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(54) **ATOMIZER OF NON-COTTON ELECTRONIC CIGARETTE**

(57) The present invention relates to a cotton free e-cigarette vaporizer, comprising: a mouthpiece, an oil cup, a filter component and a heating unit arranged in turn, and the vaporizer further comprises a power connect component electrically connected with the heating unit. The oil of cotton free e-cigarette vaporizer is stored in the oil cup directly instead of being stored by cotton, so burning taste resulted from the burning of the cotton can be avoided during inhalation and thereby improving the taste. Besides, since the cotton free e-cigarette vaporizer is cotton free, it is environment friendly and hygienic, and it has no burning taste and has smooth oil supply.

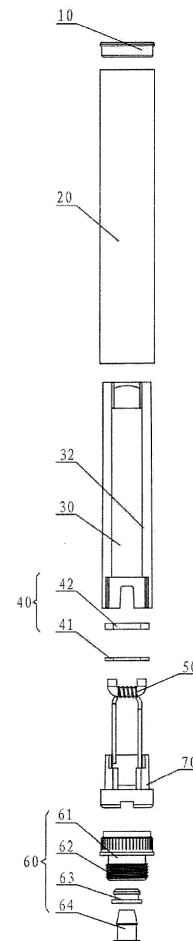


FIG. 1

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Description

FIELD OF THE INVENTION

[0001] The present invention relates to an e-cigarette, more particularly to a vaporizer device of a cotton free e-cigarette.

BACKGROUND OF THE INVENTION

[0002] In the prior art, the oil of the e-cigarette is usually stored in the cotton, which produces burning taste during inhalation and is neither environment friendly nor hygienic. In addition, the e-cigarette in the prior art has disadvantages that the structure is complex and incompact, and it is prone to oil leakage.

SUMMARY OF THE INVENTION

[0003] The present invention aims to provide a vaporizer device of a cotton free e-cigarette without cotton and burning taste, not only being environment friendly and hygienic, but also makes smooth oil supply without oil leakage.

[0004] The present invention provides a technical solution of a vaporizer device of a cotton free e-cigarette, comprising a mouthpiece, an oil cup, a filter component and a heating unit arranged in turn, and said vaporizer further comprises a power connect component electrically connected with said heating unit.

[0005] Preferably, the oil cup comprises a barrel body having an oil storage chamber in the interior and a gap on the external surface for forming gas flue.

[0006] Preferably, the filter component comprises an oil percolation piece and a filter piece.

[0007] Preferably, the power connect component comprises annular inner electrode and outer electrode, and an insulating layer is arranged between the inner electrode and the outer electrode.

[0008] Preferably, the outer electrode is arranged with screw thread.

[0009] Preferably, the vaporizer further comprises a holder, on which the heating unit is supported.

[0010] Preferably, the vaporizer further comprises a protective tube, within which the oil cup, the filter component and the heating unit are arranged, and the mouthpiece is arranged at the first end of the protective tube and the power connect component is arranged at the second end of the protective tube.

[0011] Preferably, a storage slot is arranged at the inner side of the mouthpiece.

[0012] Compared with the prior art, the present invention has the following advantages: the oil of cotton free e-cigarette vaporizer is stored in the oil cup directly instead of being stored by cotton, so burning taste resulted from the burning of the cotton can be avoided during inhalation and thereby improving the taste. Besides, since the cotton free e-cigarette vaporizer is cotton free, it is

environment friendly and hygienic, and it has no burning taste and has smooth oil supply.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013]

Figure 1 is an exploded view of a cotton free e-cigarette vaporizer of the present invention.

Figure 2 is a section view of the assembled cotton free e-cigarette vaporizer of the present invention.

DETAILED DESCRIPTION OF ILLUSTRATED EMBODIMENTS

[0014] Further description will now be described below in conjunction with the figures.

[0015] As shown in figures 1 and 2, an e-cigarette vaporizer of the present invention comprises a mouthpiece 10, an oil cup 30, a filter component 40 and a heating unit 50 arranged in turn, and the vaporizer further comprises a power connect component 60 electrically connected with the heating unit 50. In using, external power supply is inserted into the power connect component 60 and supplies power to the heating unit 50, thereby allowing the oil flowing from the oil cup 30 to pass through the filter component 40 and to be atomized.

[0016] In the embodiment, the filter component 40 comprises an oil percolation piece 42 and a filter piece 41, wherein the filter piece 41 is fixed to the oil cup 30, prevented from falling off easily or oil leak.

[0017] The oil is stored in the oil cup 30 directly instead of being stored by cotton, so burning taste resulted from the burning of the cotton can be avoided during inhalation and thereby improving the taste. Besides, since the cotton free e-cigarette vaporizer is cotton free, it is environment friendly and hygienic.

[0018] In a preferred embodiment, the oil cup 30 comprises a barrel body 32 having an oil storage chamber in the interior and a gap on the external surface for forming gas flue. During inhalation, the oil flows out from the oil cup via the filter component 40, generates vapor under the function of the heating unit 50, and the generated vapor flows to the mouthpiece 10 via a gas flue.

[0019] In the embodiment, the power-connect component 60 comprises annular inner electrode 64 and outer electrode 61, and an insulating layer 63 is arranged between the inner electrode 64 and the outer electrode 61. In the embodiment, the outer electrode 61 is arranged with screw thread 62. In this way, the nesting arrangement of the inner electrode 64 and the outer electrode 61 may form the power-connect component 60. In using, people only need to insert the plug of the external power supply into the inner electrode 64 and connect the plug of the external power supply with the outer electrode 61 via screw thread 62, thereby preventing from the poor contact when supplying power.

[0020] As shown in figures 1 and 2, the vaporizer fur-

ther comprises a holder 70, on which the heating unit 50 is supported. The holder 70 is made of food grade silicon which is heat-resistant, thereby preventing the oil cup from being burned and resulting burning taste when the temperature gets too high.

[0021] In the embodiment, the vaporizer further comprises a protective tube 20, within which the oil cup 30, filter component 40 and heating unit 50 are arranged, and the mouthpiece 10 is arranged at the first end of the protective tube 20 while the power connect component 60 is arranged at the second end of the protective tube 20. The protective tube 20 is used for protecting the internal components of the vaporizer well.

[0022] In the embodiment, a storage slot 11 is arranged at the inner side of said mouthpiece 10 so as to collect and store the filth produced during inhalation whereby bringing better hygiene.

[0023] All the above are the preferred embodiments of the present invention, and the invention is intended to cover various modifications and equivalent arrangements included within the scope of the invention.

Claims

1. A cotton free e-cigarette vaporizer, **characterized by** comprising: a mouthpiece (10), an oil cup (30), a filter component (40) and a heating unit (50) arranged in turn, and said vaporizer further comprises a power-connect component (60) electrically connected with said heating unit (50). 25
2. The cotton free e-cigarette vaporizer according to claim 1, **characterized in that:** said oil cup (30) comprises a barrel body (32) having an oil storage chamber in the interior and a gap on the external surface for forming gas flue. 30
3. The cotton free e-cigarette vaporizer according to claim 1, **characterized in that:** said filter component (40) comprises an oil percolation piece (42) and a filter piece (41). 35
4. The cotton free e-cigarette vaporizer according to claim 1, **characterized in that:** said power-connect component (60) comprises annular inner electrode (64) and outer electrode (61), and an insulating layer (63) is arranged between said inner electrode (64) and said outer electrode (61). 40
5. The cotton free e-cigarette vaporizer according to claim 4, **characterized in that:** said outer electrode (61) is arranged with screw thread (62). 45
6. The cotton free e-cigarette vaporizer according to claim 4, **characterized in that:** said vaporizer further comprises a holder (70), on which said heating unit (50) is supported. 50

7. The cotton free e-cigarette vaporizer according to claim 1, **characterized in that:** said vaporizer further comprises a protective tube (20), within which said oil cup (30), filter component (40) and heating unit (50) are arranged, and said mouthpiece (10) is arranged at the first end of said protective tube (20) and the power-connect component (60) is arranged at the second end of said protective tube (20). 5
8. The cotton free e-cigarette vaporizer according to claim 1, **characterized in that:** a storage slot (11) is arranged at the inner side of said mouthpiece (10). 10

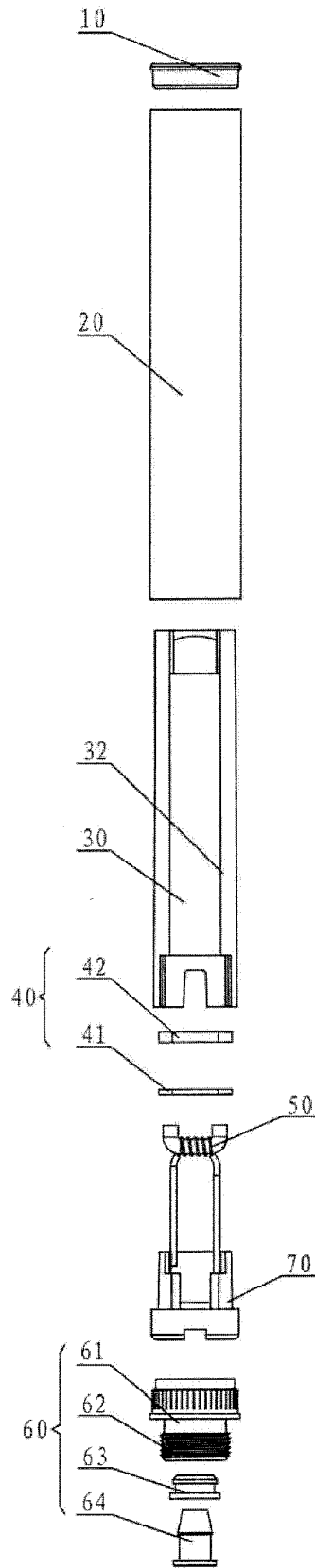


FIG. 1

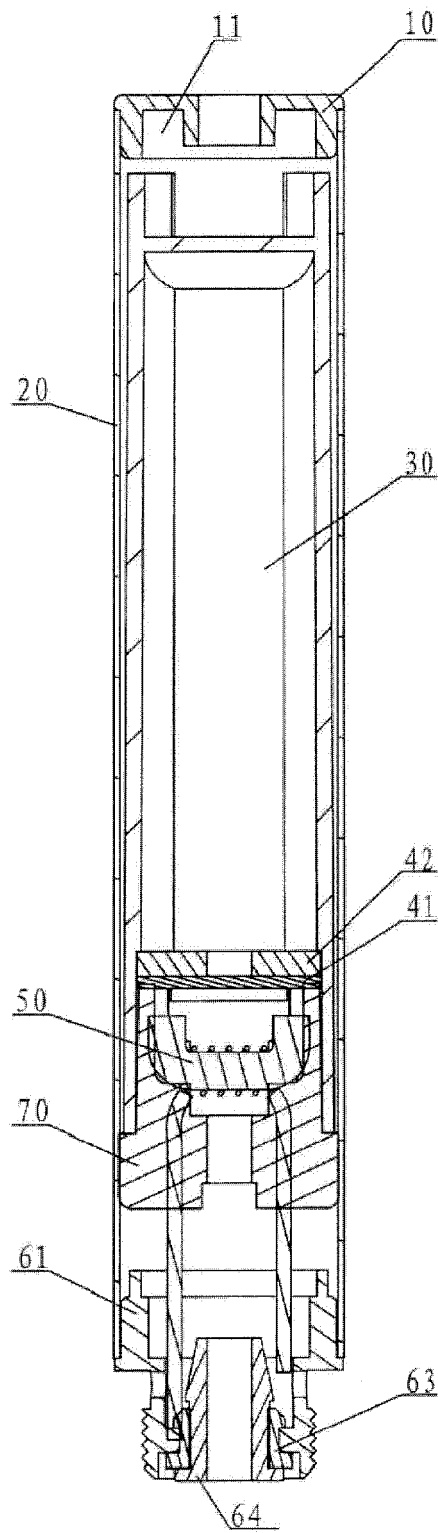


FIG. 2

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2013/076660

A. CLASSIFICATION OF SUBJECT MATTER

See the extra sheet

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)

IPC: A24B, A24D, A24F

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)

CNABS, CNKI, VEN: electronic cigarette, atomizer, smoke, tobacco, atomize, grease cup, oil cup

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	CN 202714191 U (SHENZHEN KANGHONGWEI TECHNOLOGY CO., LTD.), 06 February 2013 (06.02.2013), claims 1-8	1-8
X	CN 201900065 U (LONG, Gongyun), 20 July 2011 (20.07.2011), description, paragraphs [0030]-[0037], and figures 1-6	1-8
X	CN 102389166 A (LIU, Xiang), 28 March 2012 (28.03.2012), description, paragraphs [0033]-[0044], and figures 1-10	1-8
X	CN 202168452 U (LIU, Xiang), 21 March 2012 (21.03.2012), description, paragraphs [0036]-[0044], and figures 1-10	1-8
X	US 2011277757 A1 (MINSKOFF, N.M. et al.), 17 November 2011 (17.11.2011), description, paragraphs [0091]-[0102], and figures 1-12	1-8

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	“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
“A” document defining the general state of the art which is not considered to be of particular relevance	“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
“E” earlier application or patent but published on or after the international filing date	“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
“L” document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	“&” document member of the same patent family
“O” document referring to an oral disclosure, use, exhibition or other means	
“P” document published prior to the international filing date but later than the priority date claimed	

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20 July 2013 (20.07.2013)Date of mailing of the international search report
15 August 2013 (15.08.2013)Name and mailing address of the ISA/CN:
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INTERNATIONAL SEARCH REPORT
 Information on patent family members

International application No. PCT/CN2013/076660

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 202714191 U	06.02.2013	None	
CN 201900065 U	20.07.2011	None	
CN 102389166 A	28.03.2012	None	
CN 202168452 U	21.03.2012	None	
US 2011277757 A1	17.11.2011	WO 2011146318 A2	24.11.2011
		TW 201208720 A	01.03.2012

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2013/076660

A. CLASSIFICATION OF SUBJECT MATTER

A24B 15/16 (2006.01) i

A24F 47/00 (2006.01) i