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(54) Title: AMUSEMENT DEVICE WITH WRITING/DRAWING SURFACE

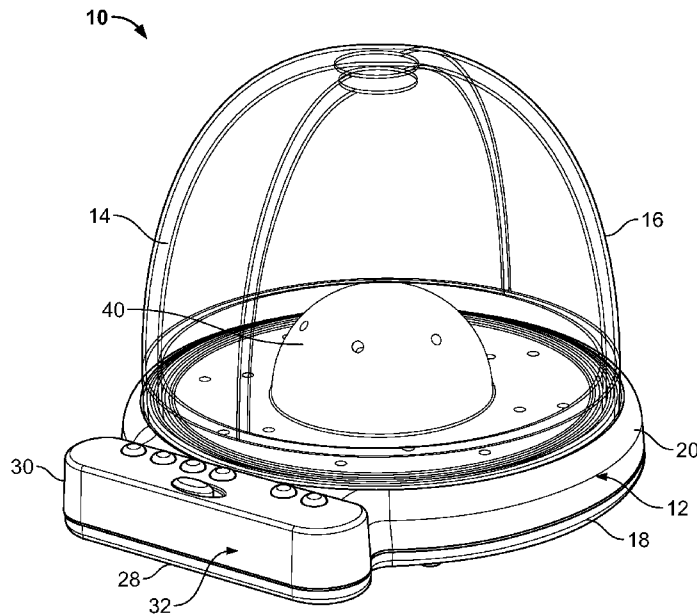


FIG. 1

(57) Abstract: An amusement device (10) includes a housing (20) and a light unit (40) positioned on the housing (20). A mounting ring (24) is rotatably positioned on the housing (20), encircling the light unit (40). The amusement device (10) also includes an inner cover (14) sized and shaped so as to be mounted on the mounting ring (24) for rotation therewith. The inner cover (14) has a first hemispherical surface (60) adapted for covering the light unit (40) and for placement of markings thereon. The amusement device further includes an outer cover (16) sized and shaped so as to be mounted in a stationary location on the housing (20). The outer cover (16) has a second hemispherical surface (66) adapted for covering the inner cover (14) and for placement of markings thereon. The light unit (40) is adapted to illuminate the inner and outer covers (14, 16) and any markings placed thereon. A motor unit (52) is positioned in the housing (20) for rotating the mounting ring (24), while a control unit (34) is positioned in the housing (20) and adapted to actuate



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the motor unit (34) such that the inner cover (14) is rotatable relative to the outer cover (16) upon actuation of the motor unit (34), whereby any markings placed on the inner cover (14) are rotatable relative to any markings placed on the outer cover (16).

AMUSEMENT DEVICE WITH WRITING/DRAWING SURFACE

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priority to U.S. Patent Application No. 62/710,418 filed February 16, 2018, the entire disclosure of which is incorporated herein by reference.

5 FIELD OF THE INVENTION

[0002] The present invention relates to amusement devices, and more particularly, to an amusement device that illuminates and allows a user to draw or write on a surface thereof.

BACKGROUND OF THE INVENTION

10 [0003] A variety of toy devices are presently available for providing fun and amusement to users. New toy devices are being introduced to consumers for providing different or new user-experience and/or amusement.

SUMMARY OF THE INVENTION

15 [0004] In accordance with embodiments of the present invention, an amusement device includes a housing and a light unit positioned on the housing. A mounting ring is rotatably positioned on the housing, encircling the light unit. The amusement device also includes an inner cover sized and shaped so as to be mounted on the mounting ring for rotation therewith. The inner cover has a first hemispherical surface adapted for covering the
20 light unit and for placement of markings thereon. The amusement device further includes an outer cover sized and shaped so as to be mounted in a stationary location on the housing. The outer cover has a second hemispherical surface adapted for covering the inner cover and for placement of markings thereon. The light unit is adapted to illuminate the inner and outer covers and any markings placed thereon. A motor unit is positioned in the housing for
25 rotating the mounting ring, while a control unit is positioned in the housing and adapted to actuate the motor unit such that the inner cover is rotatable relative to the outer cover upon actuation of the motor unit, whereby any markings placed on the inner cover are rotatable relative to any markings placed on the outer cover.

30 BRIEF DESCRIPTION OF THE DRAWINGS

[0005] In the drawing figures, which are not to scale, and where like reference numerals indicate like elements throughout the several views:

[0006] FIG. 1 is a perspective view of an amusement device constructed in accordance with an embodiment of the present invention;

[0007] FIG. 2 is a top plan view of the amusement device shown in FIG. 1;

[0008] FIG. 3 is a left side elevational view of the amusement device shown in FIG. 1;

[0009] FIG. 4 is an exploded, perspective view of the amusement device shown in FIG. 1;

[0010] FIG. 5 is an enlarged view of a portion of the amusement device shown in FIG. 4; and

10 [0011] FIG. 6 is a top plan view of the amusement device shown in FIG. 1, with its covers removed.

DESCRIPTION OF EMBODIMENTS OF THE INVENTION

[00012] Embodiments are now discussed in more detail referring to the drawings that
15 accompany the present application. In the accompanying drawings, like and/or corresponding elements are referred to by like reference numbers.

[00013] Various embodiments are disclosed herein; however, it is to be understood that the disclosed embodiments are merely illustrative of the disclosure that can be embodied in various forms. In addition, each of the examples given in connection with the various
20 embodiments is intended to be illustrative, and not restrictive. Further, the figures are not necessarily to scale, and some features may be exaggerated to show details of particular components (and any size, material and similar details shown in the figures are intended to be illustrative and not restrictive). Therefore, specific structural and functional details disclosed herein are not to be interpreted as limiting, but merely as a representative basis for teaching
25 one skilled in the art to variously employ the disclosed embodiments.

[00014] Subject matter will now be described more fully hereinafter with reference to the accompanying drawings, which form a part hereof, and which show, by way of illustration, specific example embodiments. Subject matter may, however, be embodied in a variety of different forms and, therefore, covered or claimed subject matter is intended to be
30 construed as not being limited to any example embodiments set forth herein; exemplary embodiments are provided merely to be illustrative. Among other things, for example, subject matter may be embodied as methods, devices, components, or systems. The following detailed description is, therefore, not intended to be taken in a limiting sense.

[00015] Throughout the specification and/or claims, terms may have nuanced meanings suggested or implied in context beyond an explicitly stated meaning. Likewise, the phrase “in one embodiment” as used herein does not necessarily refer to the same embodiment and the phrases “in another embodiment” and “other embodiments” as used
5 herein do not necessarily refer to a different embodiment. It is intended, for example, that covered or claimed subject matter include combinations of example embodiments in whole or in part.

[00016] In general, terminology may be understood at least in part from usage in context. For example, terms, such as “and”, “or”, or “and/or,” as used herein may include a
10 variety of meanings that may depend at least in part upon the context in which such terms are used. Typically, “or” if used to associate a list, such as A, B, or C, is intended to mean A, B, and C, here used in the inclusive sense, as well as A, B, or C, here used in the exclusive sense. In addition, the term “one or more” as used herein, depending at least in part upon
15 context, may be used to describe any feature, structure, or characteristic in a singular sense or may be used to describe combinations of features, structures or characteristics in a plural sense. Similarly, terms, such as “a,” “an,” or “the,” again, may be understood to convey a singular usage or to convey a plural usage, depending at least in part upon context. In
20 addition, the term “based on” may be understood as not necessarily intended to convey an exclusive set of factors and may, instead, allow for existence of additional factors not necessarily expressly described, again, depending at least in part on context.

[00017] FIGS. 1-3 show an amusement device 10 constructed in accordance with an embodiment of the present invention. More particularly, the amusement device 10 includes a housing 12 and inner and outer covers 14, 16 removably mounted on the housing 12. The housing 12 has a bottom housing section 18 and an upper housing section 20, which is
25 mounted on the bottom housing section 18. An annular support plate 22 (see FIGS. 4 and 5) is fixedly secured to the bottom housing 18, while a rotatable track 24 (or mounting ring) (see FIGS. 4 and 5) is rotatably positioned on the support plate 22 and includes a ring-shaped groove 26 for purposes to be discussed herein below.

[00018] Now referring to FIGS. 1 and 4, the bottom and upper housing sections 18, 20
30 have laterally projecting portions 28, 30 respectively, which mate with one another to form a compartment 32 therebetween for receiving various electronic components therein. A controller 34 is positioned in the compartment 32 for controlling the operation of the amusement device 10. In one embodiment, the control 34 is in the form of a printed circuit board (“PCB”). Various control buttons 36 (see FIGS. 2 and 5) are provided for engaging

with the controller 34. The bottom housing section 18 also includes a receptacle 38 for receiving and storing a power source, such as a battery.

[00019] With reference to FIGS. 1, 4 and 5, a light unit 40 is positioned on the housing 12 for illuminating the amusement device 10. In one embodiment, the light unit 40 includes a hemispherical section 40a and a planar section 40b projecting from the hemispherical section 40a. The light unit 40 is also provided with a plurality of apertures 42 and light elements 44, such as LED light elements, each of which is positioned in a corresponding one of the apertures 42. In one embodiment, a PCB 46 is provided within the housing 12 and connected to the light elements 44 and the controller 34 for the proper operation of the light elements 44.

[00020] In one embodiment, the track 24 includes a gear 48 formed on a bottom, inner portion thereof (see FIG. 5). More particularly, the gear 48 includes a plurality of gear teeth 50 provided along the entire circumference of the inner bottom portion of the track 24. A gear system 52 (see FIG. 5) is arranged on the support plate 22 and/or on the bottom housing section 18. The gear system 52, which includes an electrical motor 54 connected to the controller 34, engages the gear teeth 50 so as to rotate the track 24 when the controller 34 activates the motor 54. In one embodiment, guide gears 56 (see FIG. 5) are positioned on the support plate 22 and/or the bottom housing section 18 for engaging the gear teeth 50 so as to guide the rotational movement of the track 24. It is noted that the inner cover 14 may be rotated by any suitable rotating mechanism, which will be apparent to a person skilled in the art.

[00021] Now referring to FIGS. 1, 4 and 6, the inner cover 14, which is placed on the housing 12 over the light unit 40, includes a lower annular bottom 58 sized and shaped so as to be removably received in the groove 26 of the track 24. More particularly, the bottom 58 of the inner cover 14 fits snugly in the groove 26 such that the inner cover 14 rotates together with the track 24 when the motor 54 is energized by the controller 34.

[00022] In one embodiment, the inner cover 14 is translucent so as to allow light from the light elements 44 to pass therethrough such that the outer cover 16 can be illuminated. In one embodiment, the inner cover 14 can be made from, or coated with, a translucent material. Because the inner cover 14 is translucent, the light unit 40 is hidden from view, and the inner cover 14 appears to be “glowing” when the light elements 44 are illuminated.

[00023] In one embodiment, the inner cover 14 has an outer surface 60 (see FIG. 4) on which a user may write or draw using one or more writing or drawing tools, such as erasable markers, crayons, pens, etc. More particularly, a user may write or draw various letters,

designs, pictures, etc. on the outer surface 60 so as to create a moving image when the motor 54 is energized to rotate the track 24 and the inner cover 14. In another embodiment, materials, such as removable stickers, decorations, etc., may be placed on the outer surface 60 of the inner cover 14.

5 [00024] Now referring to FIGS. 1, 4 and 6, the outer cover 16 has an annular bottom 62 which sized and shaped so as to be removably received in a ring-shaped groove 64 (see FIG. 6) formed on the upper housing section 20. As a result, the outer cover 16 does not rotate relative the housing 12 and remains stationary while the inner cover 16 is rotated.

[00025] In one embodiment, the outer cover 16 is transparent such that the inner cover 14 and designs written or drawn thereon are visible to a user through the outer cover 16. The 10 outer cover 16 also has an outer surface 66 (see FIG. 4) on which a user may write or draw with one or more writing or drawing tools, such as erasable markers, crayons, pens, etc. More particularly, a user may write or draw various letters, designs, pictures, etc. on the outer surface 66. In another embodiment, materials, such as removable stickers, decorations, etc., 15 may be placed on the outer surface 66 of the outer cover 16. In yet another embodiment, an inner surface of the outer cover 16 may be used to write, draw or otherwise place one or more images thereon. As used herein, the term “image” or “marking” means anything that is or can be written, drawn or placed, either temporarily or permanently, on the inner or outer cover 14, 16.

20 [00026] The image placed on the outer cover 16 is superimposed on or over the image placed on the inner cover 14. When the motor 54 is activated by pressing one of the control buttons 36, the inner cover 14 rotates together with the image placed thereon. As a result, the image on the inner cover 14 moves relative to the image on the outer cover 16 (which remains stationary) so as to provide a unique visual effect. To further enhance amusement, 25 the device 10 may be equipped with a sound system, including a speaker.

[00027] It will be understood that the embodiments described herein are merely exemplary and that a person skilled in the art may make many variations and modifications without departing from the spirit and scope of the invention. All such variations and modifications are intended to be included within the scope of the invention, as defined by the 30 appended claims.

CLAIMS:

1. An amusement device, comprising a housing; a light unit positioned on said housing; a mounting ring rotatably positioned on said housing and encircling said light unit; an inner cover sized and shaped so as to be mounted on said mounting ring for rotation therewith, said inner cover having a first hemispherical surface adapted for covering said light unit and for placement of markings thereon; an outer cover sized and shaped so as to be mounted in a stationary location on said housing, said outer cover having a second hemispherical surface adapted for covering said inner cover and for placement of markings thereon, said light unit being adapted to illuminate said inner and outer covers and any markings placed thereon; a motor unit positioned in said housing for rotating said mounting ring; and a control unit positioned in said housing and adapted to actuate said motor unit such that said inner cover is rotatable relative to said outer cover upon actuation of said motor unit, whereby any markings placed on said inner cover are rotatable relative to any second markings placed on said outer cover.

2. The amusement device of Claim 1, wherein said light unit includes a hemispherical section and a planar section projecting laterally outwardly from said hemispherical section, said light unit including a plurality of light elements mounted on said hemispherical and planar sections.

3. The amusement device of Claim 2, wherein said first hemispherical surface of said inner cover is sized and shaped so as to cover said hemispherical and planar sections and said light elements.

4. The amusement device of Claim 3, wherein said hemispherical section projects upwardly from said planar section.

5. The amusement device of Claim 4, wherein said inner cover is made from a translucent material such that said light unit hidden from view when said inner cover is placed over said light unit.

6. The amusement device of Claim 1, wherein said mounting ring includes a first ring-shaped groove, said inner cover including a first annular bottom sized and shaped so as to be received in said first ring-shaped groove.

7. The amusement device of Claim 6, further comprising a set of guide gears positioned in said housing for guiding the rotation of said mounting ring.

8. The amusement device of Claim 6, wherein said outer cover includes a second annular bottom, said housing including a second ring-shaped groove for receiving said second annular bottom of said outer housing.

9. The amusement device of Claim 6, wherein said mounting ring includes a set of gear teeth for engagement with said motor unit.

10. The amusement device of Claim 8, wherein said motor unit includes at least one gear for engagement with said set of gear teeth of said mounting ring.

5 11. The amusement device of Claim 1, wherein said control unit is adapted to actuate said light.

12. The amusement device of Claim 11, wherein said control unit includes a power source.

10 13. The amusement device of Claim 1, wherein said markings include letters, designs, pictures, stickers and/or other decorations placed by a user.

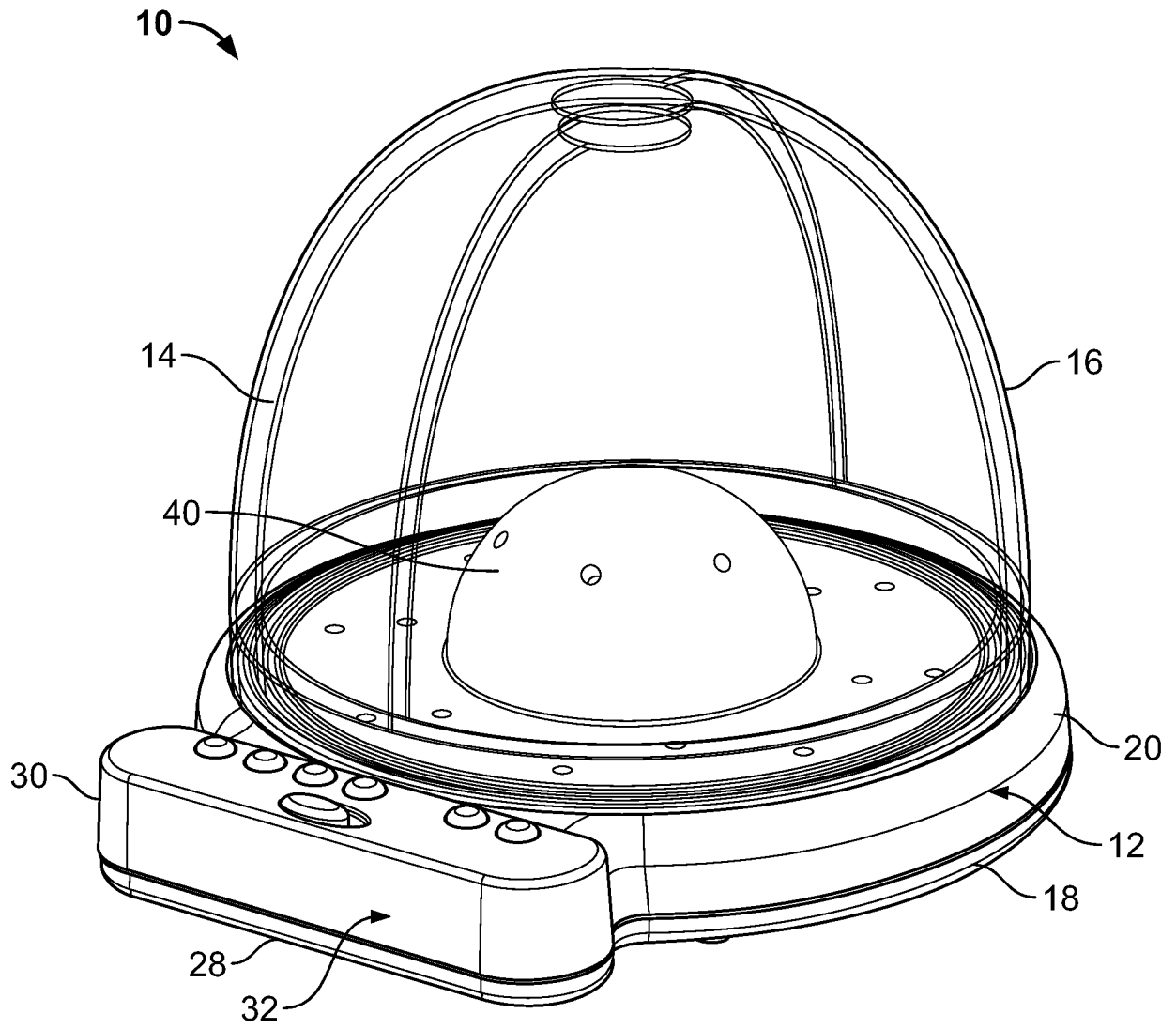


FIG. 1

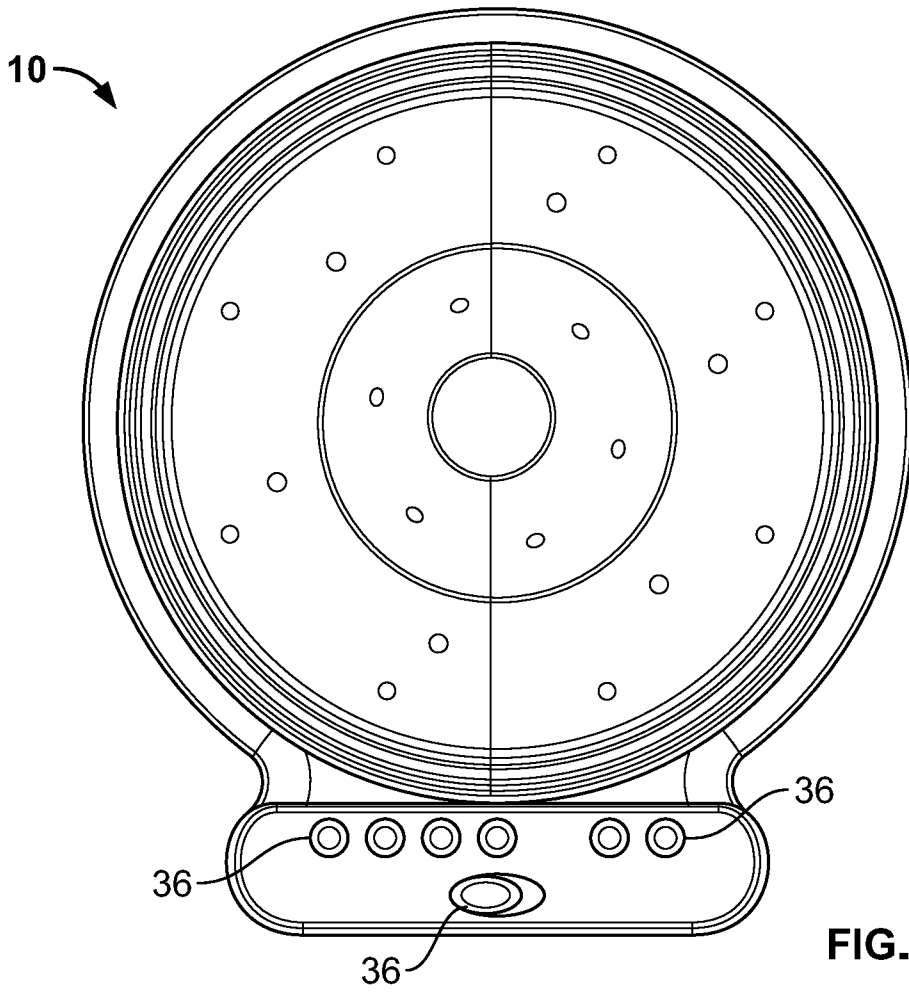


FIG. 2

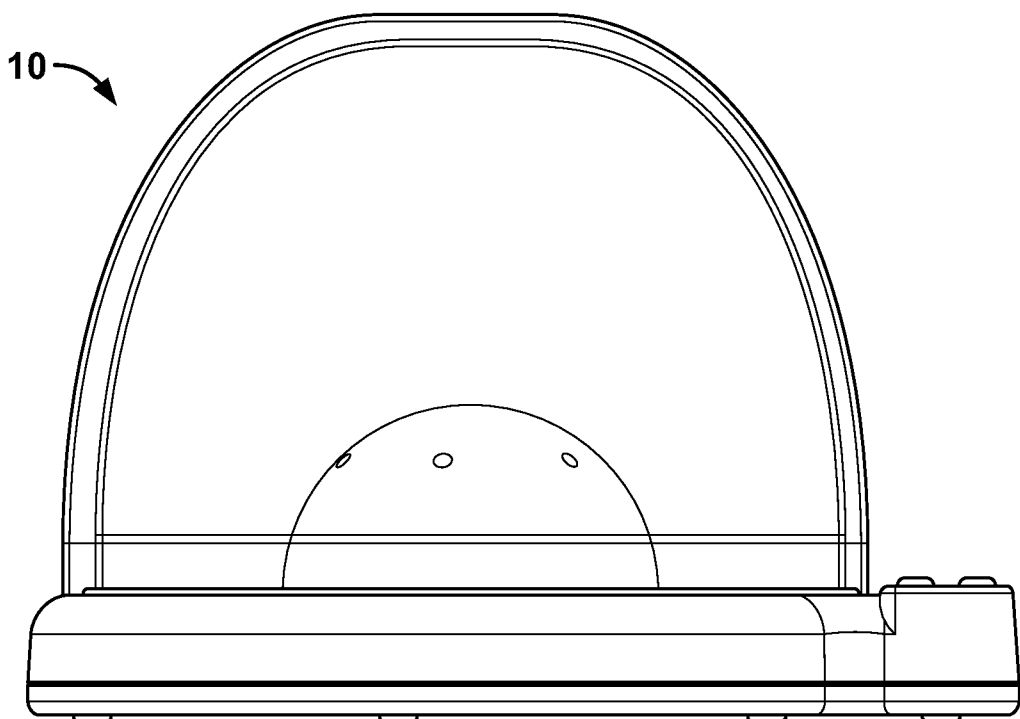
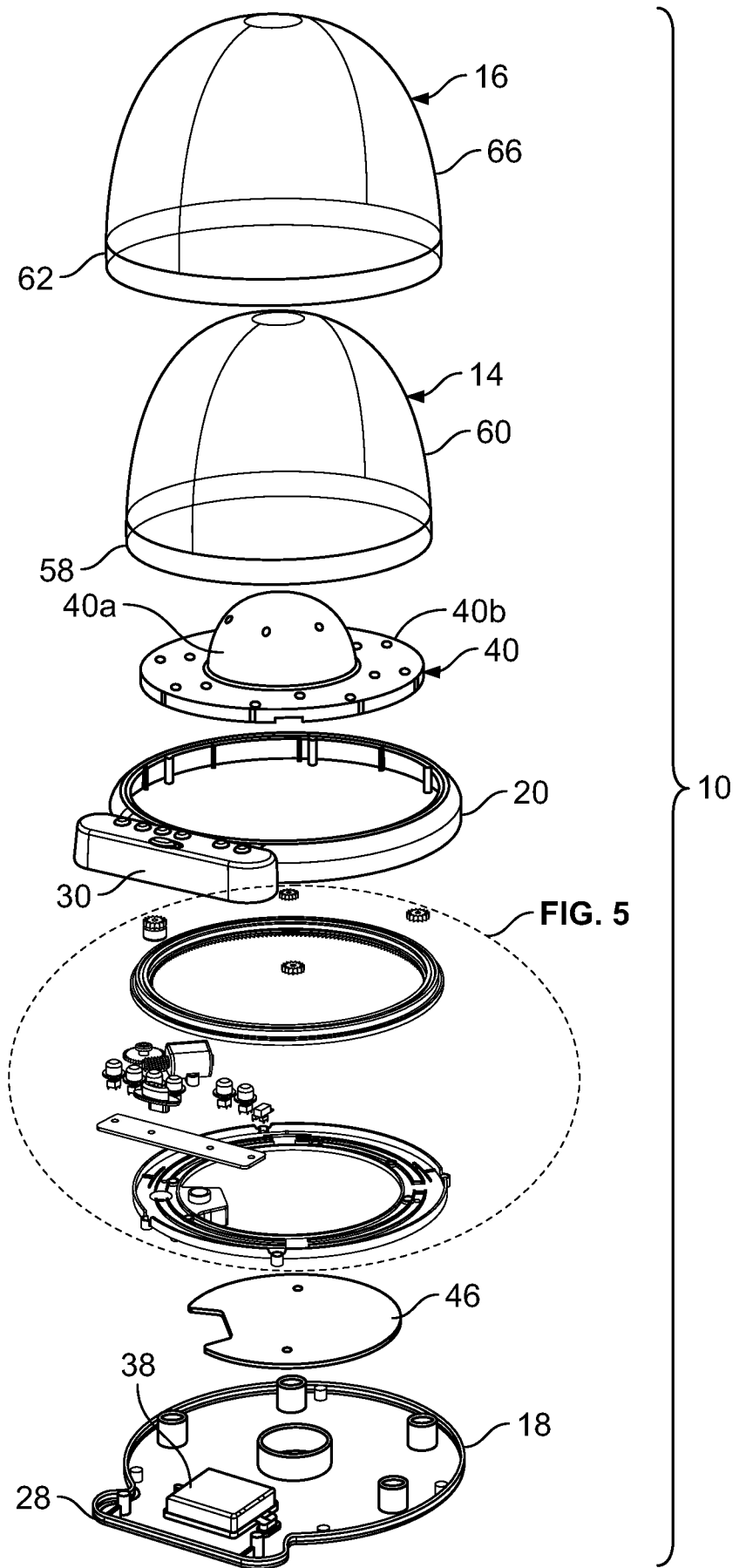


FIG. 3



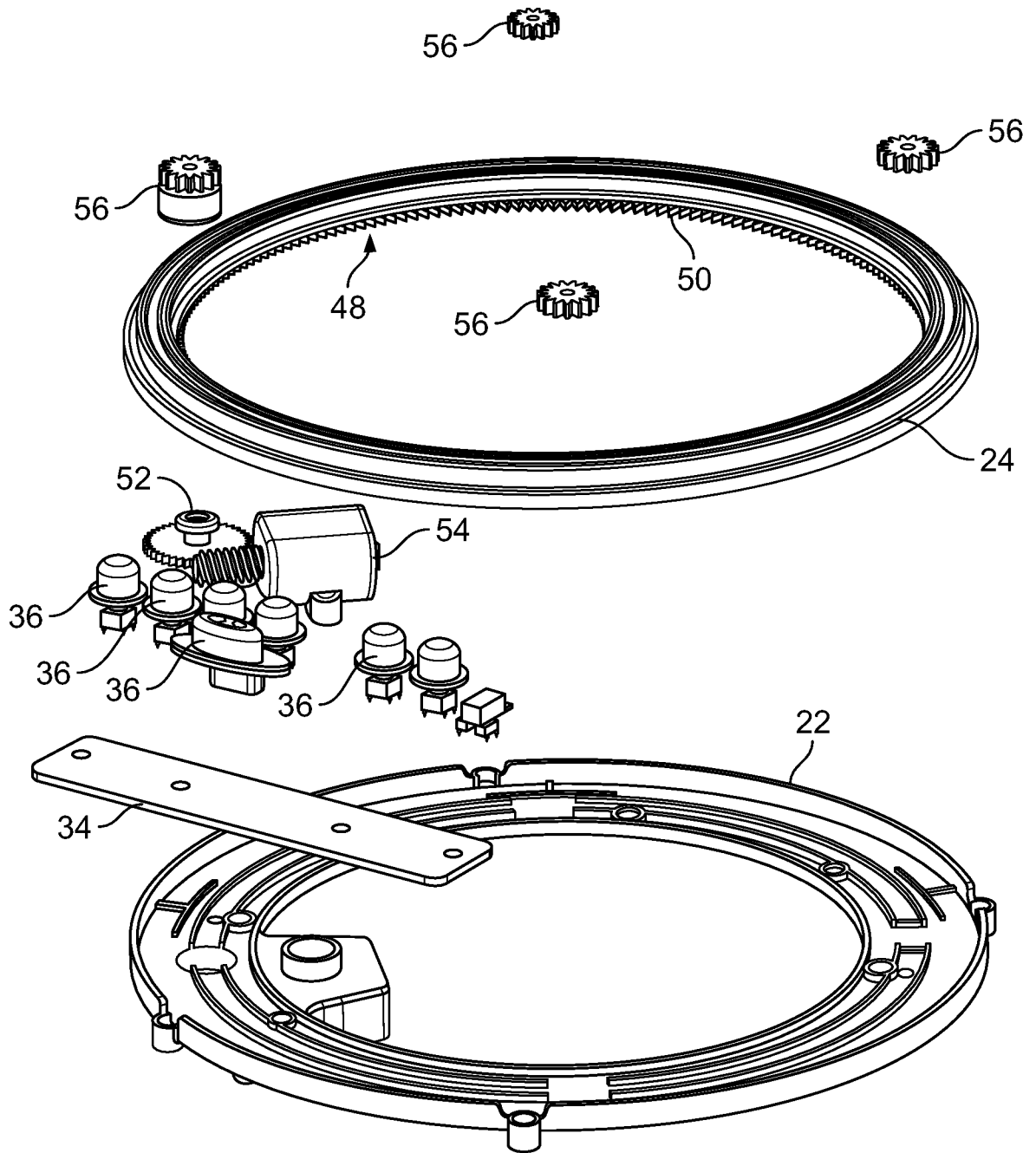


FIG. 5

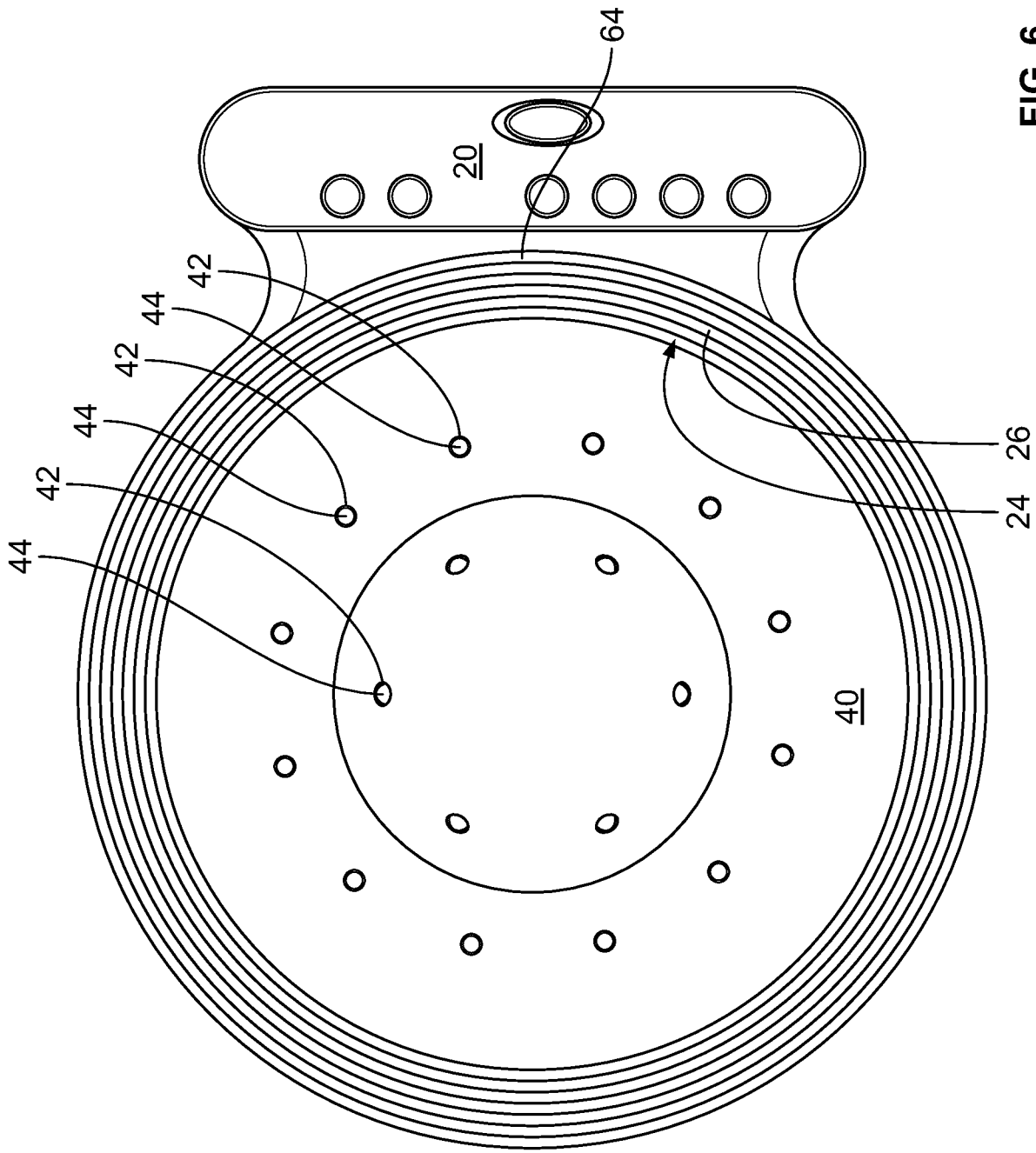


FIG. 6

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2019/018288

A. CLASSIFICATION OF SUBJECT MATTER
INV. A63H33/00 A63H33/22
ADD.
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)
A63H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2017/038035 A1 (LIU CONGGANG [CN]) 9 February 2017 (2017-02-09) paragraphs [29]-[33], [35]-[36]; figures 2, 4, 3	1-13
A	----- US 2002/089856 A1 (VOGEL DAVID S [US] ET AL) 11 July 2002 (2002-07-11) the whole document	1-13
A	----- US 4 173 038 A (KIEFER JEFFREY N [US]) 30 October 1979 (1979-10-30) the whole document	1-13
A	----- US 3 808 721 A (GERSCH W) 7 May 1974 (1974-05-07) the whole document	1-13
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Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Date of the actual completion of the international search 5 April 2019	Date of mailing of the international search report 25/04/2019
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Turmo, Robert
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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2019/018288

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 022 118 A (WU RAYMOND [TW]) 8 February 2000 (2000-02-08) the whole document -----	1-13

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2019/018288

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2017038035	A1	09-02-2017	CN 105066055 A
			US 2017038035 A1
			18-11-2015
			09-02-2017

US 2002089856	A1	11-07-2002	NONE

US 4173038	A	30-10-1979	NONE

US 3808721	A	07-05-1974	GB 1444970 A
			04-08-1976
			JP S4996699 A
			12-09-1974
			JP S5225319 B2
			06-07-1977
			US 3808721 A
			07-05-1974
			ZA 7308482 B
			30-10-1974

US 6022118	A	08-02-2000	NONE
