(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 3 613 303 A1**

(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 153(4) EPC

(43) Date of publication:
26.02.2020 Bulletin 2020/09

(21) Application number: **18856157.5**

(22) Date of filing: **01.03.2018**

(51) Int Cl.:
A24F 47/00 *(2020.01)*

(86) International application number:
PCT/CN2018/077699

(87) International publication number:
WO 2019/052123 (21.03.2019 Gazette 2019/12)

(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 MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(30) Priority: **18.09.2017 CN 201710840262**

(71) Applicant: **Qingdao Etsong Technology Co., Ltd**
Shandong 266021 (CN)

(72) Inventors:
- **SONG, Xinhua**
  Qingdao
  Shandong 266021 (CN)
- **HUANG, Putai**
  Qingdao
  Shandong 266021 (CN)
- **MENG, Fanbo**
  Qingdao
  Shandong 266021 (CN)
- **LI, Bo**
  Qingdao
  Shandong 266021 (CN)
- **ZHANG, Zhiqiang**
  Qingdao
  Shandong 266021 (CN)
- **KE, Taochun**
  Qingdao
  Shandong 266021 (CN)

(74) Representative: **Huang, Liwei**
Cäcilienstraße 12
40597 Düsseldorf (DE)

(54) CONVENTIONAL CIGARETTE AND ELECTRONIC CIGARETTE MIXED SMOKING SET

(57) A mixed smoking set for conventional cigarette and electronic cigarette, it comprises an electronic cigarette cartridge. A mouthpiece is provided above the electronic cigarette cartridge. A cigarette holder is provided below the electronic cigarette cartridge. A cigarette smoke passage of the cigarette holder extends into the mouthpiece through the electronic cigarette cartridge. Smoke passages respectively independent of each other are configured for smoke of a conventional cigarette and smoke of an electronic cigarette of this set, so that the problem of impact caused by the pollution of the smoke of the conventional cigarette on savoring and smoking taste of the electronic cigarette when used alone can be resolved. For the smoke of a cigarette, a tar and harm reducing mechanism can be utilized to effectively reduce hazardous substances such as tar in the smoke of the conventional cigarette, smoking is thus healthier. The mouthpiece has a smoke mixing structure, and thus can ensure that the smoke of the conventional cigarette and the smoke of the electronic cigarette can be sufficiently and uniformly mixed and then enter the oral cavity of a user when the two cigarettes are simultaneously smoked. When the cigarette holder is not used, the cigarette holder can be automatically closed by means of structure configuration, so as to ensure that airflow intake resistance is kept consistent when the electronic cigarette is used alone.

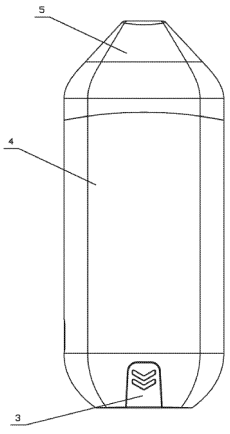

FIG.1

EP 3 613 303 A1

Description

TECHNICAL FIELD:

[0001] The invention relates to a mixed smoking set for conventional cigarette and electronic cigarette.

BACKGROUND TECHNOLOGY:

[0002] When using an electronic cigarette, the e-liquid is heated and vaporized into high temperature steam on the electric heating element of the atomization system. The steam expands and condenses into small droplets of smoke in the atmosphere, thereby forming a smoke similar to a conventional cigarette for the user to smoke. Unlike traditional cigarette smoke, aerosol particles of the electronic cigarette smoke are tiny droplets. The diameter of the aerosol particles in the electronic cigarette smoke is smaller than the diameter of the aerosol particles in the conventional cigarette smoke. In terms of sensory quality, compared with traditional cigarettes, the electronic cigarettes generally have the disadvantage of insufficient fullness of smoke in the oral cavity. The so-called fullness refers to the impact or presence of smoke felt by smokers during smoking. A good fullness means that there is a clear presence of smoke during the suction process, and there is no feeling of empty. In addition, the e-liquid of the existing electronic cigarette in the market contains nicotine, which is highly irritating to the throat and nasal cavity of the aspirator. Although the e-liquid of the electronic cigarette can be added with tobacco flavor or tobacco extract, its tobacco characteristic aroma is still not mellow. When a conventional cigarette is smoked, the tobacco is ignited to form a smoke and is sucked into the mouth by a user. When smoking cigarettes, the sensory comfort of the smoker has a greater relationship with the moisture of the smoke. A study found that the moisture of the flue gas makes the flue gas soft, delicate, and minor irritation, which will improve the sensory comfort of the user. And low moisture content of the flue gas will result in dryness of the flue gas and increased irritation, and the sensory comfort of the user is reduced. Nicotine in the conventional cigarette smoke includes two forms which are binding-form nicotine and free-state nicotine, and the irritancy of the smoke is mainly determined by the content of free-state nicotine. The relative content of the two forms of nicotine is related to the environment in which the flue gas is exposed (eg humidity, pH). Free-state nicotine can combine with hydrogen ions in the flue gas to form a salt (bound nicotine). When the moisture content (humidity) in the flue gas is lowered, the hydrogen ion concentration is lowered, which will inhibit the formation of the binding-form nicotine and reduce the water solubility of the binding-form nicotine, so that it will be easier to decompose to produce free-state nicotine. The relative content of free-state nicotine is increased, that is, the proportion of free-state nicotine in total nicotine is also increased, which leads to an increased irritation and dryness. However, if the humidity of the flue gas is too high, the content of the free-state nicotine will be too low to reach the sensory intensity required by the aspirator. Therefore, the change in moisture content (humidity) of the flue gas will significantly affect the morphological distribution of the nicotine, and the content of the free-state nicotine and the proportion of free-state nicotine in total nicotine will change significantly. Under low humidity conditions, the content of free-state nicotine and the proportion of free-state nicotine in total nicotine will be increased, which will result in it will be easier to generate irritation when a user smoke in a dry environment, compared with smoking in a humid environment. In order to improve the proportion of free-state nicotine in the total nicotine, ensure the stability of the product in different humidity environments, and solve the problem of increased irritation of the product in a dry environment, glycerin may also be added to the tobacco to increase the moisture content of the flue gas to achieve the purpose of improving the sensory comfort of user. However, studies have shown that humectants such as glycerin in the pipe tobacco undergo thermal cracking at the burning temperature of the cigarette (900 □) and produce harmful drunk substances (especially acrolein). At the same time, the flue gas contains harmful substances such as tar, which also causes unhealthy factors when smoking tobacco. The above reasons lead to the consumer's suction sensory experience not being able to meet his expectations when smoking the electronic cigarettes and the traditional cigarettes, so it is necessary to further enhance the suction sensory experience when the consumers smoke the two types of cigarettes. However, the prior art does not solve this problem.

SUMMARY OF THE INVENTION:

[0003] In order to solve the above problems, the invention proposes a mixed smoking set for conventional cigarette and electronic cigarette. It has a reasonable structural design, and combines the characteristics of the conventional cigarette smoking set and electronic cigarette mixed smoking set. The mixed smoking set of the invention solves the problems in the prior art.

[0004] The technical solution adopted by the present invention to solve the above technical problems is:

A mixed smoking set for conventional cigarette and electronic cigarette, it comprises an electronic cigarette cartridge, a mouthpiece is provided above the electronic cigarette cartridge, a cigarette holder is provided below the electronic cigarette cartridge, a cigarette smoke passage of the cigarette holder extends into the mouthpiece through the electronic cigarette cartridge.

[0005] According to a preferred embodiment, the electronic cigarette cartridge includes a cigarette cartridge body, an electric control mechanism is provided below the cigarette cartridge body, there is a cavity in the electric control mechanism, and the cigarette holder is disposed in the cavity.

[0006] According to a preferred embodiment, the cigarette cartridge body includes a cigarette cartridge shell; an electronic-cigarette-oil storage chamber is provided in the cigarette cartridge shell, an electronic cigarette heating atomizer is provided in the electronic-cigarette-oil storage chamber, the electronic cigarette heating atomizer is connected to the electric control mechanism, the electronic cigarette heating atomizer is connected to an electronic-cigarette smoke passage provided on the electronic-cigarette-oil storage chamber, the electronic-cigarette smoke passage is connected to the mouthpiece.

[0007] According to a preferred embodiment, the electric control mechanism includes an electric control mechanism shell, a battery and a circuitry system are provided in the electric control mechanism shell, the circuitry system is connected to the battery, the circuitry system includes a control circuit; a LED unit and a charging interface are provided on the electric control mechanism shell, and the LED unit and the charging interface are connected to the control circuit respectively.

[0008] According to a preferred embodiment, the mouthpiece includes a mouthpiece shell, a smoke mixing chamber is provided in the mouthpiece shell, the cigarette smoke passage and the electronic-cigarette smoke passage are all connected to the smoke mixing chamber, a mouthpiece body with a through hole therein is provided on the mouthpiece shell at a top of the smoke mixing chamber.

[0009] According to a preferred embodiment, a plurality of oblique plates are provided in the through hole of the mouthpiece body, interspaces formed by the through hole and each of the plates are arranged in a staggered layout.

[0010] According to a preferred embodiment, the cigarette holder includes a hollow holder shell, an annular stopper is provided in a lower part of the holder shell, a slider switch is provided in the holder shell and abuts a top of the annular stopper, a link block with a horizontal through-hole is connected to the annular stopper, a spring rod is provided below the link block, the link block and spring rod pass through the annular stopper and are movable relative to the annular stopper, a spring is placed around the spring rod, a protruding portion which can cooperate with the spring is provided at the bottom of the spring rod, a top of the spring abuts a bottom of the annular stopper, a smoke passage connected to the horizontal through-hole is provided in the spring rod, a cigarette clamping chamber for clamping a cigarette is provided in a lower part of the holder shell, a smoke passage connection member is provided on a top of the holder shell.

[0011] According to a preferred embodiment, a assembly for intercepting the flow and reducing tar is provided in the holder shell above the annular stopper, the assembly for intercepting the flow and reducing tar includes a junction plate connected to the inner wall of the holder shell, a intercepting member is provided in the middle of the junction plate, the intercepting member includes a interception chamber provided on a lower part of the intercepting member, the position of the interception chamber is aligned with the position of a central hole of the annular stopper, an intercepting plate is provided above the interception chamber, the intercepting plate is filter structure or perforated plate.

[0012] According to a preferred embodiment, a filter assembly is provided on a upper part of the assembly for intercepting the flow and reducing tar disposed in the holder shell, the filter assembly includes two abutment plates, each of which has a through hole, and some adsorption medium are disposed between the two abutment plates, the adsorption medium are one or more of active carbon, molecular sieve, and crystalline silicon, the smoke passage connection member is inserted into a top of the holder shell.

[0013] According to a preferred embodiment, a clamping plate is provided on a outer side of a bottom of the holder shell, a bottom of the clamping plate is connected to the bottom of the holder shell, a clamping claw is provided on a top of the clamping plate, a clamping interface which can be engaged with the clamping claw is provided on the inner side of the electronic cigarette cartridge.

[0014] The structural design of the invention is reasonable. By adopting the above scheme, the traditional cigarette and the electronic cigarette can be simultaneously sucked, so that the smoke of the two can complement each other. The mixed smoking set of the present invention brings a brand new savoring and smoking taste experience. Smoke passages respectively independent of each other are configured for smoke of a conventional cigarette and smoke of an electronic cigarette of this set, so that the problem of impact caused by the pollution of the smoke of the conventional cigarette on savoring and smoking taste of the electronic cigarette when used alone can be resolved. For the smoke of a cigarette, a tar and harm reducing mechanism can be utilized to effectively reduce hazardous substances such as tar in the smoke of the conventional cigarette, smoking is thus healthier. The mouthpiece has a smoke mixing structure, and thus can ensure that the smoke of the conventional cigarette and the smoke of the electronic cigarette can be sufficiently and uniformly mixed and then enter the oral cavity of a user when the two cigarettes are simultaneously smoked. When the cigarette holder is not used, the cigarette holder can be automatically closed by means of structure configuration, so as to ensure that airflow intake resistance is kept consistent when the electronic cigarette is used alone.

BRIEF DESCRIPTION OF THE DRAWINGS:

[0015]

FIG. 1 shows a schematic diagram of the invention.
FIG.2 shows a exploded drawing of the invention.
FIG.3 shows a cut-away view of the invention.

FIG.4 shows a schematic diagram of the cigarette holder.

FIG.5 shows a cut-away view of the cigarette holder.

FIG.6 shows a use state diagram of the cigarette holder.

[0016] 1 refers to cigarette, 2 refers to clamping plate, 3 refers to cigarette holder, 31 refers to holder shell, 32 refers to annular stopper, 33 refers to link block, 34 refers to spring rod, 35 refers to spring, 36 refers to protruding portion, 37 refers to cigarette clamping chamber, 38 refers to smoke passage connection member, 39 refers to junction plate, 310 refers to interception chamber, 311 refers to intercepting plate, 312 refers to abutment plate, 313 refers to adsorption medium, 314 refers to slider switch, 4 refers to electronic cigarette cartridge, 41 refers to cigarette cartridge body, 42 refers to cigarette cartridge shell, 43 refers to electronic-cigarette- oil storage chamber, 44 refers to electronic cigarette heating atomizer, 45 refers to electric control mechanism shell, 46 refers to battery, 47 refers to control circuit, 48 refers to LED unit, 49 refers to charging interface, 410 refers to electronic cigarette smoke passage, 5 refers to mouthpiece, 51 refers to mouthpiece shell, 52 refers to smoke mixing chamber, 53 refers to mouthpiece body, 54 refers to plate.

DETAILED DESCRIPTION:

[0017] In order to explain the overall concept of the present invention more clearly, the following detailed description is illustrated by way of example with reference to the attached drawings.

[0018] Referring to FIG.1 to FIG. 6, a mixed smoking set for conventional cigarette and electronic cigarette, it comprises an electronic cigarette cartridge 4, a mouthpiece 5 is provided above the electronic cigarette cartridge 4, a cigarette holder 3 is provided below the electronic cigarette cartridge 4, a cigarette smoke passage of the cigarette holder 3 extends into the mouthpiece 5 through the electronic cigarette cartridge 4. The electronic cigarette smoke passage is separately arranged from the cigarette smoke passage, thereby providing the possibility of independent use of the two cigarettes.

[0019] The electronic cigarette cartridge 4 includes a cigarette cartridge body 41, an electric control mechanism is provided below the cigarette cartridge body 41, there is a cavity in the electric control mechanism, and the cigarette holder 3 is disposed in the cavity. The cigarette holder 3 is snapped into the electronic cigarette cartridge 4, and the two of them can be streamlined as a whole shell for the user to carry.

[0020] The cigarette cartridge body 41 includes a cigarette cartridge shell 42, an electronic-cigarette-oil storage chamber 43 is provided in the cigarette cartridge shell 42, an electronic cigarette heating atomizer 44 is provided in the electronic-cigarette-oil storage chamber 43, the electronic cigarette heating atomizer 44 is connected to the electric control mechanism, the electronic cigarette heating atomizer 44 is connected to an electronic cigarette smoke passage 410 provided on the electronic-cigarette-oil storage chamber 43, the electronic cigarette smoke passage 410 is connected to the mouthpiece 5.

[0021] The electric control mechanism includes an electric control mechanism shell 45, a battery 46 and a circuitry system are provided in the electric control mechanism shell 45, the circuitry system is connected to the battery 46, the circuitry system includes a control circuit 47, a LED unit 48 and a charging interface 49 are provided on the electric control mechanism shell 45, and the LED unit 48 and the charging interface 49 are connected to the control circuit 47 respectively. The LED unit 48 is used to indicate working status of the mixed smoking set.

[0022] The mouthpiece 5 includes a mouthpiece shell 51, a smoke mixing chamber 52 is provided in the mouthpiece shell 51, the cigarette smoke passage and the electronic cigarette smoke passage are all connected to the smoke mixing chamber 52, a mouthpiece body 53 with a through hole therein is provided on the mouthpiece shell 51 at a top of the smoke mixing chamber 52.

[0023] A plurality of oblique plates 54 are provided in the through hole of the mouthpiece body 53, interspaces formed by the through hole and each of the plates 54 are arranged in a staggered layout. The plate 54 is used to improve the mixing uniformity of the cigarette flue gas and the electronic cigarette flue gas.

[0024] The cigarette holder 3 includes a hollow holder shell 31, an annular stopper 32 is provided in a lower part of the holder shell 31, a slider switch 314 is provided in the holder shell 31 and abuts a top of the annular stopper 32, a link block 33 with a horizontal through-hole is connected to the annular stopper 32, a spring rod 34 is provided below the link block 33, the link block 33 and spring rod 34 pass through the annular stopper 32 and are movable relative to the annular stopper 32, a spring 35 is placed around the spring rod 34, a protruding portion 36 which can cooperate with the spring 35 is provided at the bottom of the spring rod 34, a top of the spring 35 abuts a bottom of the annular stopper 32, a smoke passage connected to the horizontal through-hole is provided in the spring rod 34, a cigarette clamping chamber 37 for clamping a cigarette is provided in a lower part of the holder shell 31, a smoke passage connection member 38 is provided on a top of the holder shell 31. A clamping plate 2 is provided on a outer side of a bottom of the holder shell 31, a bottom of the clamping plate 2 is connected to the bottom of the holder shell 31, a clamping claw is provided on a top of the clamping plate 2. The clamping claw is used to connect to the clamping interface provided on the inner side of the cigarette holder 3. It is of course to be understood that the smoke passage connection member 38 can also be used as a mouthpiece 5 for smoking.

[0025] A assembly for intercepting the flow and reducing tar is provided in the holder shell 31 above the annular stopper 32.

[0026] The assembly for intercepting the flow and reducing tar includes a junction plate 39 connected to the inner wall of the holder shell 31, a intercepting member is provided in the middle of the junction plate 39.

[0027] The intercepting member includes a interception chamber 310 provided on a lower part of the intercepting member, the position of the interception chamber 310 is aligned with the position of a central hole of the annular stopper 32, an intercepting plate 311 is provided above the interception chamber 310.

[0028] The intercepting plate 311 is filter structure or perforated plate. The assembly for for intercepting the flow and reducing tar can remove most of the harmful substances such as tar.

[0029] A filter assembly is provided on a upper part of the assembly for intercepting the flow and reducing tar disposed in the holder shell 31.

[0030] The filter assembly includes two abutment plates 312, each of which has a through hole, and some adsorption medium 313 are disposed between the two abutment plates 312.

[0031] The adsorption medium 313 are one or more of active carbon, molecular sieve, and crystalline silicon. The filter assembly acilitates further removal of hazardous materials. Since the adsorption medium 313 is particulate, the thickness of the entire adsorption medium is adjustable.

[0032] The smoke passage connection member 38 is inserted into a top of the holder shell 31. By adopting such a structural configuration, it is easier to mout and dismount the smoke passage connection member 38. And it also brings convenience to change the assembly for intercepting the flow and reducing tar and the filter assembly after the smoke passage connection member 38 is removed.

[0033] A clamping plate is provided on a outer side of a bottom of the holder shell, a bottom of the clamping plate is connected to the bottom of the holder shell, a clamping claw is provided on a top of the clamping plate, a clamping interface which can be engaged with the clamping claw is provided on the inner side of the electronic cigarette cartridge 4.

[0034] When installing, the cigarette holder 3 is assembled firstly. The spring 35 is sleeved on the spring rod 34, and then the top of the spring 35 is snapped onto the bottom of the annular stopper 32. The assembly for intercepting the flow and reducing tar and the filter assembly are then installed. And the smoke passage connection member 38 is mounted on the top of the holder shell 31 after that. An interference fit can be employed to increase the tightness of the smoke passage connection member 38 to the holder shell 31. Then the holder shell 31 is connected to the electronic cigarette cartridge 4 through the clamping plate. In use of the mixed smoking set, put the cigarette is over-filled into the cigarette clamping chamber 37, and the insertion of the cigarette drives the spring rod 34 and the link block to move upward, and the slider switch 314 is disengaged from the annular stop 32, thereby opening a passage for the smoke to flow upward. The generated smoke sequentially passes through the spring rod and the link block, and then enters the assembly for intercepting the flow and reducing tar and the filter assembly, and is purified by the interception of the intercepting plate 311 and the adsorption of the adsorption medium 313. The purified smoke enters into the smoke passage of the smoke passage connection member 38, exits the cigarette holder, and flows into the cigarette smoke passage 315 through the smoke passage connection member. The electronic cigarette cartridge 4 sends the smoke into the mouthpiece 5 through the electronic cigarette heating atomizer, and the mixing of the two kinds of smoke is completed in the mouthpiece 5. If the cigarette 1 is unplugged, the slider switch 314 abuts against the annular stopper 32 under the force of the spring, and the cigarette holder is closed. Therefore, the cigarette smoke passage is completely closed when the smoker only smokes the electronic cigarette, so that the sensory experience of the smoker is not affected by the cigarette 1.

[0035] The above description is only the embodiment of the present application and is not intended to limit the application. Various changes and modifications can be made to the present application by those skilled in the art. Any modifications, equivalents, improvements, etc. made within the spirit and scope of the present application are intended to be included within the scope of the claims.

[0036] What is not described in detail in the present invention are well known to those skilled in the art.

Claims

1. A mixed smoking set for conventional cigarette and electronic cigarette, wherein it comprises an electronic cigarette cartridge, a mouthpiece is provided above the electronic cigarette cartridge, a cigarette holder is provided below the electronic cigarette cartridge, a cigarette smoke passage of the cigarette holder extends into the mouthpiece through the electronic cigarette cartridge.

2. The mixed smoking set for conventional cigarette and electronic cigarette according to claim 1, wherein the electronic cigarette cartridge includes a cigarette cartridge body, an electric control mechanism is provided below the cigarette cartridge body, there is a cavity in the electric control mechanism, and the cigarette holder is disposed in the cavity.

3. The mixed smoking set for conventional cigarette and electronic cigarette according to claim 2, wherein the cigarette cartridge body includes a cigarette cartridge shell; an electronic-cigarette-oil storage chamber is provided in the cigarette cartridge shell, an electronic cigarette heating atomizer is provided

in the electronic-cigarette-oil storage chamber, the electronic cigarette heating atomizer is connected to the electric control mechanism, the electronic cigarette heating atomizer is connected to an electronic-cigarette smoke passage provided on the electronic-cigarette-oil storage chamber, the electronic-cigarette smoke passage is connected to the mouthpiece.

4. The mixed smoking set for conventional cigarette and electronic cigarette according to claim 2, wherein the electric control mechanism includes an electric control mechanism shell, a battery and a circuitry system are provided in the electric control mechanism shell, the circuitry system is connected to the battery, the circuitry system includes a control circuit; a LED unit and a charging interface are provided on the electric control mechanism shell, and the LED unit and the charging interface are connected to the control circuit respectively.

5. The mixed smoking set for conventional cigarette and electronic cigarette according to claim 3, wherein the mouthpiece includes a mouthpiece shell, a smoke mixing chamber is provided in the mouthpiece shell, the cigarette smoke passage and the electronic-cigarette smoke passage are all connected to the smoke mixing chamber, a mouthpiece body with a through hole therein is provided on the mouthpiece shell at a top of the smoke mixing chamber.

6. The mixed smoking set for conventional cigarette and electronic cigarette according to claim 4, wherein a plurality of oblique plates are provided in the through hole of the mouthpiece body, interspaces formed by the through hole and each of the plates are arranged in a staggered layout.

7. The mixed smoking set for conventional cigarette and electronic cigarette according to claim 1, wherein the cigarette holder includes a hollow holder shell, an annular stopper is provided in a lower part of the holder shell, a slider switch is provided in the holder shell and abuts a top of the annular stopper, a link block with a horizontal through-hole is connected to the annular stopper, a spring rod is provided below the link block, the link block and spring rod pass through the annular stopper and are movable relative to the annular stopper, a spring is placed around the spring rod, a protruding portion which can cooperate with the spring is provided at the bottom of the spring rod, a top of the spring abuts a bottom of the annular stopper, a smoke passage connected to the horizontal through-hole is provided in the spring rod, a cigarette clamping chamber for clamping a cigarette is provided in a lower part of the holder shell, a smoke passage connection member is provided on a top of the holder shell.

8. The mixed smoking set for conventional cigarette and electronic cigarette according to claim 7, wherein a assembly for intercepting the flow and reducing tar is provided in the holder shell above the annular stopper, the assembly for intercepting the flow and reducing tar includes a junction plate connected to the inner wall of the holder shell, a intercepting member is provided in the middle of the junction plate, the intercepting member includes a interception chamber provided on a lower part of the intercepting member, the position of the interception chamber is aligned with the position of a central hole of the annular stopper, an intercepting plate is provided above the interception chamber, the intercepting plate is filter structure or perforated plate.

9. The mixed smoking set for conventional cigarette and electronic cigarette according to claim 8, wherein a filter assembly is provided on a upper part of the assembly for intercepting the flow and reducing tar disposed in the holder shell, the filter assembly includes two abutment plates, each of which has a through hole, and some adsorption medium are disposed between the two abutment plates, the adsorption medium are one or more of active carbon, molecular sieve, and crystalline silicon, the smoke passage connection member is inserted into a top of the holder shell.

10. The mixed smoking set for conventional cigarette and electronic cigarette according to claim 7, wherein a clamping plate is provided on a outer side of a bottom of the holder shell, a bottom of the clamping plate is connected to the bottom of the holder shell, a clamping claw is provided on a top of the clamping plate, a clamping interface which can be engaged with the clamping claw is provided on the inner side of the electronic cigarette cartridge.

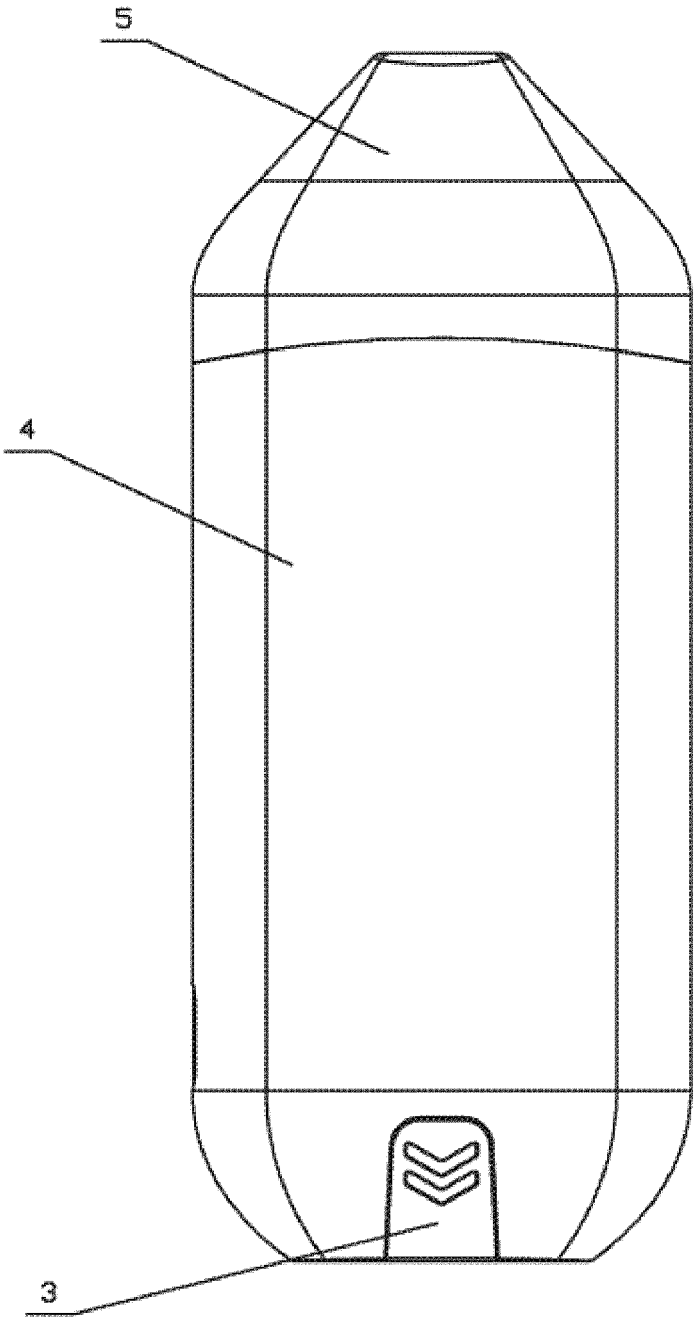

FIG.1

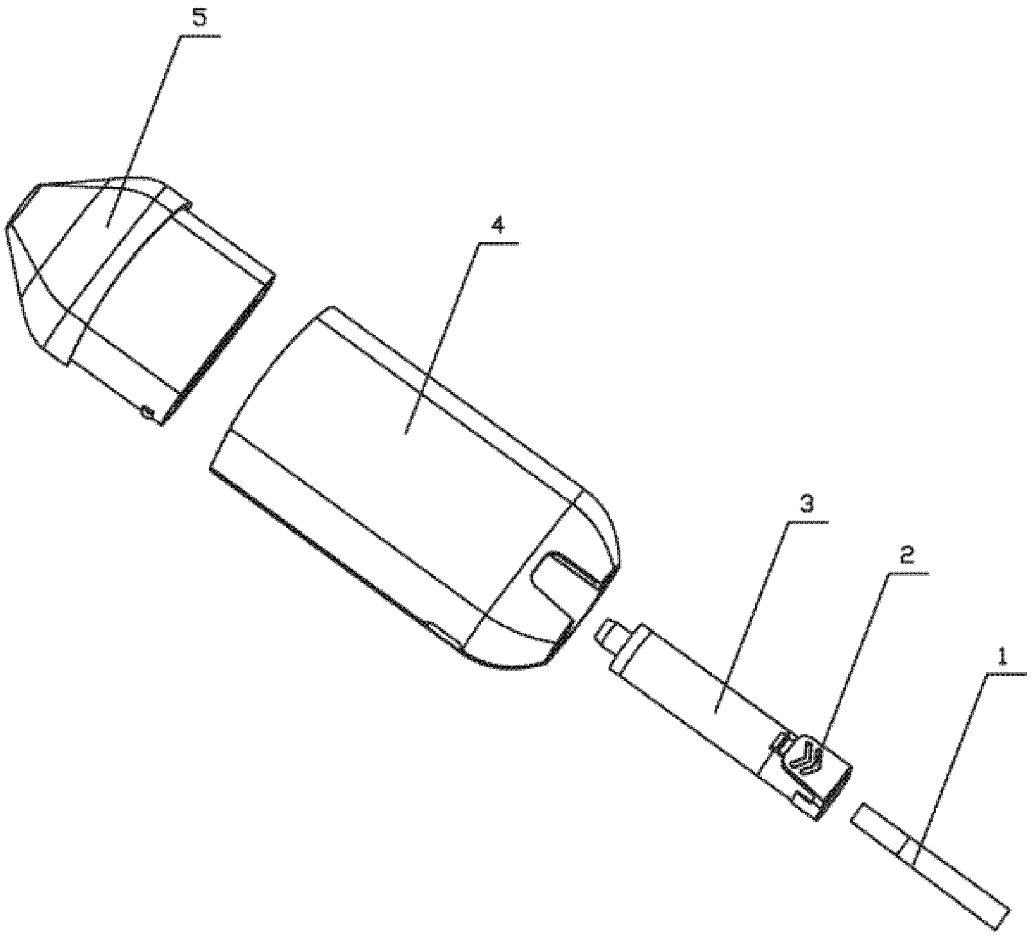

FIG.2

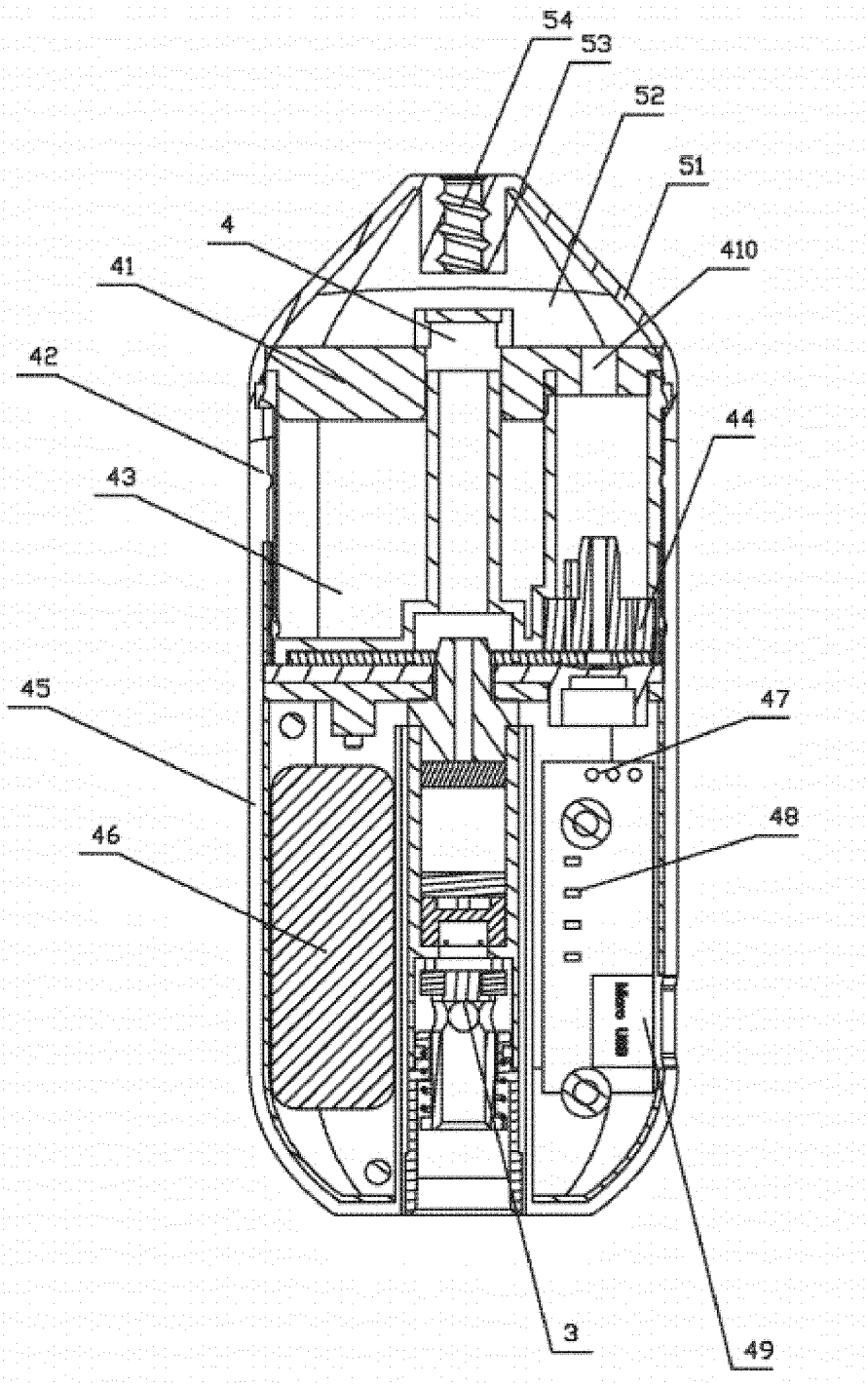

FIG.3

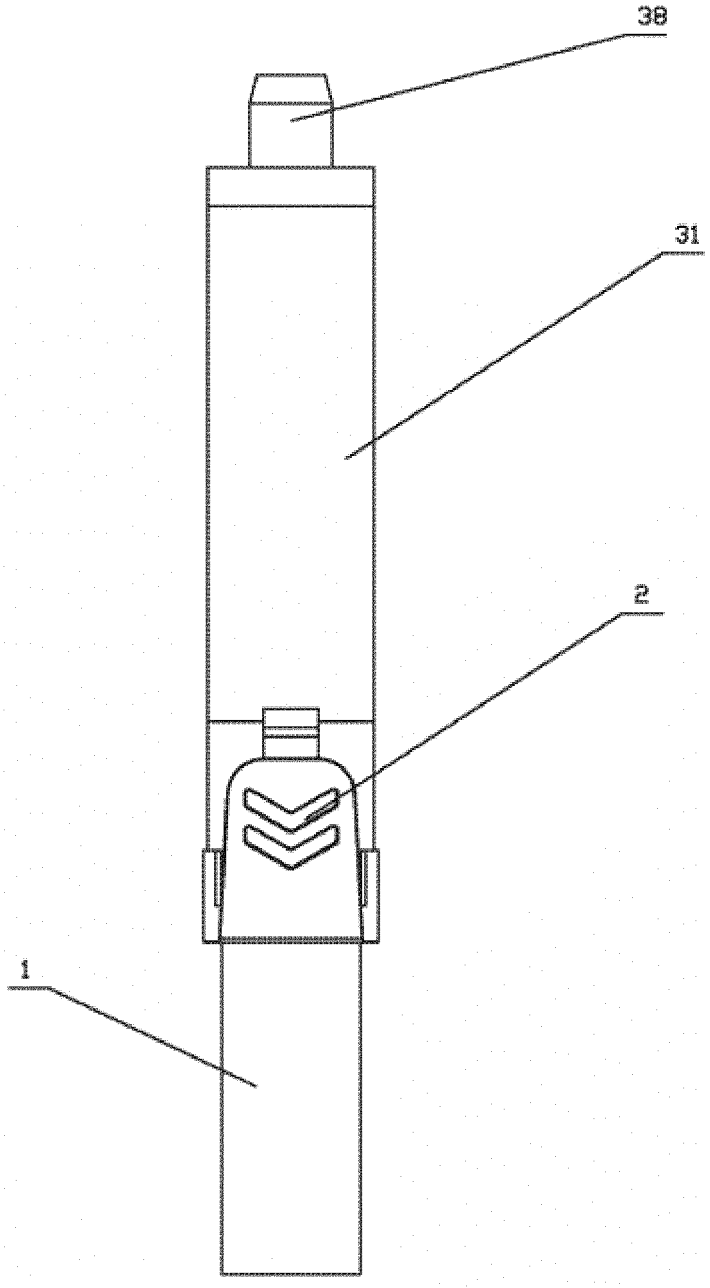

FIG.4

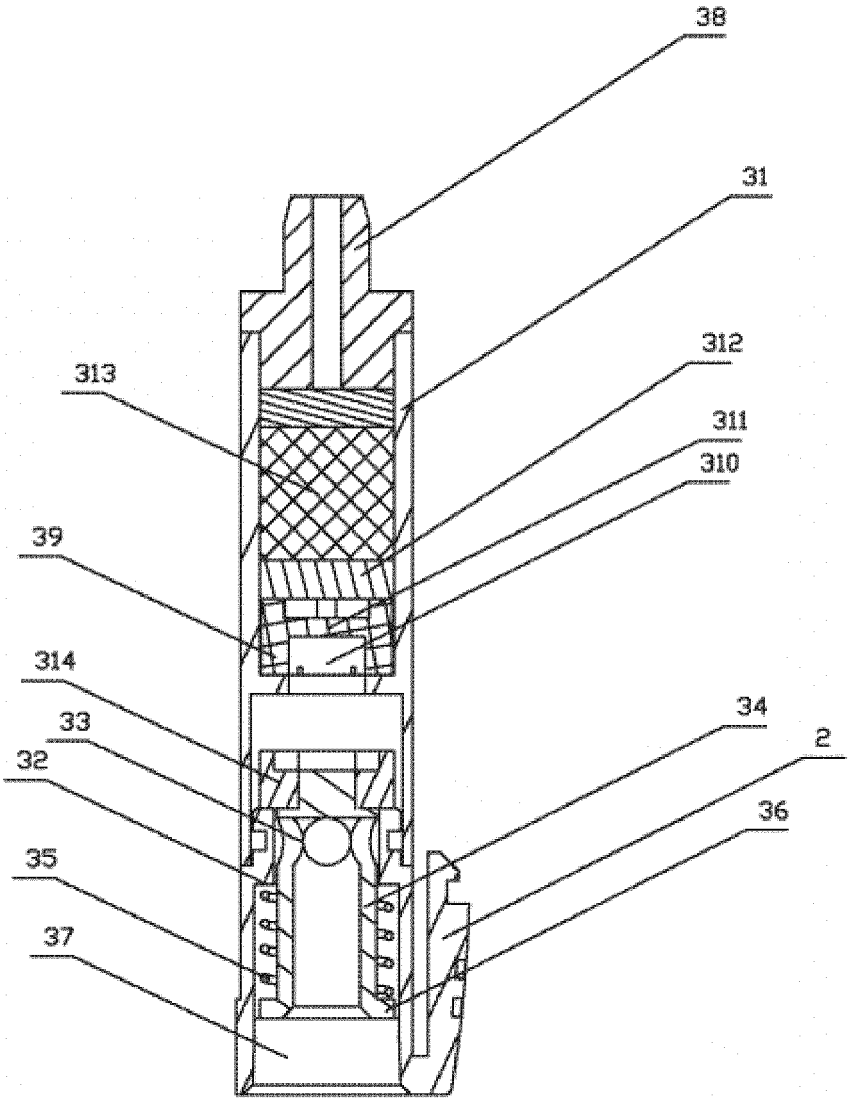

FIG.5

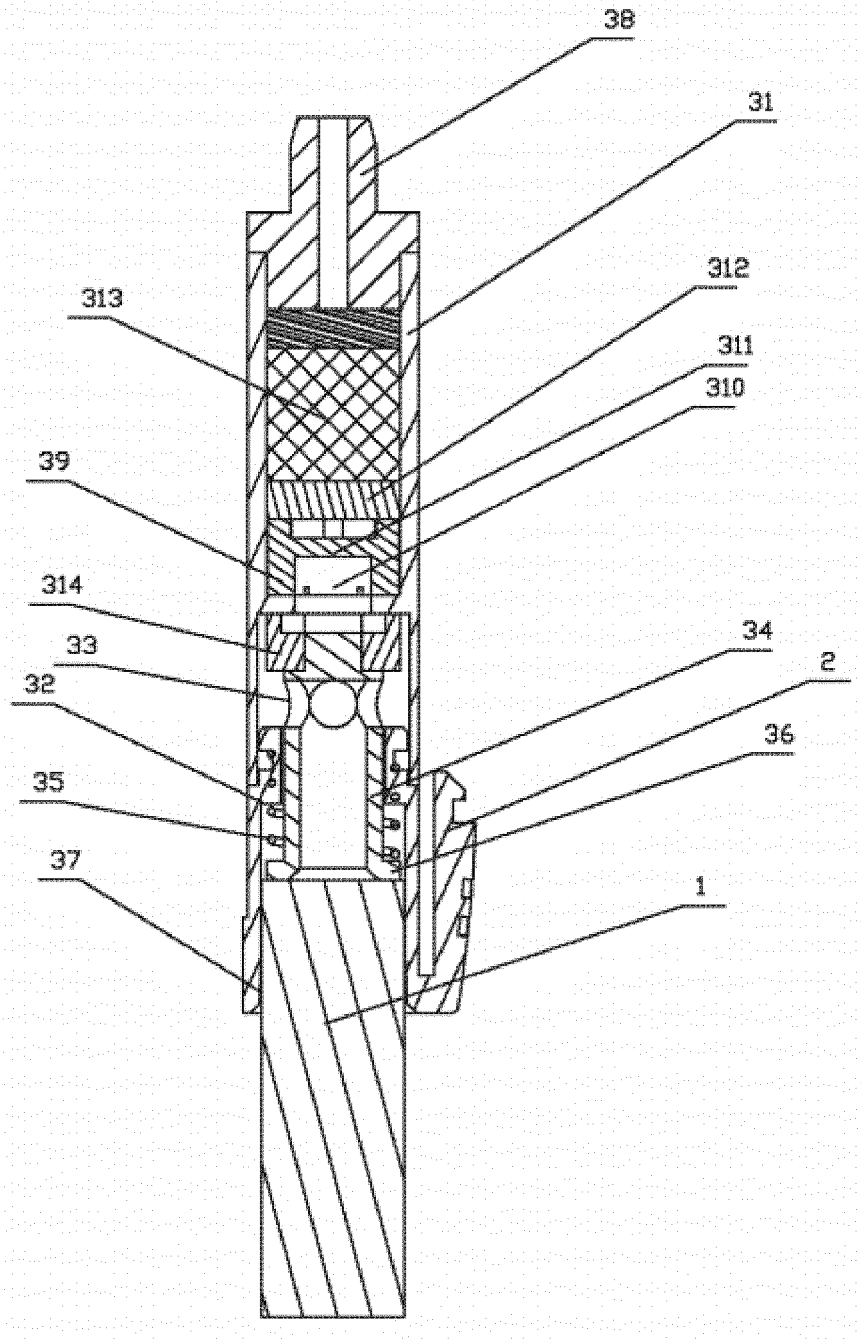

FIG.6

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2018/077699

A. CLASSIFICATION OF SUBJECT MATTER

A24F 47/00 (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)

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; CNTXT; VEN; CNKI; USTXT: 青岛颐中科技有限公司, 电子烟, 卷烟, 烟油, 混合, 弹簧, 关闭, electronic, electric, cigarette, tobacco, mix+

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 107495480 A (ETSONG QINGDAO INDUSTRIAL CO., LTD.) 22 December 2017 (22.12.2017), entire document	1-10
X	CN 106579561 A (ETSONG QINGDAO INDUSTRIAL CO., LTD.) 26 April 2017 (26.04.2017), description, paragraphs [0017] and [0018], and figure 1	1-4
Y	CN 106579561 A (ETSONG QINGDAO INDUSTRIAL CO., LTD.) 26 April 2017 (26.04.2017), description, paragraphs [0017] and [0018], and figure 1	5, 6
A	CN 106579561 A (ETSONG QINGDAO INDUSTRIAL CO., LTD.) 26 April 2017 (26.04.2017), entire document	7-10
Y	CN 104770879 A (CHINA TOBACCO HENAN INDUSTRIAL CO., LTD.) 15 July 2015 (07.15.2015) , description, paragraphs [0023]	5, 6

☒ 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

"E" earlier application or patent but published on or after the international filing date

"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)

"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

"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

"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

"&"document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
13 April 2018	06 June 2018
Name and mailing address of the ISA State Intellectual Property Office of the P. R. China No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088, China Facsimile No. (86-10) 62019451	Authorized officer YU, Yuanyuan Telephone No. (86-512) 88997285

Form PCT/ISA /210 (second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2018/077699

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2017144400 A1 (BOUDIER THOMAS) 31 August 2017 (31.08.2017), entire document	1-10
A	CN 104770877 A (CHINA TOBACCO YUNNAN INDUSTRIAL CO., LTD.) 15 July 2015 (15.07.2015), entire document	1-10

Form PCT/ISA /210 (continuation of second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2018/077699

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 107495480 A	22 December 2017	None	
CN 106579561 A	26 April 2017	None	
CN 104770879 A	15 July 2015	None	
WO 2017144400 A1	31 August 2017	FR 3047909 A1	25 August 2017
		FR 3047909 B1	23 March 2018
CN 104770877 A	15 July 2015	CN 104770877 B	17 November 2017
		WO 2016138689 A1	09 September 2016
		US 2018042299 A1	15 February 2018
		EP 3266321 A1	10 January 2018
		JP 2018509145 W	05 April 2018

Form PCT/ISA /210 (patent family annex) (July 2009)