasons for refusal of the body

The outline of the reasons for refusal (hereinafter referred to as "Reason for refusal of the body") notified by the body as of July 14, 2017 is as follows.

(1) "The amendment made in the written amendment as of April 6, 2016 is not within the matters described in the description, scope of claims, or drawings originally attached to the application, and does not meet the requirement stipulated in Article 17-2(3) of the Patent Act"; more specifically, the details are as follows.

The description in Claim 1, "having an average axial cross section which is at least 5% of a length between a leg base and a leg tip," does not appear in the description, scope of claims, or drawings originally attached to the application, and according to the description, the above matter is not obvious for a person skilled in the art.

(2) "The present application does not meet the requirement stipulated in Article 36-6 (2) of the Patent Act due to deficiency of description of the scope of claims in the following points"; more specifically, the details are as follows.

The "average axial cross section" in Claim 1, "simplify the self-righting" in Claim 3, "top surface" and "back" in Claim 4, the "fins, plates, or flippers" in Claims 6 and 7, the "virtual cylinder" in Claim 7, the "direction to which the legs of the toy robot is offset from the vertical" in Claim 14, "only the back legs of the toy robot slide along behind" in Claim 18, the "different braking or dragging effect" in Claim 19, "the tendency for rotation due to the vibration of the vibration drive is counteracted" in Claim 20, the "2, 3, 4, 5 or 6 legs" in Claim 26, the "dragging force" in Claim 30, and the "construction extending to a predetermined point" in Claim 34 are ambiguous.

(3) "The inventions according to Claims 1 to 42 of the present application could have been easily made by a person ordinarily skilled in the field of the art, to which the invention belongs, prior to the application on the basis of the inventions described in the publications below distributed in Japan or abroad prior to the application or an invention that is made available to public over an electric communication network, and the appellant should not be granted a patent for the invention"; more specifically, the details are as follows.

The inventions described in Claims 1 to 42 could have been easily conceived by a person skilled in the art from Cited documents 1 to 4, in light of the function and effect exerted by the inventions described in the claims.

Cited document 1: Microfilm of Japanese Utility Model Application No. H1-56243 (Japanese Unexamined Utility Model Application Publication No. H2-147195)

Cited document 2: Japanese Patent Publication No. S43-16085

Cited document 3: Japanese Unexamined Patent Application Publication No. 2004-275885

Cited document 4: National Publication of International Patent Application No. 2008-546518

The above reasons for refusal of the body are for the written amendment as of April 6, 2016. The scope of claims of the application is amended as described in "No. 2 Judgement by the body, 1 Details of amendment."

The outline of the amendment regarding the structure of the claims of the scope of claims is to shift the paragraph numbers of Claims 27 to 42 by deleting Claim 26 of the written amendment as of April 6, 2016.

Therefore, the relationship between the claims (herein after referred to as "old claims") in the written amendment as of April 6, 2017 and the claims (hereinafter referred to as "new claims") in the written amendment as of October 5, 2017 is as follows.

Claims 1 to 25 of the old claims correspond to Claims 1 to 25 of the new claims (no change).

Claims 27 to 42 of the old claims correspond to Claims 26 to 41 of the new claims.

3 Regarding Article 17(2) (iii) of the Patent Act (the paragraph numbers are based on the new claims)

The description in Claim 1, "having an average axial cross section which is at least 5% of a length between a leg base and a leg tip," does not appear in the description, scope of claims, or drawings originally attached to the application, and is not a matter obvious for a person skilled in the art in light of the description thereof.

The applicant alleges in the written opinion as of October 5, 2017, "the 'axial cross section' means, as is obvious from FIG. 2d, a diameter of a horizontal circular cross-section of the leg, and the 'average axial cross section' means an average value of the diameter of the circular cross-section of the leg between the leg base and leg tip of the leg. Accordingly, the expression 'the leg having an average axial cross section which is at least 5% of a length between a leg base and a leg tip' means that 'the average value of the diameter of the cross section of the leg between the leg base and leg tip of the leg' is equal to or larger than 5% of 'the length between the leg base and leg tip of the leg,' which indicates that the leg is not thin like hair but thick to some extent.

The description, 'the leg having an average axial cross section which is at least 5% of a length between a leg base and a leg tip' is considered to be obvious from the descriptions in FIGs. 2a to 2d." Then, the above allegation is examined.

Firstly, the detailed description of the invention of the application does not clearly indicate a part of the leg of the toy robot corresponding to the matters specified by the invention, such as "leg base" and "leg tip," in the above description in Claim 1, specifically.

Also, the detailed description of the invention of the application does not clearly indicate the definition of the term regarding the matters technically specified by the matters specified by the invention, "average axial cross section," specifically.

Besides, as for the "axial cross section," "longitudinal direction" is generally "axial direction" in a member having a shape like the leg of the robot toy of the invention. Therefore, the allegation that the "axial cross section" is the "circular cross section of the leg" or "cross section in shorter direction" cannot be accepted.

Even if the matters specified by the invention are as alleged above and obvious from the FIGs. 2a to 2d of the application, there is no description or suggestion about the basis for "at least 5%" indicating the lower limit of numerical limitation and absence of upper limit regarding the point that "the average value of the diameter of the cross section of the leg between the leg base and the leg tip of the leg" is equal to or larger than 5% of "the length between the leg base and leg tip of the leg."

Thus, the amendment in the written amendment as of April 6, 2016 is not within the matters described in the description, scope of claims, or drawings originally attached to the application, and it does not meet the requirement stipulated in Article 17-2(3) of the Patent Act.

#### 4 Regarding Article 36(6) (ii) of the Patent Act

##### About Claim 1

Regarding the "average axial cross section," since the "axis" of the "leg" is not specified actually, the "axial direction" is ambiguous, and where the cross section is specified in the leg is unclear.

Since it is described that the "average axial cross section" has "at least 5% of the length between the leg base and the leg tip," it can be recognized that the cross section has a certain length. However, the description "average axial cross section" only specifies the existence of a "plane," and where the length is specified in the "plane" is unclear.

Thus, the configuration technically specified by the "average axial cross section" cannot be recognized, and Claim 1 and the claims citing Claim 1 are ambiguous.

##### About Claim 7

The relationship, especially the positional relationship, of the "virtual cylinder" with respect to the robot toy is not described in the description, scope of claims, or drawings. Even if the virtual cylinder is considered to be a "circular cylinder" or a "column" which indicates an ordinary meaning of a "cylinder," the "virtual cylinder" is not a general technical term, or is nonsensical. The configuration technically specified by the "virtual cylinder" cannot be recognized.

The applicant alleges in the written statement as of October 5, 2017, "the 'virtual cylinder' means that outer points of the fins, plates, or flippers are positioned on a circumscribed circle (circumscribed cylinder) of the toy robot." However, neither the "circumscribed circle of the toy robot" nor the "circumscribed cylinder of the toy robot" is described or suggested in the description, scope of claims, or drawings originally attached to the application.

There is no reason for replacing the "virtual cylinder" by the "circumscribed circle" or the "circumscribed cylinder."

Thus, Claim 7 and the claims citing Claim 7 are ambiguous.

#### No. 3 Closing

As described above, the present application does not comply with Article 17-2(3) and Article 36-6(2) of the Patent Act, and the appellant should not be granted a patent for the invention.

Accordingly, the present application should be rejected.

Therefore, the appeal decision shall be made as described in the conclusion.

December 5, 2017

Chief administrative judge:	KUROSE, Masakazu
Administrative judge:	YOSHIMURA, Hisashi
Administrative judge:	FUJIMOTO, Yoshihito