SRipLaw

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March 13, 2020

VIA EMAIL: aschmeiser@iplawusa.com
Mr. Albert L. Schmeiser, Esq.
Schmeiser, Olsen & Watts LLP
18 East University Drive
Suite 101
Mesa, AZ 85201

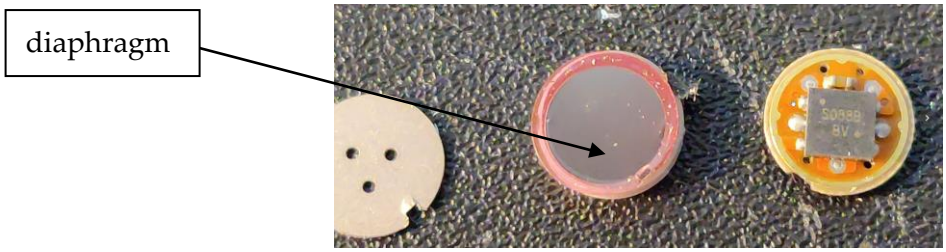
Re: VPR Brands, LP
Our File No.: 00581-0030
Infringement by Jupiter Research, LLC
Response to Letter Dated 11/08/2020

Dear Mr. Schmeiser,

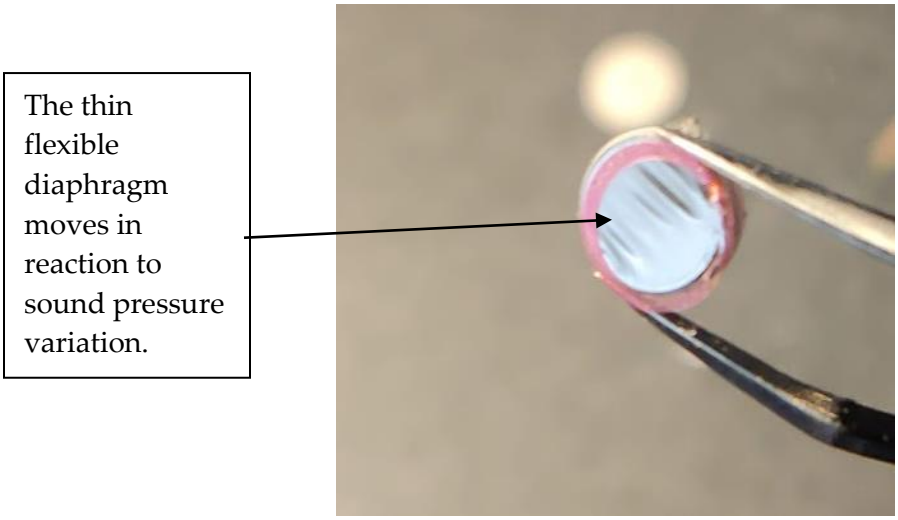
Thank you for your letter. We write in response pursuant to FRE 408, to offer some additional information for your consideration, and to suggest that we have a further discussion in an attempt to reach a resolution of this infringement dispute short of litigation.

The Accused Product Contains an Airflow Sensor that is a "Diaphragm Microphone"
A microphone diaphragm is a thin membrane that moves in reaction to sound pressure variation (sound waves). The diaphragm is a critical component in the microphone. Without a movable diaphragm, a microphone cannot operate as a transducer. The movement of the diaphragm with sound pressure is the first step in changing acoustic energy into electrical energy.

As the photographs of the disassembled airflow sensor in the accused product shown below demonstrate, the airflow sensor includes a thin diaphragm. The diaphragm is part of a bigger unit within microphones called the capsule. Capsule design is of utmost importance in microphone performance. The capsule is, ultimately, the transducer element in any microphone.



The diaphragm is suspended within the capsule of the airflow sensor between the red gasket and the airflow sensor capsule housing. As the photograph below shows, the diaphragm is flexible and capable of vibrating within the airflow sensor.



Since the microphone diaphragm is so thin, we observe it as have only two sides. The movement of the diaphragm is predicated on the variation in the sound waves between its two sides.

Further confirmation of this is found at an authoritative website on microphone technology:

> As mentioned, a microphone diaphragm is a thin membrane that moves in reaction to sound pressure variation (sound waves). The diaphragm is a critical ingredient in the microphone recipe. In fact, without a movable diaphragm, a microphone would not be able to do its job as a transducer. The coinciding motion of the diaphragm with sound pressure is the first step in changing acoustic energy into electrical energy.

https://mynewmicrophone.com/diaphragm/

The specification of the '622 patent describes the airflow sensor as developing a signal proportional to the strength of the puffing action. See, '622 patent, col.4, lines 26-29. The airflow sensor is thus not simply providing an "on" "off" signal to start the heating process; the sensor provides a signal proportional the strength of the user's puff to control the vaporization to more closely mimic cigarette smoking. See '622 patent, col. 4, lines 29-32.

Such a proportional signal depending on the pressure of the user's "puff" closely parallels the diaphragm of a microphone generating a signal proportional to the pressure of a sound wave. One skilled in the art would well understand diaphragm microphone to not actually be construed as including an actual microphone, a nonsense interpretation, but a "microphone diaphragm". That is, the type of diaphragm found in an acoustic microphone.

We obtained a certified translation of the original Chinese patent application from which the '622 patent claims priority and it is enclosed. This translation demonstrates that our interpretation of "diaphragm microphone" is the correct interpretation and applies to the airflow sensor contained in the accused product. See *Lupin Ltd. v. Abbott Labs*., 484 F. Supp. 2d 448, 457 (E.D. Va. 2007) (where patent claims priority from foreign language patent translation of foreign patent is intrinsic evidence used to properly interpret claims).

In view of this correct interpretation, the position taken in your letter that the accused product does not contain a "diaphragm microphone" is rejected.

Sincerely,

SRIPLAW

Joel B. Rothman

JBR/mrm
Enclosures

State Intellectual Property Office of the People's Republic of China

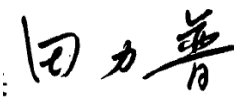
Certificate

Attached to this certificate is a copy of the following patent application submitted to the Office.

Application date:	March 24, 2009
Application number:	200910080147.5
Type:	Patent for Invention
Title:	A Highly Simulated Electronic Cigarette
Applicant:	Beijing GreenWorld Technologies Co., Ltd.
Inventor or designer:	Pan Guocheng

The People's Republic of China

Director of State Intellectual Property Office:


(Tian Lipu)

May 08, 2009

1. A highly simulated electronic cigarette comprising: a housing shaped like a cigarette and a power unit, an electronic vaporizer and an electronic inhaler in the housing, wherein the power unit supplies electrical current to the electronic vaporizer for vaporizing; and characterized by comprising further: an electronic sensor that is sensitive to a suction action of a user and can generate a triggering signal corresponding to the speed of a suction air flow for triggering a central processing unit (CPU);

wherein the CPU, after receiving the triggering signal from the electronic sensor, regulates the power supplied to the electronic vaporizer by modulating the output electrical current with an electronic switch, which is controlled by an intelligent program stored in the CPU based on the strength of the triggering signal.

2. The highly simulated electronic cigarette of claim 1 characterized by the housing, as in it a LED indicator is also equipped and the LED indicator is connected to the CPU and power unit respectively in a way that brightness of the LED indicator matches the strength of the triggering signal.

3. The highly simulated electronic cigarette of claim 2 characterized by the housing, as it has two parts, of which the front end houses the electronic vaporizer and the rear end houses the electronic inhaler, in which a cigarette cap, the LED indicator, the power unit, the circuit board on which the electronic sensor and CPU are installed and a first electrical connector are arranged one by one from the rear end to the front end and the power unit is connected to the first electrical connector through an electronic switch.

4. The highly simulated electronic cigarette of claim 3 characterized by the front end housing of the electronic vaporizer, as in it a second electrical connector and the electronic vaporizer are equipped and the first electrical connector and the second electrical connector are connected electrically and the second electrical connector and the electronic vaporizer are connected electrically.

5. The highly simulated electronic cigarette of claim 4 characterized by the electronic vaporizer comprising:

a housing for the vaporizer;

an embedded part of the vaporizer equipped in the housing for the vaporizer with liquid storage element in it for absorbing or storing nicotine solution to be vaporized;

a liquid vaporizing element connected electrically to the second electrical connector and in the liquid vaporizing element a venting hole is equipped for generating vapor after electrical heating;

an upper cap of the electronic vaporizer embedded to the upper end of the housing for the vaporizer and a venting hole is equipped on the upper cap for sealing as well as preventing back flow of the nicotine solution.

6. The highly simulated electronic cigarette of claim 5 characterized by the liquid

vaporizing element comprising:

a heating device made of tungsten filament for generating heat;

a heat spreader for evenly distributing heat from the heating device, which is located in the heat spreader, which is made of heat resistant material capable of enduring a temperature from 100 ℃ to 3000 ℃ and is fitted in the housing for the vaporizer;

a bracket for the heating device sleeves the heating device and is made of heat resistant organic or inorganic material capable of enduring a temperature from 100 ℃ to 3000 ℃.

7. The highly simulated electronic cigarette of claim 5 or 6 characterized by comprising further: a leakproof device, in which the liquid vaporizing element is equipped, and the leakproof device is tightly fitted to the housing for the vaporizer.

8. The highly simulated electronic cigarette of claim 7 characterized by the first electrical connector, which is a socket, and the second electrical connector, which is a plug, and the plug is embedded into the leakproof device with a plug base, which is connected electrically to the heating device; the socket and plug are connected by inserting and the front end housing of the electronic vaporizer is connected to the rear end of the electronic inhaler to form a whole body.

9. The highly simulated electronic cigarette of claim 4, 5 and 6 characterized by the first electrical connector as a lower terminal, which is a cylindrical terminal, part of which is embedded from the outer edge into the rear end housing of the electronic inhaler to fit tightly and the exposed outer edge is equipped with external threads;

the second electrical connector as a upper terminal, which is a cylindrical terminal, is tightly fitted to inner wall of the upper end of the electronic vaporizer, and is equipped with inner threads;

the lower terminal and upper terminal are connected by threads and the front end housing of the electronic vaporizer is connected to the rear end of the electronic inhaler to form a whole body.

10. The highly simulated electronic cigarette of claim 7 characterized by the first electrical connector, which is a plug, and the second electrical connector, which is a socket, and the socket is embedded into the leakproof device and is connected electrically to the heating device; the socket and plug are connected by inserting and the front end housing of the electronic vaporizer is connected to the rear end of the electronic inhaler to form a whole body.

11. The highly simulated electronic cigarette of claim 4, 5 and 6 characterized by the first electrical connector as a lower terminal, which is a cylindrical terminal, which is tightly fitted to inner wall of the lower end of the upper housing of the electronic vaporizer and has inner threads;

the second electrical connector as an upper terminal, which is a cylindrical terminal, part of which is embedded from the outer edge into the rear end housing of the

electronic inhaler to fit tightly and the exposed outer edge is equipped with external threads;

the lower terminal and upper terminal are connected by threads and the front end housing of the electronic vaporizer is connected to the rear end of the electronic inhaler to form a whole body.

A highly simulated electronic cigarette

Technical Field

The invention relates to an electronic cigarette, particularly, a highly simulated electronic cigarette with health benefits.

Background Art

Nicotine, which is an active ingredient in a cigarette, can be absorbed rapidly by the human body after it enters pulmonary alveoli together with a lot of tar aerosol droplets produced in the burning cigarette during smoking. By acting on the receptors of the smoker's central nervous system, it can make him/her relax and enjoy an inebriety similar to that produced by an exhilarant. Nicotine is a kind of alkaloid with low molecular weight. A small dose of nicotine is essentially harmless to human body considering its quite short half-life in blood. The major harmful substance in tobacco is tar, and the tar in tobacco is composed of thousands of ingredients, tens of which are cancerogenic substances. It is believed that passive smoking can be more harmful. In efforts to deal with smoking's harmful effects on human health and the environment, many cigarette substitutes have been proposed with the aims of mitigating these damages with the help of technologies.

For example, Japanese Patent Disclosure (Kokai) No. 3-232481 discloses a concept of a simulated smoking article formed by paper packaging a heating element and a solid flavor material equipped in a heat insulation pipe as well as a power unit for the heating element. In this type of simulated smoking articles, people addicted to flavor of cigarettes can be satisfied with air inhaled into the article mixed with the flavor ingredients, which is generated by heating the flavor material by applying power to it.

However, for this type of simulated smoking articles, as it takes some time to heat the flavor material, a smoker needs to wait a while before enough amount of flavor ingredients can be generated. Therefore, in the initial period of time, the smoker cannot be fully satisfied. In addition, as the amount of flavor ingredients cannot be controlled precisely, it is not possible to adjust the amount of the flavor ingredients based on the amount of air inhaled and therefore the smoker cannot get a feeling similar to that from smoking genuine cigarettes.

Also, as the article does not produce smoke and light similar to those from genuine cigarettes, smokers cannot get the feeling of smoking.

Chinese patent application 03111582.9 with the title "A Non-combustible Cigarette with Electronic Vaporization" discloses a non-combustible cigarette with electronic vaporization that can be used for quitting and substituting smoking. This type of cigarettes comprises a housing, a battery, a high frequency generator, stored nicotine solution and a container, a controlling circuit board, a displaying panel, an electronic sensor, a touch sensor, a piezoelectric ultrasonic vaporizer, a high temperature vaporizing nozzle, as well as electrically controlled pump or valve with metering cavity and one way injecting valve. They are difficult to be promoted considering

their complex design and high cost.

Chinese patent ZL200410048792.6 with the title “Electronic Cigarette” discloses an electronic cigarette comprising: a stick-like shell and an air-puffing hole; an emitting device, which is equipped in the shell, at least one pressure modifying driver for changing pressure in a cavity with liquid media for generating flavor and for emitting the liquid media as droplets from a nozzle connected with the cavity; a controller, equipped in the shell, for controlling the driving force of the emitting device; a metering device for measuring air flow in the shell; and a vaporizing device for generating simulated smoke from the front end of the shell; and the driving of the vaporizing device is controlled by the controller based on results from the metering device.

Therefore, the flavor media droplets are emitted into the shell under the drive of the controller. The shell also comprises: a vaporizing device equipped in the shell for vaporizing droplets of flavor media emitted from the emitting device.

Therefore, the flavor media emitted into the shell by the emitting device is vaporized (atomized) by the vaporizing device. Then, as a smoker inhales from the air-puffing hole of the shell under the condition, the mixture of air and vaporized flavor ingredients in the shell enters into the smoker’s mouth and the flavor ingredients dispersed in the mouth can satisfy the smoker’s addiction to flavor from cigarettes.

However, there are several disadvantages with the invention.

This prior art has the disadvantages such as leakage of nicotine solution, back flow, exposure of nicotine solution, interrupted vaporization, hard to suck, the ease of sucking and amount of smoke are much poorer than those for genuine cigarettes. In case the nicotine solution is exhausted, the exposed solution in replacing is not safe and healthy. The process of replacing is also cumbersome and complex.

The electronic cigarettes as proposed by prior arts have very complex vaporizing devices, which may degrade quickly after certain working cycles, resulting in substantially reduced amount of smoke, interrupted smoke, and failed vaporization, directly due to which the life cycle of electronic cigarettes may be shortened.

The switches for working power supply of electronic cigarettes proposed by prior arts are critical, but may cause serious issues such as interrupted smoke, hard to inhale and short life cycle due to their unstable performance and functions under variation of external environment such as temperature and moisture.

In charging the battery of electronic cigarettes proposed by prior arts, users have to take the battery out or find a suitable cable. This can be cumbersome.

The present invention is the result of long term efforts in research and experiments aimed at overcoming these disadvantages.

Summary

An object of the present invention is to provide a highly simulated electronic cigarette

which can overcome these disadvantages.

The technical solution presented in the invention provides a highly simulated electronic cigarette comprising: a housing shaped like a cigarette and a power unit, an electronic vaporizer and an electronic inhaler equipped in the housing, in which the power unit supplies electrical current to the electronic vaporizer for vaporizing; and comprising further: an electronic sensor that is sensitive to a suction action of a user and can generate a triggering signal corresponding to the speed of the suction air flow;

a CPU, after receiving the triggering signal from the electronic sensor, regulates the power supplied to the electronic vaporizer by modulating the output electrical current with an electronic switch, which is controlled by an intelligent program stored in the CPU based on the strength of the triggering signal.

Preferably, a LED indicator is also equipped in the housing and the LED indicator is connected to the CPU and power unit respectively in a way that brightness of the LED indicator matches the strength of the triggering signal,

wherein the housing has two parts, of which the front end houses the electronic vaporizer and the rear end houses the electronic inhaler, in which a cigarette cap, the LED indicator, the power unit, the circuit board on which the electronic sensor and CPU are installed and a first electrical connector are arranged one by one from the rear end to the front end and the power unit is connected to the first electrical connector through an electronic switch;

wherein the front end housing of the electronic vaporizer has in it a second electrical connector and the electronic vaporizer are equipped and the first electrical connector and the second electrical connector are connected electrically and the second electrical connector and the electronic vaporizer are connected electrically;

wherein the electronic vaporizer comprises:

a housing for the vaporizer;

an embedded part of the vaporizer equipped in the housing for the vaporizer with liquid storage element in it for absorbing or storing nicotine solution to be vaporized;

a liquid vaporizing element connected electrically to the second electrical connector and in the liquid vaporizing element a venting hole is equipped for generating vapor after electrical heating;

an upper cap of the electronic vaporizer embedded to the upper end of the housing for the vaporizer and a venting hole is equipped on the upper cap for sealing as well as preventing back flow of the nicotine solution.

Preferably, the liquid vaporizing element comprises: a heating device made of tungsten filament for generating heat;

a heat spreader for evenly distributing heat from the heating device, which is located in the heat spreader, which is made of heat resistant material capable of enduring a

temperature from 100 ℃ to 3000 ℃ and is fitted in the housing for the vaporizer;

a bracket for the heating device sleeves the heating device and is made of heat resistant organic or inorganic material capable of enduring a temperature from 100 ℃ to 3000 ℃.

Preferably, it comprises further: a leakproof device, in which the liquid vaporizing element is equipped, and the leakproof device is tightly fitted to the housing for the vaporizer.

In terms of two ways in which the first electrical connector is connected to the second electrical connector, for the first one, the first electrical connector is a socket and the second electrical connector is a plug, and the plug is embedded into the leakproof device with a plug base, and the socket is embedded in a sealing piece, which is tightly fitted to the rear end of the housing for electronic inhaler. The plug base and the heating device are connected electrically. The socket and plug are connected by inserting and the front end housing of the electronic vaporizer is connected to the rear end of the electronic inhaler to form a whole body.

In the second way, the first electrical connector is a lower terminal, which is a cylindrical terminal, part of which is embedded from the outer edge into the rear end housing of the electronic inhaler to fit tightly and the exposed outer edge is equipped with external threads;

the second electrical connector is an upper terminal, which is a cylindrical terminal, and is tightly fitted to inner wall of the front end of the electronic vaporizer, and is equipped with inner threads;

the lower terminal and upper terminal are connected by threads and the front end housing of the electronic vaporizer is connected to the rear end of the electronic inhaler to form a whole body.

Objects in the connection can be interchanged, that is, the first electrical connector is a plug, and the second electrical connector is a socket, and the socket is embedded into the leakproof device and is connected electrically to the heating device; The socket and plug are connected by inserting and the front end housing of the electronic vaporizer is connected to the rear end of the electronic inhaler to form a whole body. Or, the first electronic inhaler and the second electronic vaporizer can be connected directly with conductors, which connect the electronic vaporizer and the electronic inhaler together in the same rod.

Advantages of the present invention in comparison with prior arts include stable functions and performance, great consistency, easy to inhale, no interrupted vaporization, longer life cycle and assured quality. It also prevents issues such as leakage of nicotine solution, back flow, exposure of nicotine solution to ensure safety, hygiene and convenience, therefore preventing the issue of degradation of the vaporizer.

Description of the Drawings

Fig. 1 is a structural diagram of the circuit for critical parts for the highly simulated electronic cigarette in accordance with the present invention.

Fig. 2 is a schematic sectional view of the front end of the electronic vaporizer in example 1 of a highly simulated electronic cigarette in accordance with the present invention.

Fig. 3 is a sectional view of the electronic vaporizer in example 1 of a highly simulated electronic cigarette in accordance with the present invention.

Fig. 4 is a schematic sectional view of an assembled device in example 1 of a highly simulated electronic cigarette in accordance with the present invention.

Fig. 5 is a schematic sectional view of the rear end of the electronic inhaler in example 2 of a highly simulated electronic cigarette in accordance with the present invention.

Fig. 6 is a schematic sectional view of the leakproof device and the bracket for heating device fitted together for a highly simulated electronic cigarette in accordance with the present invention.

Fig. 7 is a schematic sectional view of an assembled device in example 2 of a highly simulated electronic cigarette in accordance with the present invention.

Detailed Description of the Examples

Technical features and advantages of the present invention are described in more details below by referring to the drawings.

A highly simulated electronic cigarette of the present invention comprises: a housing in the shape of a cigarette, and the housing has a power unit, an electronic vaporizer and an electronic inhaler in it and the housing comprises two parts, which are the front end for the electronic vaporizer and the rear end for the electronic inhaler.

Referring to Fig. 1, a structural diagram of the circuit for critical parts for a highly simulated electronic cigarette in accordance with the present invention, the power unit 5 supplies electrical current to the electronic vaporizer 22 for heating as well as powers other electrical devices, wherein the power unit 5 is connected to the electronic vaporizer 22 through a first electrical connector 11 and a second electrical connector 21; an electronic sensor 6 that is sensitive to a suction action of a user can generate a triggering signal corresponding to the speed of a suction air flow for triggering a CPU 3;

the CPU 3, after receiving the triggering signal from the electronic sensor 6, with the intelligent program stored in it, controls the amount of power supplied by the power unit 5 to the electronic vaporizer 22 through an electronic switch 4, wherein the strength of output current from power unit 5 is modulated based on the strength of the triggering signal. The housing also has a LED indicator 12 in it and the indicator is connected to the CPU 3 and power unit 5 respectively. Brightness of the LED indicator 12 matches the strength of the triggering signal. This is a critical process of

the present invention. As a user inhales with greater force, the triggering signal generated by the electronic sensor 6 is more powerful. Controlled by the CPU 3, the electronic switch 6 modulates output current from power unit 5 so that it matches the speed of inhaled air flow. Therefore, a realistic smoking experience can be simulated as the heating of the electronic vaporizer 22 and brightness of the LED indicator 12 are modulated.

Referring to Fig. 2, a schematic sectional view of the front end of the electronic vaporizer in example 1 of a highly simulated electronic cigarette in accordance with the present invention, wherein in the front end housing of the electronic vaporizer a cigarette cap 13, the LED indicator 12, the power unit 5, the circuit board 14 on which the electronic sensor 6 and CPU 3 are installed and a first electrical connector 11 are arranged one by one from the front end to the rear end, wherein the electronic sensor 6 is installed on a sensor bracket 61, wherein the first electrical connector is a lower terminal 11, which is a cylindrical terminal, part of which is embedded from the outer edge into the front end housing 10 of the electronic vaporizer to fit tightly and the exposed outer edge is equipped with external threads 17 to connect with another structure with inner threads together.

Referring to Fig. 3, a sectional view of the electronic vaporizer in example 1 of a highly simulated electronic cigarette in accordance with the present invention,

wherein the electronic vaporizer comprises: a housing for the vaporizer 263; in which it houses: an embedded part 261 of the vaporizer equipped in the housing for the vaporizer 263 with liquid storage element 264 in it for absorbing or storing nicotine solution to be vaporized; the liquid storage element 264, made of material such as glass fiber or other mixtures capable of enduring a temperature from 100 ℃ to 3000 ℃ so that it will not be damaged by heat from the electronic vaporizer under working conditions;

a liquid vaporizing element that generates heat after energized as heating source for vaporization and that connected electrically through a conductor 266 to the second electrical connector 267, and the liquid vaporizing element comprises: a heating device 265 for generating heat and made of materials that could endure high temperature, such as tungsten filament; and a heat spreader 268 for evenly distributing heat from the heating device 265, which is located in the heat spreader 268, which is made of heat resistant material capable of enduring a temperature from 100 ℃ to 3000 ℃ and can be in the shape of a can, cylinder or others and a can is used in the example; and comprises further: a bracket 269 for the heating device that sleeves on the tungsten filament for supporting purposes and for anchoring the heat spreader 268, wherein the bracket 269 is made of organic or inorganic heat resistant material capable of enduring a temperature from 100 ℃ to 3000 ℃, and wherein high temperature filament is used in the example and venting hole is equipped in the middle of the bracket in the shape of a can;

an upper cap 262 of the electronic vaporizer embedded to the upper end of the housing for the vaporizer 263 and a venting hole is equipped on the upper cap 262 for

sealing as well as preventing back flow of the nicotine solution;

the second electrical connector is an upper terminal 267, which is a cylindrical terminal, and is tightly fitted to inner wall of the rear end housing of the electronic inhaler, and is equipped with inner threads;

the lower terminal 267 and the upper terminal 11 are connected by threads and the front end of the electronic vaporizer is connected to the rear end of the electronic inhaler to form a whole body.

It should be noted that with threaded connection, objects in the connection can be interchanged, that is, the first electrical connector located at the front end of the electronic vaporizer can be an upper terminal, which is to be tightly fitted to inner wall of the lower end of the front end housing of the electronic vaporizer and the upper terminal has inner threads in it;

the second electrical connector located at the rear end of the electronic inhaler can be a lower terminal, part of which is embedded from the outer edge into the rear end housing of the electronic inhaler to fit tightly and the exposed outer edge is equipped with external threads;

the lower terminal and upper terminal are connected by threads and the front end of the electronic vaporizer is connected to the rear end of the electronic inhaler to form a whole body.

Referring to Fig. 4, a schematic sectional view of an assembled device in example 1 of a highly simulated electronic cigarette in accordance with the present invention, wherein the inner threads in the upper terminal 11 are fitted with the outer threads equipped on the lower terminal 267 to join the front end housing for the electronic vaporizer and the rear end housing for the electronic inhaler to form a whole body while connection in them is made electrically.

Referring to Fig. 5, a schematic sectional view of the rear end of the electronic inhaler in example 2 of a highly simulated electronic cigarette in accordance with the present invention, wherein in the rear end housing of the electronic inhaler, the leakproof device 23 and liquid vaporizing element are equipped one by one, wherein the leakproof device 23 is made of electrically conductive material, wherein a cigarette mouthpiece is equipped at the far end of the rear end housing of the electronic inhaler, wherein a DC plug 21 is connected to the leakproof device 23 through a plug base 24 to realize electrical connection to heating device 265 in the liquid vaporizing element.

Referring to Fig. 6, a schematic sectional view of the leakproof device and the bracket for heating device fitted together for a highly simulated electronic cigarette in accordance with the present invention, wherein the leakproof device 23 is a can-like structure with different diameters at the ends and has a bearing seat at the middle, wherein the heat spreader 268 of the liquid vaporizing element is equipped in the leakproof device 23 and in touch with the bearing seat, wherein the leakproof device 23 connects to the DC plug base with its hollow part at the front end; the sealing for

the devices in the housing and the housing itself is obvious for skilled person in the art and therefore is not described in details here.

Referring to Fig. 7, a schematic sectional view of an assembled device in example 2 of a highly simulated electronic cigarette in accordance with the present invention, wherein in the front end housing of the electronic vaporizer a cigarette cap 13, the power unit 10, circuit board 14 and a DC plug 21 are equipped one by one, wherein the plug base 24 is embedded into the leakproof device 23 and the plug base 24 is connected electrically to the heating device 265; the socket 28 and the DC plug are connected by inserting and the front end housing of the electronic vaporizer is connected to the rear end housing of the electronic inhaler to form a whole body.

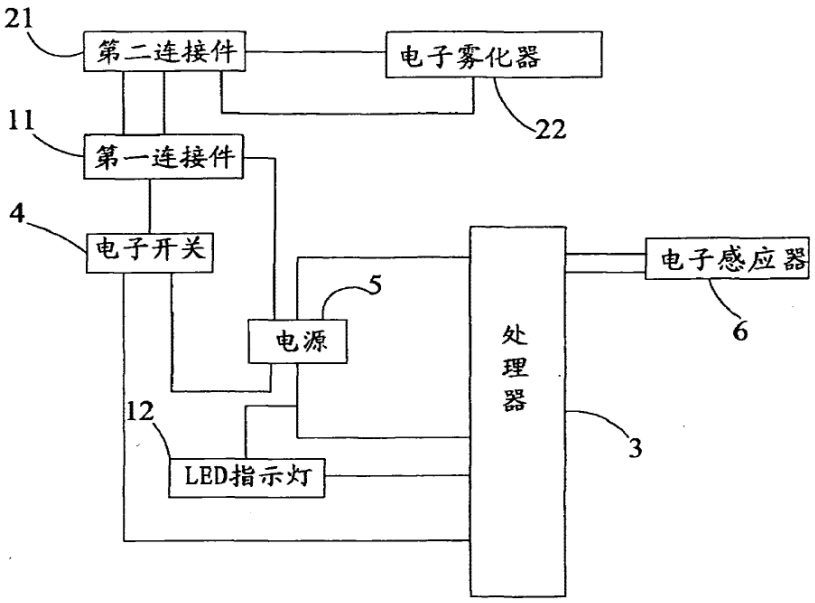
It should be noted that objects in the connection can be interchanged, that is, the first electrical connector in the front end of the electronic vaporizer can be a DC plug 21, and the second electrical connector in the rear end of the electronic inhaler can be a socket 28, and wherein the socket 28 is embedded into the leakproof device 23 and is connected electrically to the heating device 265; the socket 28 and the DC plug 21 are connected by inserting and the front end housing of the electronic vaporizer is connected to the rear end housing of the electronic inhaler to form a whole body.

An electronic cigarette in accordance with the present invention controls core processes and switch of the circuit with electronic sensor and CPU program, simplifying complex mechanical mechanisms and cumbersome assembling of electronic cigarettes in accordance with prior arts. Its suction easiness and amount of smoke are similar to those of genuine cigarettes. Such design also ensures stable performance and functions as well as long life cycle.

In addition, the vaporizer and control circuit of the electronic inhaler are designed into separate parts. The design that seals the nicotine solution container, the vaporizing device and the circuit in the electronic vaporizer can prevent leakage of nicotine solution and its back flow and exposure. The core issue of degrading vaporizing device can be fixed for good as the electronic vaporizer can be disposed all together after the nicotine solution is depleted, so that the life cycle of the electronic cigarette can be extended.

Also, with standard DC plug that can be plugged into a socket for charging directly or the threaded rear end rod of the electronic vaporizer that can be screwed into an adapter, charging can be simplified.

The above only describes preferred examples of the present invention and is illustrative rather than restrictive. Many other alternations, revisions, and even alternatives within the spirit and scope as defined by the claims of the present invention understandable to skilled person in the art should also be included in the scope of protection for the present invention.



21 The second connector

22 Electronic vaporizer

11 The first connector

4 Electronic switch

5 Power unit

6 Electronic sensor

12 LED indicator

3 CPU

Fig. 1

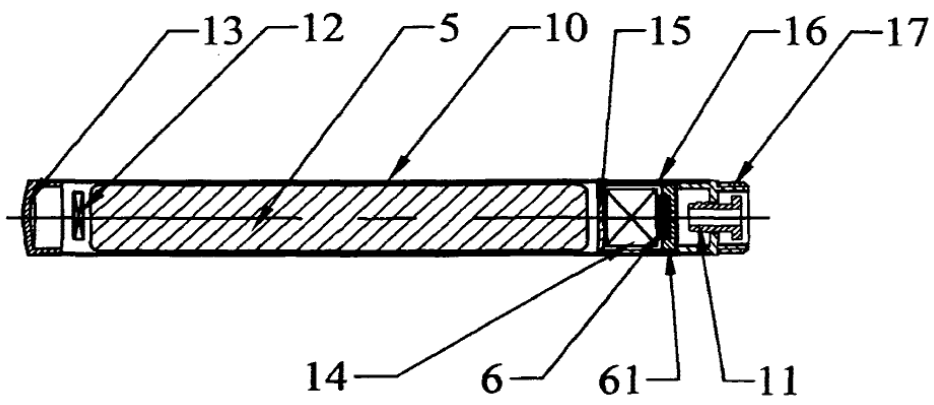


Fig. 2