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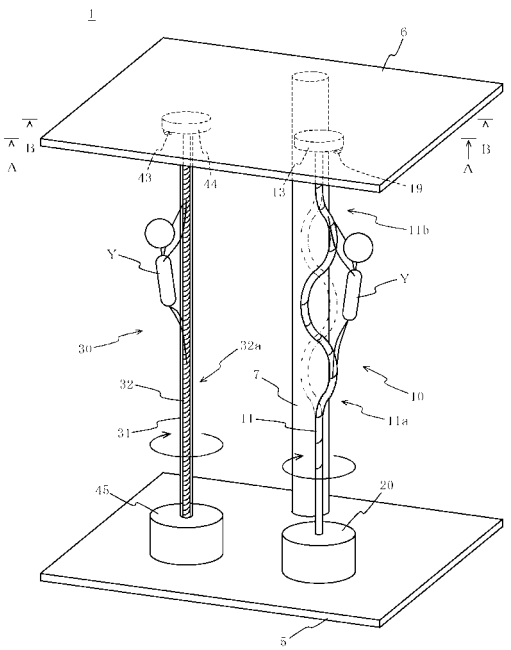
(54) **AMUSEMENT DEVICE**

(57) The present invention relates to an amusement device with which a player can enjoy more varied of plays, and which can let the player play more happily and attract interests of children more strongly. An amusement device 1 has a first play portion 10 and a second play portion 30 respectively comprising poles 11 and 31 arranged in a standing state which a player such as a child climes up and down. The first play portion 10 comprises the pole 11 having a curved portion 11 a; a support mechanism for supporting both end portions of the pole 11 so that the pole 11 can rotates freely; and a rotation drive mechanism for rotating the pole 11. The second play portion 30 comprises the pole 31 formed in tube-shaped and transparent; a decorative body 32 which is formed in tube-shaped and transparent and arranged co-axially with and inside the pole 31, and the outer circumferential surface of which is adorned with a decoration 32a; a light source 33 provided inside the decorative body 32; a support mechanism for supporting the both end portions of the pole 31 and the decorative body 32 so that the decorative body 32 can rotates freely; and a rotation drive mechanism for rotating the decorative body 32.

*FIG. 1*

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## Description

### Technical Field

**[0001]** The present invention relates to an amusement device which comprises a pole formed along a predetermined direction and arranged in a standing state, and which is configured so that a player plays by climbing up and down the pole.

### Background Art

**[0002]** Conventionally, an amusement device disclosed in the Japanese Unexamined Patent Application Publication No. 11-33136 is known, for example. This amusement device is configured with: a pole which is formed in a circular tube shape and the axis of which is directed in the up-and-down direction; and support members for supporting and fixing an upper and an lower end portions of the pole, respectively, and protrusions and recessions are alternately spirally formed on an outer circumferential surface of the pole.

**[0003]** In the amusement device, a player such as a child can play by climbing up and down the pole with his/her arms and legs. When climbing up and down, the spiral protrusions and recessions prevent his/her hands gripping the pole and his/her legs gripping the pole from slipping. Thereby, the player can climb up and down safely.

Patent document 1: Japanese Unexamined Patent Application Publication No. 11-33136.

### Disclosure of Invention

#### Problem Invention is to Solve

**[0004]** However, in the above conventional amusement device, there is a problem that the play in the amusement device is apt to be monotonous and make the player bored. Further, this amusement device is no different from a very common amusement device, so-called, a fireman's pole, and there is also a problem that it is difficult to attract children who are accustomed to the play with a fireman's pole.

**[0005]** The present invention has been achieved in view of the above-described circumstances, and an object thereof is to provide an amusement device with which a player can enjoy more varied plays, and with which it is possible to let the player play more happily and to attract interests of children more strongly.

#### Means for Resolving the Problem

**[0006]** To achieve the above-described object, the present invention relates to an amusement device, comprising:

a pole which is formed along a predetermined direction and arranged in a standing state, and which a player climbs up and down;

support means having at least one bearing for supporting one end portion of the pole, the supporting means which supports an upper or lower end portion or both end portions of the pole so that the bearing enables the pole to rotate freely about the axis of the bearing; and

rotation drive means for rotating the pole about the axis of the bearing.

**[0007]** According to this amusement device, a player such as a child can play by climbing up and down, with his/her arms and legs, the pole which is rotated about the axis of the bearing of the support means by the rotation drive means. Because the pole rotates about the axis of the bearing, the player can enjoy the play while enjoying the sensation felt when rotating with the pole.

**[0008]** Thus, according to the amusement device of the present invention, the movement of the player himself/herself climbing up and down the pole and the rotating movement of the pole are combined together. Thereby, the player can enjoy varied plays and sensations which have not been provided by the conventional one. Further, it is possible to interest children around the amusement device who watch the rotating movements of the pole and the player in playing with this amusement device and to lead them to play with this amusement device.

**[0009]** The pole may be provided with a curved portion or a bent portion between both end portions. When thus configured, the pole itself is diversified, thereby, it is possible to diversify the pole climbing more and to make the pole climbing more difficult than when the pole is formed straight. As a result, the play in the amusement device can be made more amusing.

**[0010]** Further, the outer circumferential surface of the pole may be decorated. When thus configured, it is possible not only to entertain the player himself/herself, but also to attract interests of children around the amusement device who watch the decoration, and to lead them to play with the amusement device. The decoration is not particularly limited. For example, various patterns may be painted on the surface of the pole. Additionally, because the pole rotates about the axis, it is also possible to enjoying the patterns on the surface of the pole changing.

**[0011]** Further, the pole may be made of a tube-shaped and light-transmittable member, and a light source for illuminating the inside of the pole may be provided therein so that light transmits from the inside to the outside of the pole. When thus configured, the decoration on the outer surface of the pole can be made prominent by lights from the light source, thereby, it is possible to enhance the decorative effect more.

**[0012]** Further, the pole may be made of a tube-shaped and light-transmittable member having a sealed lower

end portion and be filled with liquid, and gas supplying means for supplying gas into the pole may be connected to the lower end portion of the pole. When thus configured, when gas is supplied into the pole from the lower end portion thereof by the gas supplying means, the supplied gas changes into bubbles, which rise up through the liquid in the pole. Therefore, the player can climb up and down the pole while watching the bubbles flowing, and it is possible to let the player play more happily. Further, by showing children around the amusement device that the bubbles flow, it is possible to attract the children and to lead them to play with the amusement device.

**[0013]** Also in this case, if a light source for illuminating the inside of the pole is provided, an illumination effect or a light-up effect can be obtained, thereby, it is possible to entertain the player and people around the amusement device. Further, it is possible to interest children around the amusement device who watch the illuminated pole or the light-up pole.

**[0014]** Further, the present invention relates to an amusement device, comprising:

a pole which is made of a tube-shaped and light-transmittable member and, the axis of which is directed in the up-and down direction, and which a player climbs up and down;
a decorative body which is made of a tube-shaped and light-transmittable member and arranged within the pole, and the outer circumferential surface of which is decorated;
a light source for illuminating the inside of the decorative body so that light transmits from the inside to the outside of the decorative body;
support means for supporting upper or lower end portions of the pole and the decorative body, or both end portions thereof so that one or both of the pole and the decorative body rotate freely about the axis thereof; and
rotation drive means for rotating one or both of the pole and the decorative body about the axis thereof.

**[0015]** Also according to this amusement device, the player such as a child can play by climbing up and down the pole with his/her arms and legs. Further, the decoration on the outer circumferential surface of the decorative body is made prominent by light from the light source, thereby, it is possible to enhance the decorative effect. In addition, by rotating the decorative body and/or the pole about the axis thereof by means of the rotation drive means, children around the amusement device and the player gripping the pole can enjoy the patterns or the like on the outer circumferential surface of the decorative body changing. Therefore, it is possible to attract interests of the children around the amusement device who watch such a decoration and to lead them to play with the amusement device, and also to let the player who watches such a decoration enjoy the play more.

**[0016]** The outer circumferential surface of the pole may be decorated. When thus configured, by the decorations on the outer circumferential surfaces of both the decorative body and the pole, the decorative effect can be more enhanced.

**[0017]** Each of the above amusement devices may further comprise a cushion provided in the periphery of the lower end side of the pole. When thus configured, even if the player accidentally falls off the pole, the shock can be reduced by the cushion and it is possible to efficiently prevent the player from being injured.

**[0018]** Further, in each of the above amusement devices, the color of the pole, the color of the liquid and the color of the light from the light source are each not particularly limited. However, it is preferable to use colors which can visually entertain the player and people around the amusement device.

## Effects of the Invention

**[0019]** As described above, according to the amusement device of the present invention, because the pole and/or the decorative body which is provided within the pole are adapted to be rotated, the player can enjoy more varied plays and it is possible to let the player play more happily, and to attract interests of children more strongly.

## Brief Description of the Drawings

**[0020]**

Fig. 1 is a perspective view showing a schematic configuration of an amusement device according to one embodiment of the present invention;
Fig. 2 is a cross-sectional view taken along the line A-A in Fig. 1;
Fig. 3 is a cross-sectional view taken along the line B-B in Fig. 1;
Fig. 4 is a cross-sectional view taken along the line C-C in Fig. 3;
Fig. 5 is a front view showing a part of a decorative body according to the embodiment;
Fig. 6 is a perspective view showing a schematic configuration of an amusement device according to another embodiment of the present invention;
Fig. 7 is a cross-sectional view taken along the line D-D in Fig. 6;
Fig. 8 is a cross-sectional view taken along the line E-E in Fig. 6;
Fig. 9 is a cross-sectional view showing a schematic configuration of an upper end portion of a pole and other components according to another embodiment of the present invention;
Fig. 10 is a cross-sectional view showing a schematic configuration of a lower end portion of the pole and other components according to another embodiment of the present invention; and
Fig. 11 is a perspective view showing a schematic configuration of a first play portion according to an-

other embodiment of the present invention.

Best Mode for Carrying Out the Invention

**[0021]** Hereinafter, a specific embodiment of the present invention will be described with reference to the accompanying drawings. Fig. 1 is a perspective view showing a schematic configuration of an amusement device according to one embodiment of the present invention, Fig. 2 is a cross-sectional view taken along the line A-A in Fig. 1, and Fig. 3 is a cross-sectional view taken along the line B-B in Fig. 1. Fig. 4 is a cross-sectional view taken along the line C-C in Fig. 3 and Fig. 5 is a front view showing a part of a decorative body according to the embodiment.

**[0022]** As shown in Figs. 1 to 5, an amusement device 1 of the present embodiment is configured with: a first play portion 10 and a second play portion 30 respectively having poles 11 and 31 which are arranged in a standing state, and which a player Y such as a child climbs up and down; a base 5 on which the first play portion 10 and the second play portion 30 are mounted and fixed; an flat-plate-shaped upper member 6 which is disposed over the base 5, and by which the upper portions of the first play portion 10 and the second play portion 30 are each supported and fixed; and a strut 7 vertically provided on the base 5 for supporting the upper member 6.

**[0023]** The first play portion 10 comprises: the pole 11 having a circular cross-sectional shape; a support mechanism 12 by which the upper end portion and the lower end portion of the pole 11 are supported rotatably about its axis; a rotation drive mechanism 15 for rotating the pole 11 about its axis; a push button 19 which is provided in the vicinity of the upper end portion of the pole 11, and which is pushed by the player Y who have climbed up to the upper end portion of the pole 11; and a cover body 20 for covering the lower end portion of the pole 11, a part of the support mechanism 12 and the rotation drive mechanism 15.

**[0024]** The pole 11 has a curved portion 11 a formed so as to wind from side to side between both end portions, and is formed so that the axis of the parts other than the curved portion 11 a is directed along the up-and-down direction, And the outer circumferential surface of the pole 11 is adorned with a decoration 11b. The decoration 11b is configured with, for example, a stripe pattern which is colored appropriately and painted on the outer circumferential surface of the pole 11. The decoration 11b is not limited to a stripe pattern, and may be designs of animals, fishes, insects, humans or the like painted on the outer circumferential surface of the pole 11. Further, it is also not limited to these painted patterns and designs.

**[0025]** The support mechanism 12 is configured with: an upper support member 13 disposed on the lower surface of the upper member 6 for supporting the upper end portion of the pole 11; and a lower support member 14 disposed on the upper surface of the base 5 for supporting the lower end portion of the pole 11. Each of the support members 13 and 14 includes therein a bearing (not shown) provided with its axis directed along the up-and-down direction, and supports the pole 11 by means of the bearing (not shown) so that the pole 11 rotates freely about the axis of the bearing (not shown).

**[0026]** The rotation drive mechanism 15 is configured with: a drive motor 16 disposed in the vicinity of the lower support member 14 on the upper surface of the base 5 with an axis of an output shaft thereof directed along the up-and-down direction; a first gear 17 fixedly provided on the output shaft of the drive motor 16; and a second gear 18 which are provided on the outer circumferential surface of the lower end portion side of the pole 11, and which engages with the first gear 17. Rotational power of the drive motor 16 is transmitted to the pole 11 via the first gear 17 and the second gear 18, thereby, the pole 11 is rotated.

**[0027]** The push button 19 is mounted on the lower surface of the upper support member 13. When the push button 19 is pressed by the player Y, for example, a circuit for outputting a sound (music, human voice or the like) is switched on and the sound is outputted, or a circuit for turning on a lamp is switched on and the lamp is turned on.

**[0028]** The cover body 20 covers the lower end portion of the pole 11, the lower support member 14 and the rotation drive mechanism 15 from above, thereby, preventing the player Y from being injured. Further, a through hole 20a into which the lower end portion of the pole 11 is inserted is formed in the cover body 20.

**[0029]** The second play portion 30 comprises: the pole 31 which is made of a tube-shaped and transparent member and the axis of which is disposed in the up-and down direction; a decorative body 32 which is similarly made of a tube-shaped and transparent member and disposed co-axially with and within the pole 11, and the outer circumferential surface of which is adorned with a decoration 32a; a light source 33 provided within the decorative body 32; a support mechanism 34 which supports both end portions of the pole 31 and the decorative body 32, and by which the decorative body 32 is supported rotatably about its axis ; a rotation drive mechanism 39 for rotating the decorative body 32 about its axis; a push button 43 which is provided in vicinity of the upper end portion of the pole 31, and which is pressed by the player Y who have climbed up to the upper end portion of the pole 31; an upper cover body 44 for covering the upper end portion of the pole 31, the upper end portion of the decorative body 32 and a part of the support mechanism 34; and a lower cover body 45 for covering the lower end portion of the pole 31, the lower end portion of the decorative body 32, a part of the support mechanism 34 and the rotation drive mechanism 39.

**[0030]** The decorative body 32 is formed longer than the pole 31, and both end portions of it protrude from both end portions of the pole 31. The decoration 32a is configured with alternate stripes colored appropriately (a similar one to a barber pole having white, blue and red

stripes, for example) which are placed on the outer circumferential surface of the decorative body 32. However, it is not limited to such patterns, and may be figures representing animals, fishes, insects or humans. Further, it is also not limited to figures.

**[0031]** The light source 33 illuminates the inside of the decorative body 32 and is configured with a fluorescent light and the others, for example. Both end portions thereof are supported by a support portion 33a provided on the lower surface of the upper member 6 and a support portion 33b provided on the upper surface of the base 5, respectively. An incandescent lamp or a light emitting diode may be employed for the light source 33 instead of a fluorescent light. Further, the color of light from the light source 33 is not particularly limited.

**[0032]** The support mechanism 34 is configured with: a first upper support member 35 arranged on the lower surface of the upper member 6 for supporting the upper end portion of the decorative portion 32; a first lower support member 36 arranged on the upper surface of the base 5 for supporting the lower end portion of the decorative body 32; a second upper support member 37 arranged on the lower surface of the upper member 6 for supporting the upper end portion of the pole 31; a second lower support member 38 arranged on the upper surface of the base 5 for supporting the lower end portion of the pole 31.

**[0033]** The first upper support member 35 and the first lower support member 36 each have therein a bearing (not shown), the axis of which is directed along the up-and-down direction, and the decorative body 32 is supported rotatably about its axis by these bearings (not shown). On the other hand, the second upper support member 37 and the second lower support member 38 respectively have fitting holes 37a and 38a into which the upper end portion and the lower end portion of the pole 31 are fitted, respectively. The pole 31 is supported non-rotatably by these fitting holes 37a and 38a.

**[0034]** The rotation drive mechanism 39 is configured with: a drive motor 40 arranged in the vicinity of the first lower support member 36 on the upper surface of the base 5 with an axis of an output shaft thereof directed along the up-and-down direction; a first gear 41 fixedly disposed on the output shaft of the drive motor 40; and a second gear 42 which are provided on the outer circumferential surface of the lower end portion side of the decorative body 32, and which engages with the first gear 41. Rotational power of the drive motor 40 is transmitted to the decorative body 32 via the first gear 41 and the second gear 42, thereby, the decorative body 32 is rotated.

**[0035]** The push button 43 is mounted on the lower surface of the upper cover body 44. When the push button 43 is pressed by the player Y, for example, a circuit for outputting a sound (music, human voice or the like) is switched on and the sound is outputted, or a circuit for turning on a lamp is switched on and the lamp is turned on.

**[0036]** The upper cover body 44 covers the upper end portion of the pole 31, the upper end portion of the decorative body 32 and the upper support members 35 and 37 from below, thereby, preventing the player Y from being injured. The lower cover body 45 covers the lower end portion of the pole 31, the lower end portion of the decorative body 32, the lower support members 36 and 38 and the rotation drive mechanism 39 from above, thereby, preventing the player Y from being injured. Further, a through hole 44a into which the upper end portion of the pole 31 is inserted is formed in the upper cover body 44, and a through hole 45a into which the lower end portion of the pole 31 is inserted is formed in the lower cover body 45.

**[0037]** The upper surface of the base 5, the outer surface of the cover body 20 and the outer surface of the lower cover body 45 are covered with a not shown shock absorbing member, thereby also, preventing the player Y who falls off the pole 11 or 31 from being injured.

**[0038]** According to the amusement device 1 configured as described above, in the first play portion 10, the player Y can play by climbing up and down by his/her arms and legs the pole 11 which is rotated about its axis by the rotation drive mechanism 15. Because the pole 11 is rotated about its axis, the player Y can enjoy the play while enjoying the sensation felt when rotating with the pole 11.

**[0039]** On the other hand, in the second play portion 20, the player Y can play by climbing up and down by his/her arms and legs the pole 31 including therein the decorative body 32 which is rotated about its axis by the rotation drive mechanism 39, while enjoying the change of the alternate stripes on the outer circumferential surface of the decorative body 32.

**[0040]** When the push button 19 or 43 is pressed by the player Y who has climbed up to the upper end portion of the pole 11 or 13, music is played, a sound saying "You did great." is outputted in a human voice, or a lamp is turned on, for example. Thereby, the play is made more amusing.

**[0041]** Thus, according to the amusement device 1 of the present embodiment, the movement of the player Y himself/herself climbing up and down the pole 11 and the rotating movement of the pole 11 are combined together. Thereby, the player can enjoy varied plays and sensations which have not been provided by the conventional one. And, the player Y can also play while enjoying the decoration 32a on the rotated decorative body 32.

**[0042]** In addition, it is possible to interest children around the amusement device 1 who watch the rotating motions of the pole 11, the player Y and the decorative body 32 in playing with the amusement device 1 and to lead them to play with the amusement device 1.

**[0043]** Further, because the pole 11 itself is diversified by forming the curved portion 11a, it is possible to diversify the climbing of the pole 11 more than when the pole 11 is formed straight, and to make the climbing of the pole 11 difficult, and thereby, the play in the amusement

device 1 can be made more amusing.

**[0044]** Further, the light source 33 is provided within the decorative body 32, and the decoration 32a on the outer circumferential surface of the decorative body 32 is made prominent by the light from the light source 33. Thereby, it is possible to enhance the decorative effect. Additionally, the pole 11 and the decorative body 32 are rotated about their respective axes, thereby, it is possible to enjoying the patterns placed on the surface of the decorative body 32 and the pole 11 changing, and to attract interests of children strongly.

**[0045]** Because the upper surface of the base 5, the outer surface of the cover body 20 and the outer surface of the lower cover body 45 are covered with the shock absorbing member (not shown), the shock absorbing member (not shown) functions as a cushion even if the player Y accidentally falls off the pole 11 or 31. Thereby, it is possible to effectively prevent the player Y from being injured.

**[0046]** Thus, one embodiment of the present invention has been described above. However, specific modes in which the present invention can be realized are not limited thereto.

**[0047]** For example, in the first play portion 10, the pole 11 may be made of a tube-shaped and transparent member, and a light source may be provided within the pole 11. In this way, similarly to the decorative body 32 of the second play portion 30, the decoration 11 b on the outer circumferential surface of the pole 11 is made prominent by light from the light source, thereby, it is possible to enhance the decorative effect more.

**[0048]** Further, in the second play portion 30 of the above embodiment, the decorative body 32 is rotated about its axis by the rotation drive mechanism 39. However, it is not limited thereto. The decorative body 32 may be adapted to be non-rotatable, and the pole 31 may be rotated about its axis instead. In this way, the player Y gripping the pole 31 is rotated together with the pole 31, thereby, the player Y can enjoy the patterns on the surface of the decorative body 32 changing. Further, both the pole 31 and the decorative body 32 may be rotated. In this case, they may be rotated in the same direction, and they may be rotated in the opposite direction. Their rotational speeds may be the same or different.

**[0049]** The outer circumferential surface of the pole 31 also may be decorated. In this way, the decorative effect can be further enhanced by the decorations on the outer circumferential surfaces of both the decorative body 32 and the pole 31. The pole 31 and the decorative 32 can be each made of a translucent member besides a transparent member. As long as it is a light-transmittable member, any member may be employed.

**[0050]** Further, the amusement device 1 may be configured as an amusement device 2 comprising a first play portion 50 and a second play portion 80 as shown in Fig. 6 to Fig. 10 instead of the first play portion 10 and the second play portion 30. In the explanation described below, the same reference numerals are assigned to the same components as the amusement device 1, and detailed explanations thereof are omitted. Fig. 6 is a perspective view showing a schematic configuration of an amusement device according to another embodiment of the present invention, Fig. 7 is a cross-sectional view taken along the line D-D in Fig. 6, and Fig. 8 is a cross-sectional view taken along the line E-E in Fig. 6. Further, Fig. 9 is a cross-sectional view showing a schematic configuration of an upper end portion of a pole and the others according to another embodiment of the present invention, and Fig. 10 is a cross-sectional view showing a schematic configuration of a lower end portion of the pole and the others according to another embodiment of the present invention.

**[0051]** The first play portion 50 comprises: a pole 51 made of a circular tube-shaped and transparent member; a support mechanism 55 for supporting an upper end portion and a lower end portion of the pole 51 so that the pole 51 rotates freely about its axis; an air supply mechanism 65 for supplying air into the pole 51; an illumination mechanism 70 for illuminating the inside of the pole 51; the rotation drive mechanism 15; the push button 19; an upper cover body 76 for covering the upper end portion of the pole 51 and a part of the support mechanism 55; and a lower cover body 77 for covering the lower end portion of the pole 51, a part of the support mechanism 55 and the rotation drive mechanism 15.

**[0052]** The pole 51 has a curved portion 51 a formed so as to wind from side to side between both end portions, and the axis of the parts other than the curved portion 51 a is disposed along the up-and-down direction. And the pole 51 is disposed at a certain distance from the upper surface of the base 5 and the lower surface of the upper member 6. A hollow seal member 52 is provided at the lower end portion of the pole 51. The seal member 52 is connected to the outer circumferential surface of the lower end portion of the pole 51 and to the upper surface of the base 5, and a closed space is formed between the lower end portion of the pole 51 and the base 5. Thereby, the lower end portion of the pole 51 is sealed. Additionally, liquid L fills the pole 51 and the closed space.

**[0053]** As for the colors of the pole 51 and the liquid L, any color is acceptable as long as it can visually entertain the player Y and people around the amusement device 2. Further, as long as it is possible to see from the outside bubbles K flowing, any member may be employed for the pole 51. For example, the pole 51 may be made of a translucent member instead of a transparent member. Further, the outer circumferential surface of the pole 51 may be adorned with the decoration described above. Additionally, a member having good ventilation may be provided at an upper end opening portion of the pole 51.

**[0054]** The support mechanism 55 is configured with: an upper support body 56 arranged on the lower surface of the upper member 6 for supporting the upper end portion of the pole 51; and a lower support body 59 arranged on the upper surface of the base 5 for supporting the lower end portion of the pole 51.

**[0055]** The upper support body 56 is configured with: a bearing 57, the axis of which is disposed along the up-and-down direction; and a hollow retaining member 58 arranged on the lower surface of the upper member 6 for retaining the bearing 57, and supports the upper end portion of the pole 51 so that the bearing 57 enables the pole 51 to rotate freely about the axis of the bearing 57. In the retaining member 58, a plurality of through holes 58a which penetrate from the outer circumferential surface to the inner circumferential surface thereof are formed.

**[0056]** The lower support body 59 is configured with a bearing 60, the axis of which is disposed along the up-and-down direction; and a hollow retaining member 61 arranged outside the seal member 52 on the upper surface of the base 5 for retaining the bearing 60, and supports the lower end portion of the pole 51 so that the bearing 60 enables the pole 51 to rotate freely about the axis of the bearing 60.

**[0057]** In the rotation drive mechanism 15, the second gear 18 is provided on the outer circumferential surface of the lower end portion side of the pole 51, and the pole 51 is rotated about the axis of the bearings 57 and 60.

**[0058]** The air supply mechanism 65 is configured with: an air pump 66 arranged on the base 5; and a supply pipe 67, one end of which is connected to the air pump 66 and the other end of which is connected to the inside of the closed space, and which is arranged below the lower end portion of the pole 51. In the air supply mechanism 65, when air is supplied into the closed space by the air pump 66 through the supply pipe 67, the supplied air changes into bubbles K, which rise up through the liquid L in the closed space and the pole 51.

**[0059]** The air supplied into the pole 51 is exhausted outside through the through holes 58a of the retaining member 58 and a through hole 76a of the upper cover body 76 after rising up inside the pole 51. Air may be supplied into the closed space by the air pump 66 continuously or intermittently.

**[0060]** The illumination mechanism 70 is configured with: a first light source 71 for illuminating the pole 51 from below it; and a second light source 72 for illuminating the pole 51 from above it. The first light source 71 is arranged on the base 5 in the closed space, and the second light source 72 is arranged on the lower surface of the upper member 6 so as to be located just above the pole 51. In the illumination mechanism 70, the inside of the pole 51 is illuminated by lights from the first light source 71 and the second light source 72.

**[0061]** For the light sources 71 and 72, a light emitting diode, an incandescent lamp or a fluorescent light may be used, for example. However, they are not limited thereto. Further, as for the colors of lights from the light sources 71 and 72, any color is acceptable as long as it can visually entertain the player Y and people around the amusement device 2.

**[0062]** The upper cover body 76 covers the lower support body 56 from below, thereby, preventing the player Y from being injured. Further, in the upper cover body 76, the through hole 76a into which the upper end portion of the pole 51 is inserted is formed. On the other hand, the lower cover body 77 covers the lower support body 59, the rotation drive mechanism 15 and the air supply mechanism 65 from above, thereby, preventing the player Y from being injured. Further, in the lower cover body 77, a through hole 77a into which the lower end portion of the pole 51 is inserted is formed.

**[0063]** The upper surface of the base 5 and the outer surface of the lower cover body 77 are covered with a not shown shock absorbing member, thereby also, preventing the player Y from being injured.

**[0064]** The second play portion 80 differs from the first play portion 50 in that a pole 81 having a shape which is different from the pole 51 is provided and in that the rotation drive mechanism 39 and the push button 43 are provided. The pole 81 is made of a circular tube-shaped and transparent member, and its axis is disposed in the up-and down direction. The same reference numerals are assigned to the same components as the first play portion 50, and detailed explanations thereof are omitted.

**[0065]** According to the second amusement device 2 configured in this way, the poles 51 and 81 are rotated about their respective axes by the rotation drive mechanisms 15 and 39, respectively, and the air supplied into the closed spaces by the air supply mechanisms 65 changes into bubbles K, which rise up through the liquid L in the poles 51 and 81. Further, the insides of the poles 51 and 81 are illuminated by lights from the illumination mechanisms 70. The player Y can play by climbing up and down these poles 51 and 81 with his/her arms and legs.

**[0066]** Therefore, according to the amusement device 2, because the player Y can climbs up and down the poles 51 and 81 while watching the bubbles K flowing through the liquid L from the lower end portion side to the upper end portion side thereof, it is possible to let the player Y play more happily. Further, by showing children around the amusement device 2 that the bubbles K flow, it is possible to attract the children and to lead them to play with the amusement device 2.

**[0067]** Further, by illuminating the insides of the poles 51 and 81 with lights from the illumination mechanisms 70, an illumination effect or a light-up effect can be obtained and it is possible to entertain the player Y and people around the amusement device 2. Further, it is possible to interest children around the amusement device 2 who watch the illuminated poles 51 and 81 or the light-up poles 51 and 81.

**[0068]** Additionally, besides such effects, effects similar to the above-described effects can be obtained.

**[0069]** The shapes of the poles 11. 31, 51 and 81 are not limited to the above-described shapes, and it is possible to employ various shapes. A bent portion may be provided on each of the poles 11 and 51 instead of the curved portions 11 a and 51 a. As shown in Fig. 11, the pole 11 may be formed so that the upper end side thereof is warped, and the pole 51 can have the same shape. In

this way, also when the bent portion is provided or the upper end portion thereof is warped, effects similar to the above can be obtained by diversifying the poles 11 and 51 themselves. In the case of the pole 11 shown in Fig. 11, the upper support member 13 for supporting the upper end portion of the pole 11 is omitted.

**[0070]** Embodiments for supporting the poles 11, 31, 51 and 81 are not particularly limited. Only the upper end portion or only the lower end portion may be supported. Or both of the upper and lower end portions may be supported.

**[0071]** The shock absorbing members covering the upper surface of the base 5, the outer surface of the cover body 20, the outer surface of the lower cover body 45 and the outer surface of the lower cover body 77 are not particularly limited. For example, a cushion using air, springs, rubber or sponge can be used.

**[0072]** Further, the arrangement position of each of the light sources 33, 71 and 77 is not limited as long as it is possible to illuminate the inside of the decorative body 32 or the inside of the pole 51 or 81.

Industrial Applicability

**[0073]** As described above, the present invention can be preferably applicable to an amusement device with which a player can enjoy more varied plays, and which can let the player play more happily and attract interests of children more strongly.

**Reference numerals**

**[0074]**

| | |
|---|---|
| 1 | Amusement device |
| 5 | Base |
| 6 | Upper member |
| 7 | Strut |
| 10 | First play portion |
| 11 | Pole |
| 12 | Support mechanism |
| 13 | Upper support member |
| 14 | Lower support member |
| 15 | Rotation drive mechanism |
| 16 | Drive motor |
| 17, 18 | Gear |
| 20 | Cover body |
| 30 | Second play portion |
| 31 | Pole |
| 32 | Decorative body |
| 33 | Light source |
| 34 | Support mechanism |
| 35 | First upper support member |
| 36 | First lower support member |
| 37 | Second upper support member |
| 38 | Second lower support member |
| 39 | Rotation drive mechanism |
| 40 | Drive motor |
| 41,42 | Gear |
| 44 | Upper cover body |
| 45 | Lower cover body |

**Claims**

**1.** An amusement device, comprising:

a pole (11; 31; 51; 81) which is formed along a predetermined direction and arranged in a standing state, and which a player climbs up and down;
support means (12 - 14; 34 - 38) having at least one bearing (57; 60) for supporting one end portion of the pole, the supporting means which supports an upper or lower end portion or both end portions of the pole so that the bearing enables the pole to rotate freely about the axis of the bearing; and
rotation drive means (15; 39) for rotating the pole about the axis of the bearing.

**2.** The amusement device according to claim 1, wherein the pole (11; 31; 51; 81) has a curved portion or a bent portion between both end portions.

**3.** The amusement device according to claim 1, wherein the outer circumferential surface of the pole (11; 31; 51; 81) is decorated.

**4.** The amusement device according to claim 3, wherein:

the pole (11; 31; 51; 81) is made of a tube-shaped and light-transmittable member; and a light source (71, 72) for illuminating the inside of the pole so that light transmits from the inside to the outside of the pole is provided inside the pole.

**5.** The amusement device according to claim 1, wherein:

the pole (11; 31; 51; 81) is made of a tube-shaped and light-transmittable member, the lower end portion of which is sealed;
the pole is filled with liquid; and
gas supply means (65) for supplying gas into the pole is connected to the lower end portion of the pole.

**6.** The amusement device according to claim 5, further comprising a light source (71, 72) for illuminating the inside of the pole so that light transmits from the inside to the outside of the pole.

**7.** An amusement device, comprising:

a pole (11; 31; 51; 81) which is made of a tube-shaped and light-transmittable member, the axis of which is directed in the up-and down direction, and which a player climbs up and down;
a decorative body which is made of a tube-shaped and light-transmittable member and arranged within the pole, and the outer circumferential surface of which is decorated;
a light source (71, 72) for illuminating the inside of the decorative body so that light transmits from the inside to the outside of the decorative body;
support means (12 - 14; 34 - 38) for supporting upper or lower end portions or both end portions of the pole and the decorative body so that one or both of the pole and the decorative body rotate freely about the axis thereof; and
rotation drive means (15; 39) for rotating one or both of the pole and the decorative body about the axis thereof.

**8.** The amusement device according to claim 7, wherein the outer circumferential surface of the pole is decorated.

**9.** The amusement device according to any of claims 1 to 8, further comprising a cushion provided in periphery of the lower end side of the pole.

FIG. 1

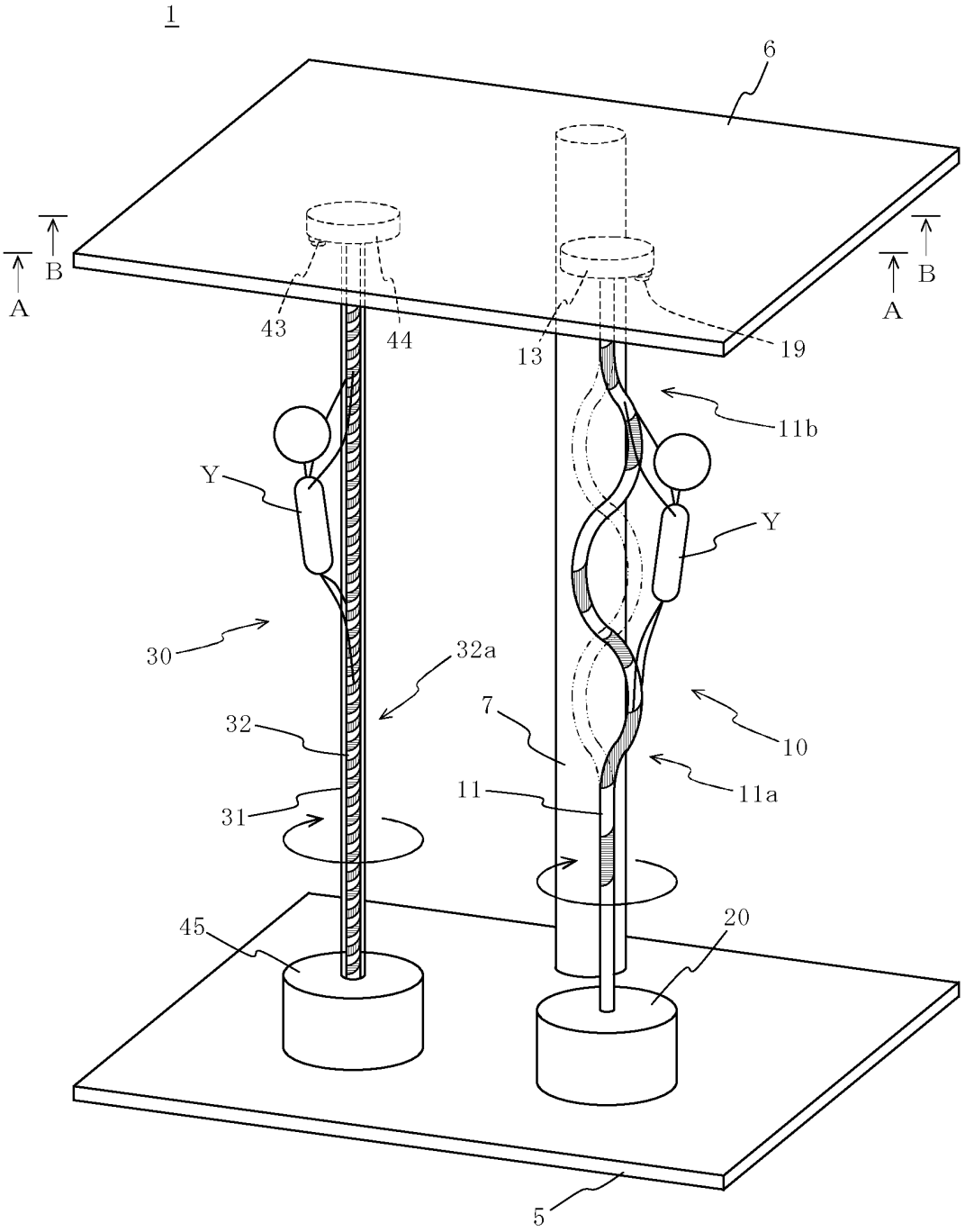


FIG. 2

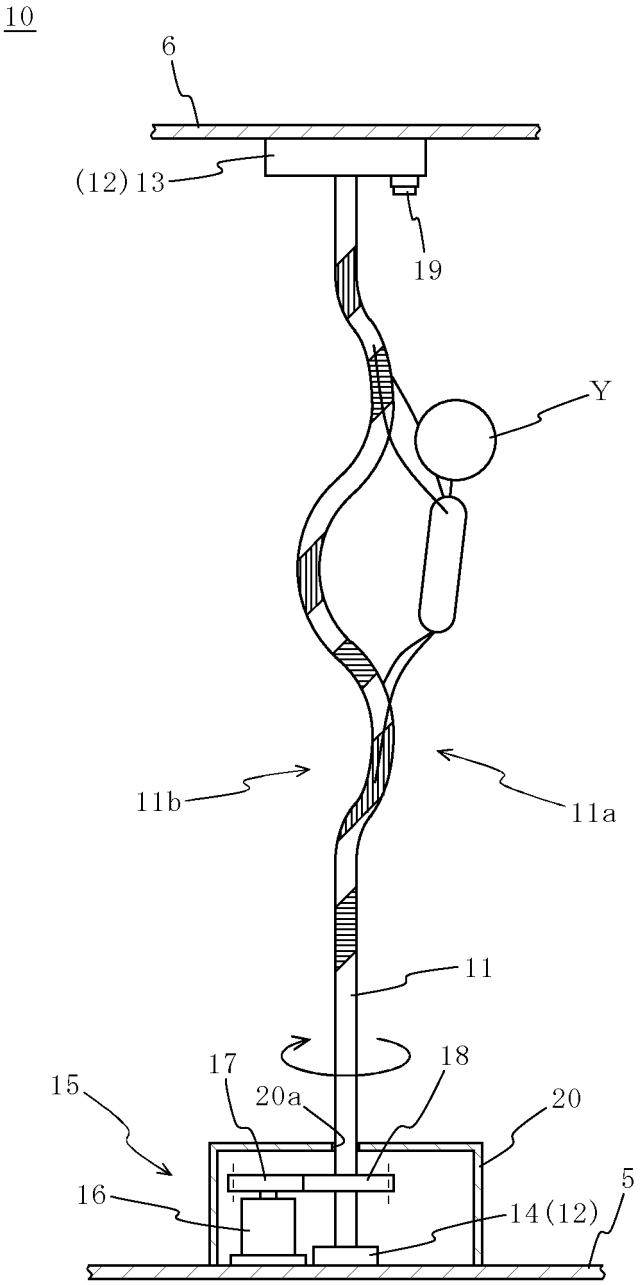


FIG. 3

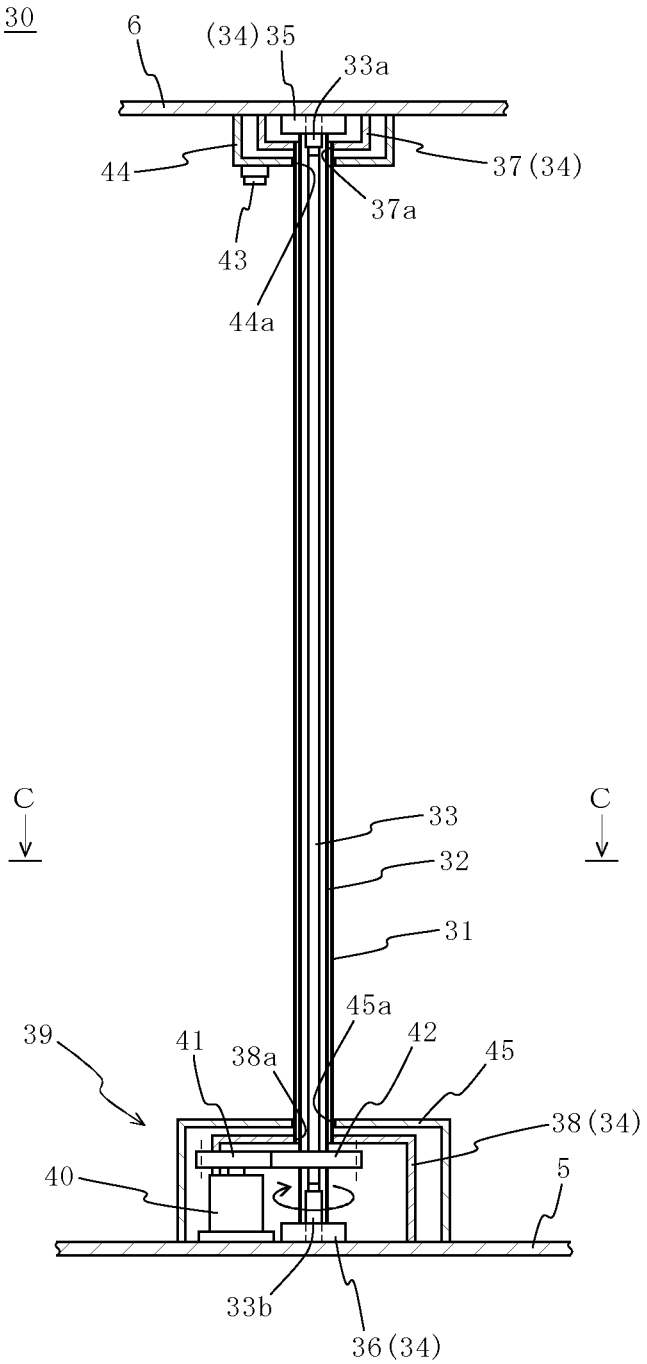

30
6
(34) 35
33a
44
37 (34)
37a
43
44a
C
C
33
32
31
45a
39
41
38a
42
45
38 (34)
40
5
33b
36 (34)

FIG. 4

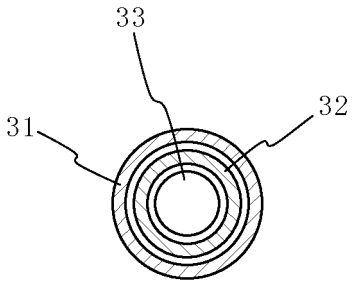



FIG. 5

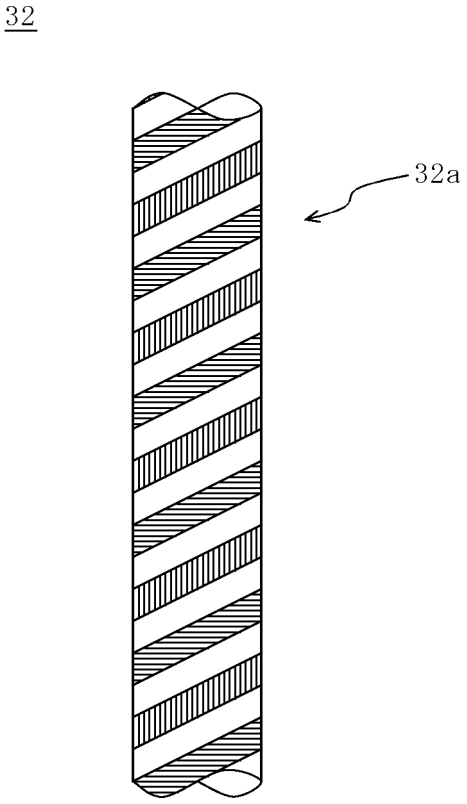


FIG. 6

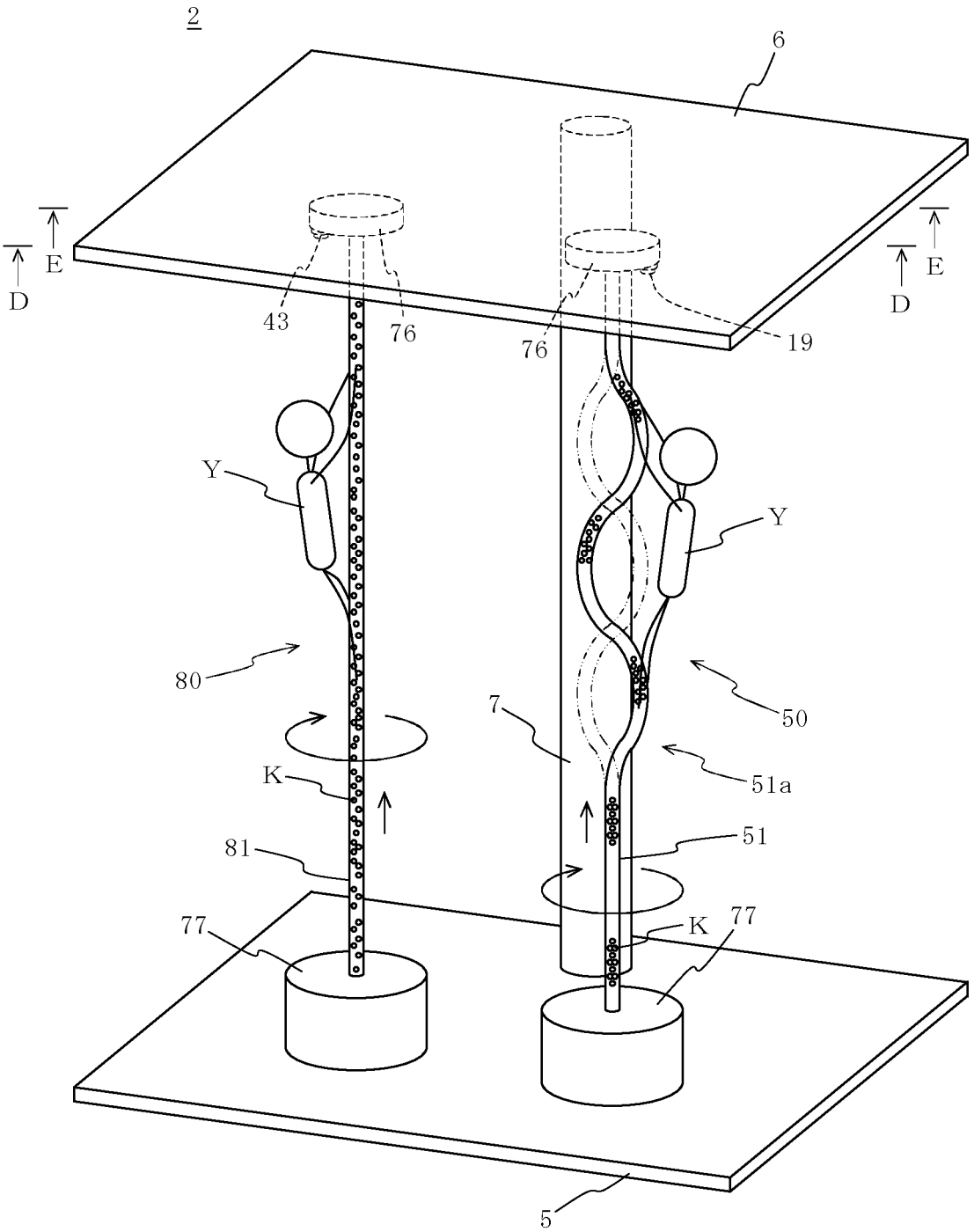


FIG. 7

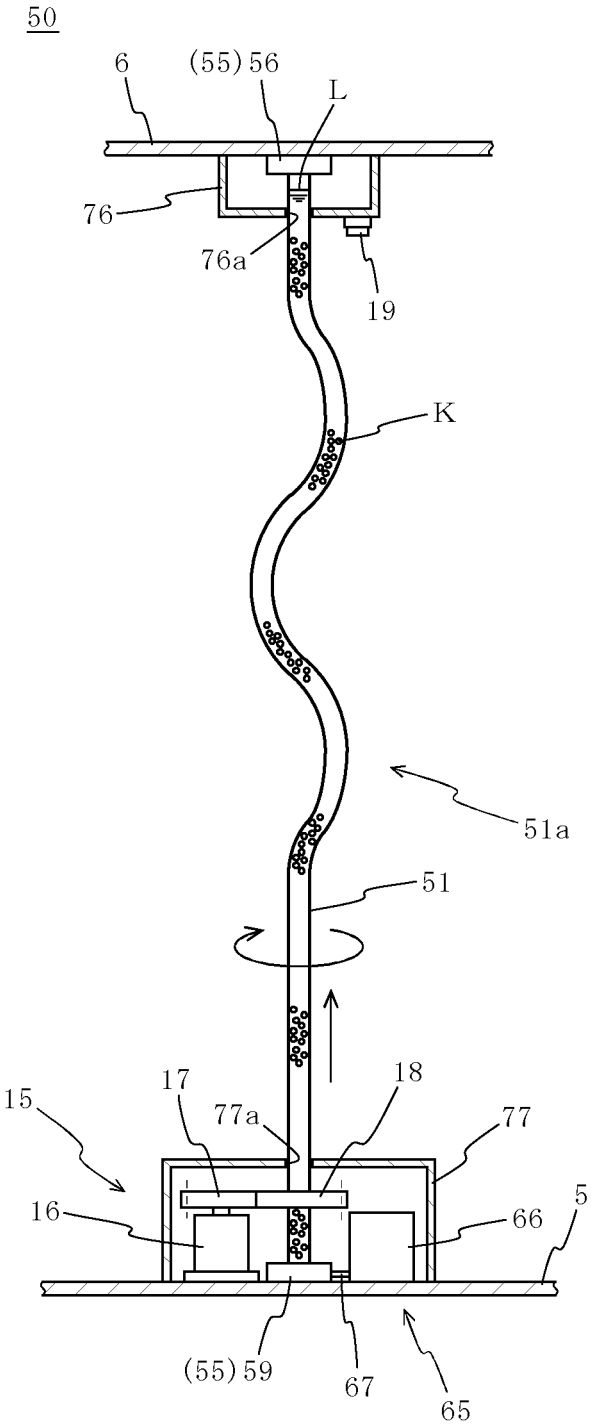


FIG. 8

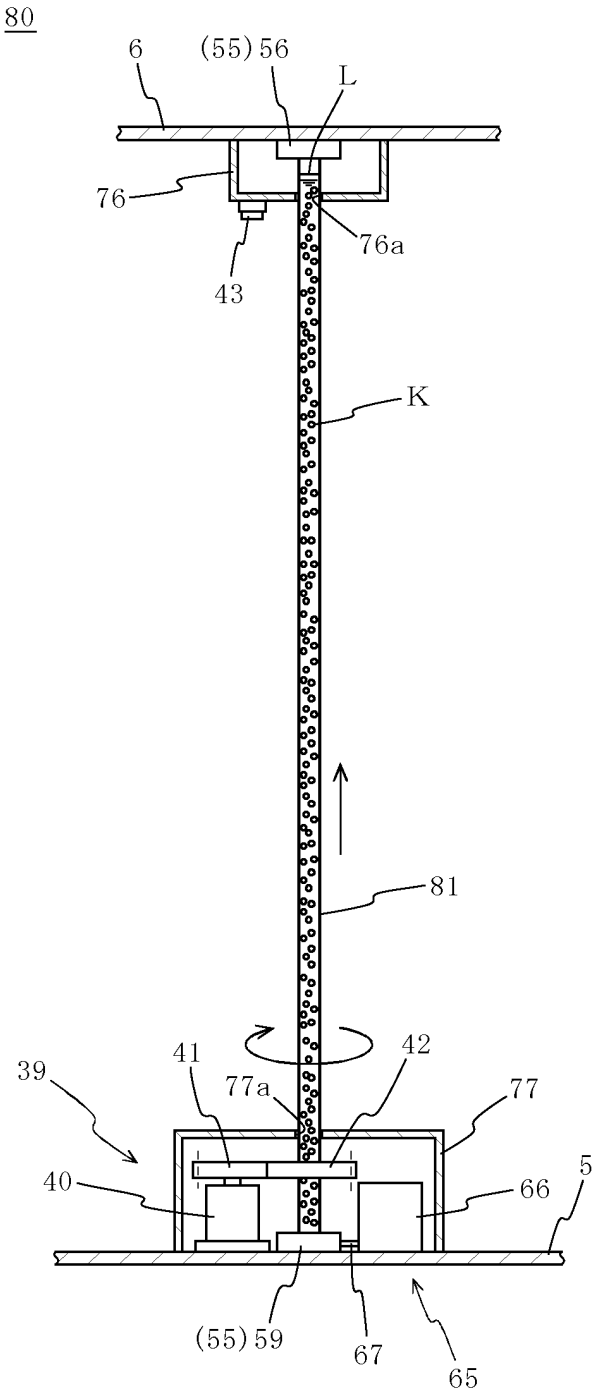


FIG. 9

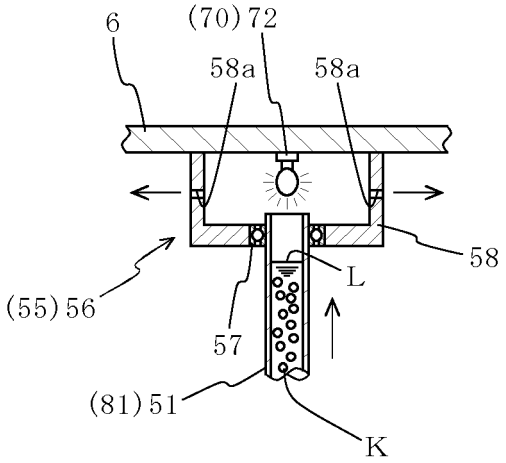

6
(70) 72
58a
58a
58
L
(55) 56
57
(81) 51
K

FIG. 10

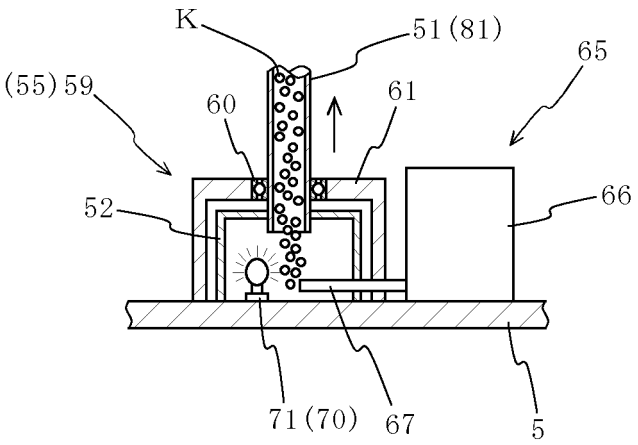
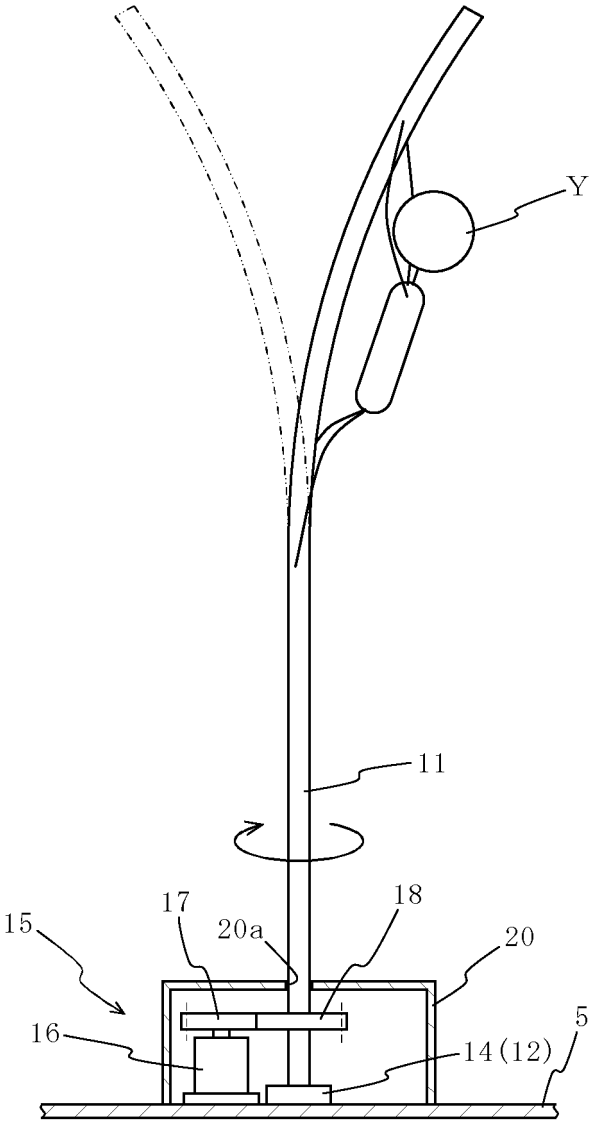

K
51 (81)
65
(55) 59
60
61
66
52
71 (70)
67
5

FIG. 11



**INTERNATIONAL SEARCH REPORT**

International application No.
PCT/JP2007/067263

A. CLASSIFICATION OF SUBJECT MATTER
*A63G31/02*(2006.01)i, *A63B9/00*(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A63G31/02, A63B9/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1922-1996 Jitsuyo Shinan Toroku Koho 1996-2007
Kokai Jitsuyo Shinan Koho 1971-2007 Toroku Jitsuyo Shinan Koho 1994-2007

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| X<br>Y | JP 2005-131215 A (BLD Oriental Co., Ltd.),<br>26 May, 2005 (26.05.05),<br>Full text; all drawings<br>(Family: none) | 1-3,9<br>4,7-8 |
| Y | JP 2005-517278 A (Color Kinetics, Inc.),<br>09 June, 2005 (09.06.05),<br>Par. Nos. [0016], [0330] to [0334];<br>Figs. 54 to 55<br>& US 2004 0160199 A1 & WO 2003/067934 A2 | 4,7-8 |

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"&" document member of the same patent family

| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 16 October, 2007 (16.10.07) | 23 October, 2007 (23.10.07) |
| Name and mailing address of the ISA/<br>Japanese Patent Office<br><br>Facsimile No. | Authorized officer<br><br>Telephone No. |

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**INTERNATIONAL SEARCH REPORT**

International application No.
PCT/JP2007/067263

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| A | Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 141661/1985(Laid-open No. 50662/1987) (Mitsubishi Electric Corp.), 28 March, 1987 (28.03.87), Description, page 4, line 12 to page 5, line 10 (Family: none) | 3,7-8 |
| A | JP 3114382 U (Makoto AOKI), 27 October, 2005 (27.10.05), Abstract (Family: none) | 5-6 |
| A | JP 2005-131207 A (BLD Oriental Co., Ltd.), 26 May, 2005 (26.05.05), Full text; all drawings (Family: none) | 5-6 |
| P,A | yu kids Island, BLD Oriental Co., Ltd., 15 September, 2006 (15.09.06) (received date), page 2, "2006 New Item" | 1-9 |

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## REFERENCES CITED IN THE DESCRIPTION

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