



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
29.05.2024 Bulletin 2024/22

(51) International Patent Classification (IPC):
A24F 40/30^(2020.01) A24F 40/10^(2020.01)

(21) Application number: **23158069.7**

(52) Cooperative Patent Classification (CPC):
A24F 40/30; A24F 40/42; A24F 40/10

(22) Date of filing: **22.02.2023**

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL
NO PL PT RO RS SE SI SK SM TR**
Designated Extension States:
BA
Designated Validation States:
KH MA MD TN

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(30) Priority: **22.11.2022 GB 202217469**

(54) **A MULTI-TANK ROTATING E-CIGARETTE**

(57) A multi-tank rotating e-cigarette, which includes a suction nozzle (1), a rotating storage mechanism (2), a battery compartment (3), the nozzle is installed to one end of the rotating storage mechanism, the other end of the rotating reservoir is connected to the battery reservoir, the middle of the reservoir magnet (23) is provided at the end of the reservoir protection shell (25), and the inlet and battery electrode head are set on the battery protection shell. The beneficial effect of the present invention is that the e-cigarette can have a number of oil warehouses at the same time, which can change the atomization operation of the different oil tanks without changing the circuit and airway of the e-cigarette, effectively avoid the cross smell between the different oil tanks, and increase the use experience of the user.

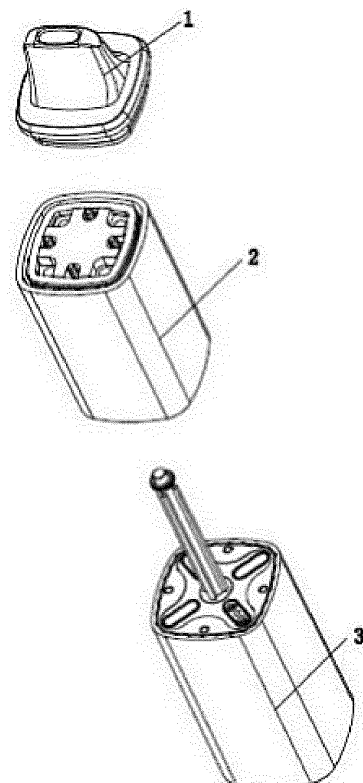


FIG. 3

Description

TECHNICAL FIELD

[0001] The invention relates to an e-cigarette, specifically to a multi-tank rotatable e-cigarette.

BACKGROUND TECHNOLOGY

[0002] Electronic cigarette is a kind of imitation cigarette electronic products, has the same as cigarette appearance, smoke, taste and feeling, at present, the taste on the market has the same as cigarette appearance, smoke, taste and feeling, generally through the switch electronic cigarette internal circuit, so as to realize different bunker atomization operation, generally limited to two or three tank switch between each other, and the airway is relatively dispersed, lead to different tank taste taste problem, affect the user experience.

INVENTION CONTENT

[0003] The object of the present invention is to provide a multi-tank rotating e-cigarette, the e-cigarette can have multiple tanks at the same time, without the need to change the circuit and airway of the e-cigarette, effectively avoid the smell between the different silos, and increase the use experience of the user.

[0004] To achieve the above purpose, The present invention adopts the following technical scheme: a multi-oil tank rotatable e-cigarette, It includes suction nozzle 1, rotary fluid reservoir mechanism 2, battery compartment 3, The suction nozzle 1 is mounted to one end of the rotary reservoir mechanism 2, The other end of the rotating reservoir mechanism 2 is connected to the battery compartment 3, The rotary reservoir mechanism 2 includes a rotary hole 21, a reservoir 22, an upper magnet 23, a reservoir electrode head 24, a reservoir protection housing 25, The rotary hole 21 is provided in the middle part of the rotary hole 21, An upper magnet 23 is provided on one end of the reservoir protection housing 25, The reservoir 22 is provided on the reservoir protection housing 25, The reservoir tank 22 is provided with a reservoir electrode head 24, The battery compartment 3 includes a rotation shaft 31, a lower magnet 32, a battery protection housing 33, an air inlet hole 34, a battery electrode head 35, The rotation shaft 31 is fixed in the middle above the battery protection housing 33, The lower magnet 32 is provided on the upper side of the battery protection case 33, The inlet hole 34 and the battery electrode head 35 are provided on the battery protection housing 33.

[0005] Further, both the upper magnet 23 and the lower magnet 32 are provided with at least 2, and the upper magnet 23 is magnetically connected to the lower magnet 32.

[0006] Further, one end of the rotary liquid reservoir 2 is provided with an outlet vent 26 for facilitating gas circulation and a suction nozzle mounting groove 27 for

mounting the suction nozzle 1.

[0007] Further, a fill head 28 is provided on one end of the reservoir 22.

[0008] Further, the rotary shaft 31 is inserted into the rotary hole 21, and the upper end of the rotary shaft 31 is provided with the upper sealing silicone 37, and the lower end of the rotary shaft 31 has a lower sealing silicone 36.

[0009] Further, the reservoir 22 is provided with at least two, and the center is equally spaced over the reservoir protection housing 25 based on the rotary hole 21.

[0010] Further, the battery compartment 3 is provided with a vent 301 and a charging port 302.

[0011] Further, the nozzle 1 comprises a nozzle 11, a suction head 12, and a nozzle base 13 firmly attached to a purple e-cigarette nozzle base 13 and a suction head 12 having a nozzle 11. The nozzle base 13 is mounted to the nozzle mounting groove 27.

[0012] After adopting the above technical scheme, the beneficial effect of the invention is: the e-cigarette can have multiple reservoirs at the same time, which can change the atomization operation of the circuit and airway, effectively avoid the taste between the different reservoirs, and increase the use experience of the user.

ATTACHED FIGURE DESCRIPTION

[0013] In order to more clearly explain the embodiments of the present invention or the technical solutions in the prior art, the accompanying drawings required in the prior art description, the following drawings are only some embodiments of the invention, and for those of ordinary skill in the art without creative labour

[0014] To obtain additional drawings based to these drawings.

FIG. 1 is a schematic structural diagram of the present invention.

FIG. 2 is a second angle schematic view of the present invention.

FIG. 3 is a schematic diagram of the decomposition state based on FIG. 1.

FIG. 4 is a schematic diagram of the structure of the rotating reservoir mechanism 2 in the present invention.

FIG. 5 is a schematic diagram of the inferior structure corresponding to FIG. 4.

FIG. 6 is a schematic diagram of the battery compartment 3 in the present invention.

FIG. 7 is a schematic diagram of the suction nozzle 1 in the present invention.

[0015] Note: suction nozzle (1), rotating liquid storage mechanism (2), battery compartment (3),

Rotary hole (21), reservoir (22), upper magnet (23), reservoir electrode head (24), reservoir protection housing (25), vent (26), nozzle mounting tank (27),

fill head (28),
 Rotary shaft (31), lower magnet (32), battery protection housing (33), air inlet hole (34), battery electrode head (35), lower seal silicone (36), upper seal silicone (37),
 suction mouth (11), suction head (12), suction base (13),
 Air vent (301), charging port (302).

SPECIFIC IMPLEMENTATION METHOD

[0016] See Figure 1, as shown in Figure 7, The technical scheme adopted in the present embodiment includes a suction nozzle 1, a rotating liquid reservoir mechanism 2, and a battery compartment 3, The suction nozzle 1 is mounted to one end of the rotary reservoir mechanism 2, The other end of the rotating reservoir mechanism 2 is connected to the battery compartment 3, The rotary reservoir mechanism 2 includes a rotary hole 21, a reservoir 22, an upper magnet 23, a reservoir electrode head 24, a reservoir protection housing 25, The rotary hole 21 is provided in the middle part of the rotary hole 21, An upper magnet 23 is provided on one end of the reservoir protection housing 25, The reservoir 22 is provided on the reservoir protection housing 25, The reservoir tank 22 is provided with a reservoir electrode head 24, The battery compartment 3 includes a rotation shaft 31, a lower magnet 32, a battery protection housing 33, an air inlet 34, a battery electrode head 35, The rotation shaft 31 is fixed in the middle above the battery protection housing 33, The lower magnet 32 is provided on the upper side of the battery protection case 33, The inlet hole 34 and the battery electrode head 35 are provided on the battery protection housing 33, The rotary liquid reservoir mechanism 2 is provided at one end with an outlet hole 26 for facilitating gas circulation and a suction nozzle mounting groove 27 for mounting the suction nozzle 1, A fill head 28 is provided at one end of the reservoir 22. The user may replenish the liquid for its liquid reservoir 22 through the fill head 28.

[0017] The upper magnet 23 and the lower magnet 32 are provided with at least 2, and the upper magnet 23 is magnetically connected to the lower magnet 32. The rotating reservoir mechanism 2 is magnetically connected by the upper magnet 23 and the lower magnet 32. The rotation shaft 31 is inserted into the rotary hole 21, and the upper end of the rotation shaft 31 has the upper sealing silicone 37, and the lower sealing silicone 36 has the lower end of the rotation shaft 31.

[0018] Through the rotating shaft 31 and the rotating hole 21, the rotating liquid reservoir 2 and the battery reservoir 2 can be stably rotated and the lower seal silicone 36 and the upper seal silicone 37 can adjust the circulation of the gas by manually adjusting the upper seal silicone 37.

[0019] With the position of the rotation shaft 31, which adjusting the user experience of the gas, the reservoir 22 is provided with at least two distributed on the reservoir

protection housing 25 based on the rotation hole 21, and the battery compartment 3 has the vent 301 and the charging port 302. The charging port 302 facilitates the user to charge operations for its battery compartment 3.

[0020] The suction nozzle 1 includes a suction nozzle port 11, a suction nozzle head 12, and a suction nozzle base 13 firmly attached to a purple e-cigarette suction nozzle base 13, and a suction nozzle head 12 provided with a suction nozzle 11. The nozzle base 13 is mounted to the nozzle mounting groove 27.

[0021] The working principle of the present invention: when in use, Users can choose different flavors of e-cigarettes according to their own needs, When using the device, By sucking on its suction mouth 1, To access its gas from the vent 301, And enter from the inlet air 34, this moment, Battery compartment 3 will start up, Supply the reservoir electrode head 24 by the battery electrode head 35, To ize the stock liquid in the reservoir 22 corresponding to the reservoir electrode head 24, this moment, The atomization gas flows to the suction nozzle 1 through the rotary hole 21, Easy for users to use, In the of is to the different reservoir os 22, The user simply rotates the rotating reservoir mechanism 2, So that the reservoir liquid electrode head 24 on another liquid liquid reservoir 22 can be connected to the battery electrode head 35, Foogging different reservoir tanks 22, Thus changing the taste of its e-cigarettes, During the rotation rotation, The rotating hole 21 and the rotating shaft 31 can guarantee the stability of the rotating reservoir mechanism 2 and the battery compartment 3, After rotating the liquid reservoir mechanism 2 and the battery bin 3 through the upper magnet 23 and the lower magnet 32, You can also suck magnetically close together, among, When the stock fluid of the reservoir tank 22 is insufficient, Users can disassemble the suction nozzle for # 1, The stock solution was supplemented by the rehydration head 28.

[0022] Mentioned above, only to explain the technical scheme of the invention, rather than limitations, other modifications or equivalent replacement of the technical scheme by persons of ordinary skill in the art shall be covered in the scope of claims of the invention as long as they are not separate from the spirit and scope of the technical scheme of the invention.

Claims

1. A multi-tank rotatable e-cigarette **characterized by** comprising a nozzle (1), a rotating reservoir (2), a battery reservoir (3), and the nozzle (1) is mounted to one end of the rotating reservoir (2), and the other end of the rotating reservoir (2) is connected to the battery reservoir (3); The rotary reservoir mechanism (2) comprises a rotary hole (21), a reservoir (22), an upper magnet (23), a reservoir electrode head (24), a reservoir protection housing (25), The rotary hole (21) is provided in the middle of the rotary

hole (21), And an upper magnet (23) is provided on one end of the reservoir protection shell (25), The reservoir (22) is provided on the reservoir protection housing (25), The liquid reservoir tank (22) is equipped with a liquid reservoir electrode head (24), The battery compartment (3) includes a rotation shaft (31), a lower magnet (32), and a battery protection housing (33), the air inlet (34), the battery electrode head (35), the rotary shaft (31) is fixed and connected to the middle above the battery protection housing (33), the battery protection housing (33) is equipped with a lower magnet (32), and the air inlet (34) and the battery electrode head (35) are provided on the battery protection housing (33).

2. A rotating electronic cigarette according to claim 1, wherein both the upper magnet (23) and the lower magnet (32) are provided with at least two, and the upper magnet (23) and the lower magnet (32) are magnetically connected to each other.
3. A multi-tank rotary e-cigarette according to claim 1, wherein the rotary reservoir mechanism (2) is provided with an outlet vent (26) for facilitating gas circulation and a suction nozzle mounting tank (27) for mounting a suction nozzle (1).
4. A multi-reservoir rotatable e-cigarette according to claim 1, wherein a fill head (28) is provided at one end of the reservoir (22).
5. A multi-tank rotary e-cigarette according to claim 1, wherein the rotary shaft (31) is inserted into the rotary hole (21), and the upper end of the rotary shaft (31) is provided with upper sealing silicone (37), and the lower end of the rotary shaft (31) is provided with lower sealing silicone (36).
6. A multi-reservoir rotary e-cigarette according to claim 1, wherein the reservoir (22) is provided with at least two and is equally spaced over the reservoir protection housing (25) based on the rotary hole (21).
7. A multi-oil tank is a rotatable e-cigarette according to claim 1, wherein the battery compartment (3) is provided with the air vent (301) and the charging port (302).
8. A multi-tank rotatable e-cigarette according to claim 1, wherein the nozzle (1) includes a nozzle (11), nozzle head (12), nozzle base (13), nozzle head (12) firmly attached to a purple e-cigarette nozzle base (13), nozzle head (12) having a nozzle mouth (11), and nozzle base (13) mounted to a nozzle mounting slot (27).

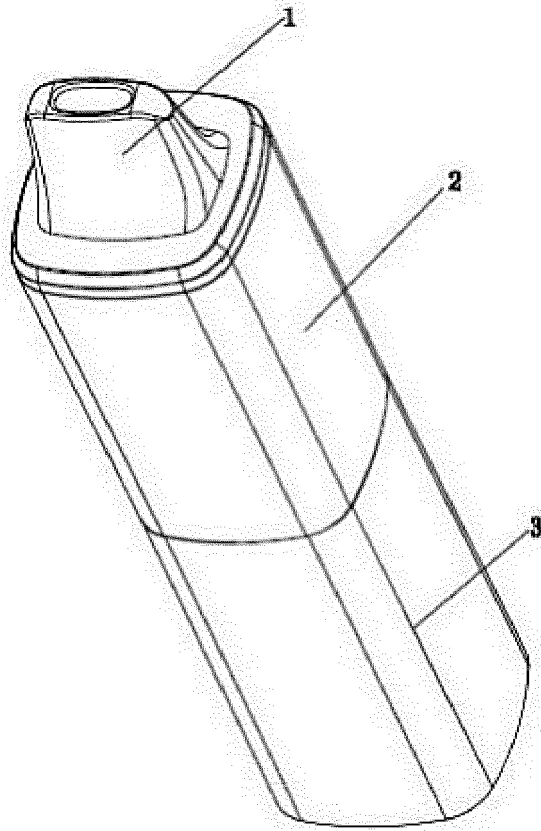


FIG. 1

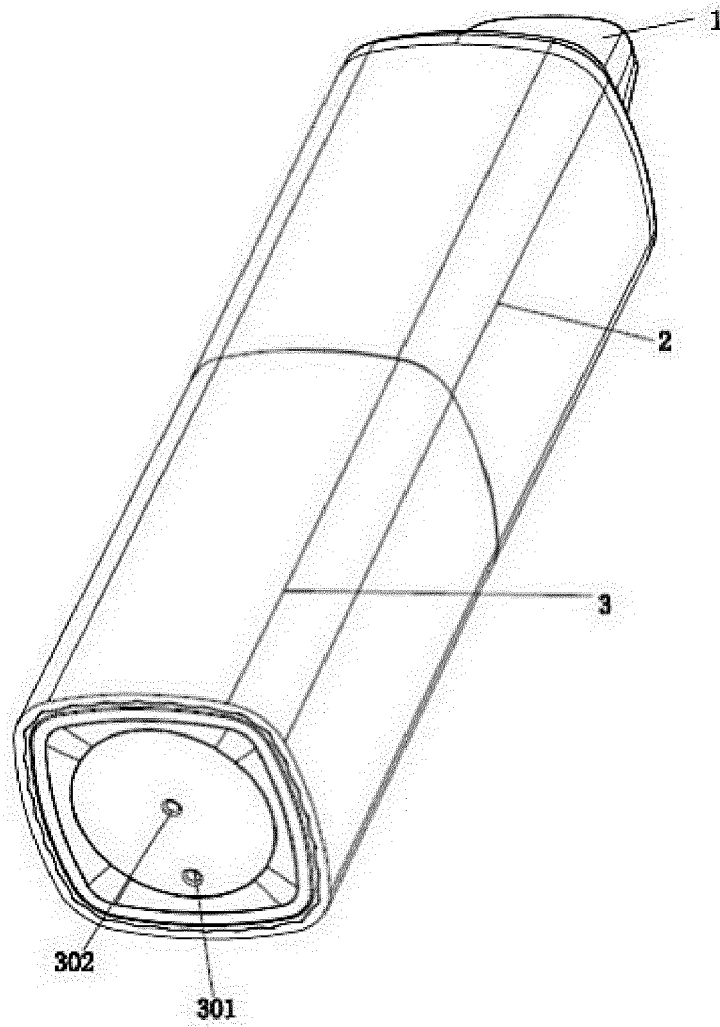


FIG. 2

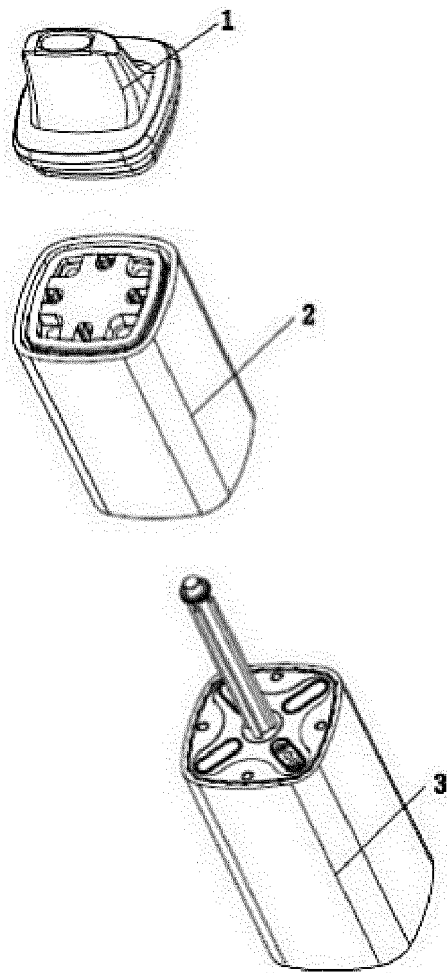


FIG. 3

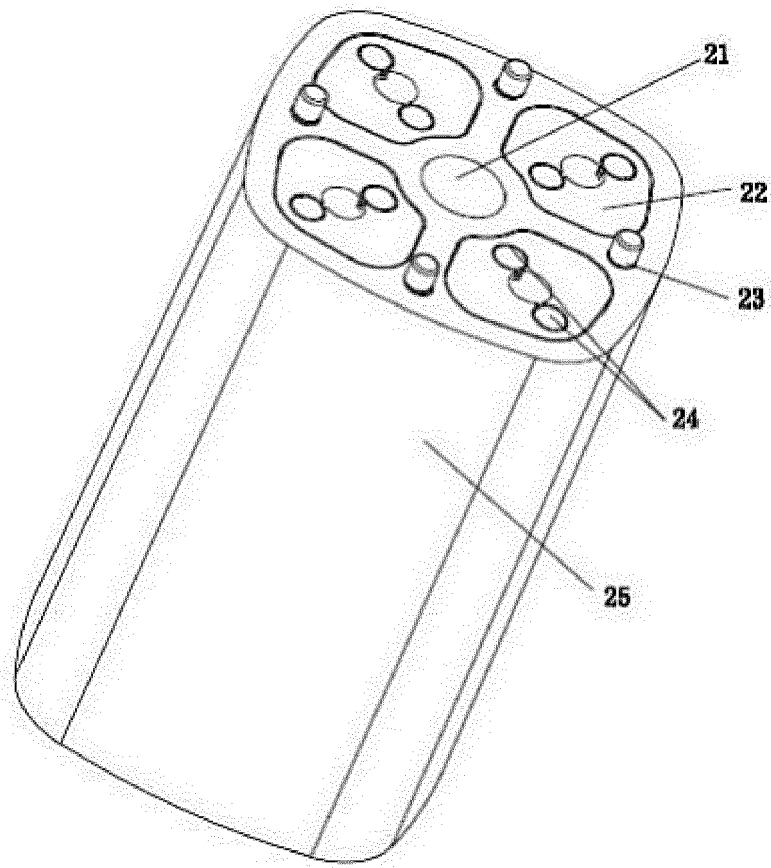


FIG. 4

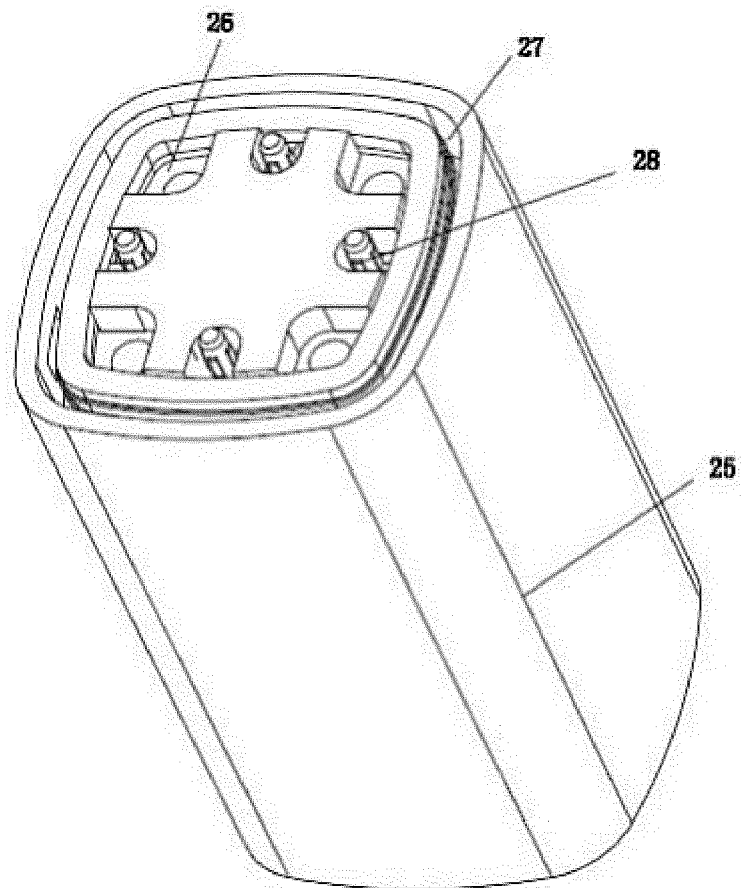


FIG. 5

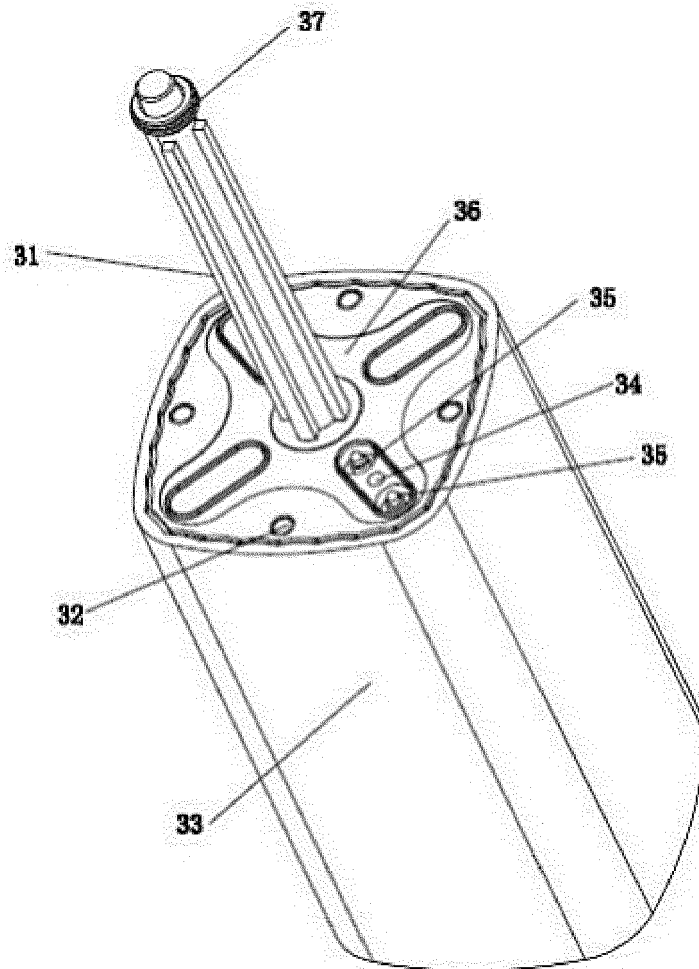


FIG. 6

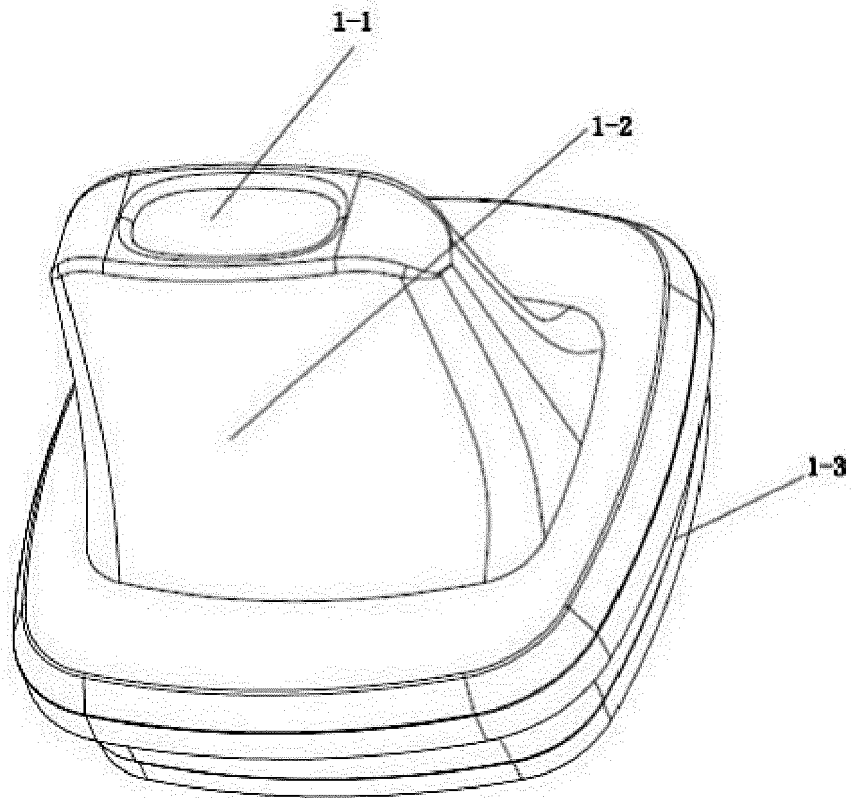


FIG. 7



EUROPEAN SEARCH REPORT

Application Number

EP 23 15 8069

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EPO FORM 1503 03.82 (P04C01)

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 2016/000136 A1 (KIMREE HI TECH INC) 7 January 2016 (2016-01-07) * abstract; figures 1-5 * * paragraph [0030] - paragraph [0049] * -----	1-8	INV. A24F40/30 ADD. A24F40/10
X	CN 113 475 778 A (LUOYANG BAOYING ELECTRONIC TECH CO LTD) 8 October 2021 (2021-10-08) * abstract; figures 1-5 * * paragraph [0051] - paragraph [0060] * -----	1-8	
A	US 2021/177057 A1 (LIU TUANFANG [CN]) 17 June 2021 (2021-06-17) * abstract; figures 1-5 * * paragraph [0018] - paragraph [0020] * -----	1-8	
			TECHNICAL FIELDS SEARCHED (IPC)
			A24F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 7 August 2023	Examiner Alaguero, Daniel
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 23 15 8069

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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07-08-2023

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2016000136 A1	07-01-2016	CN 106659239 A	10-05-2017
		WO 2016000136 A1	07-01-2016

CN 113475778 A	08-10-2021	NONE	

US 2021177057 A1	17-06-2021	EP 3850959 A1	21-07-2021
		US 2021177057 A1	17-06-2021
