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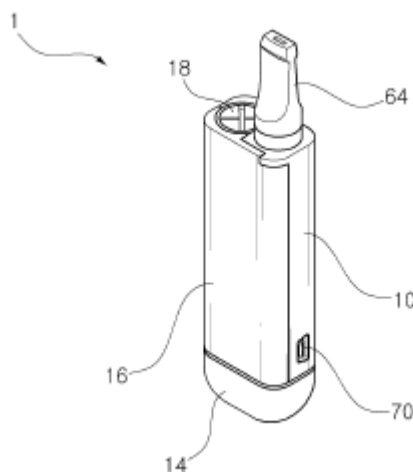
(54) ELECTRONIC CIGARETTE

(57) Abstract

The present design relates to an electronic cigarette having components of an electronic cigarette arranged in parallel to make the overall external shape different from that of a cigarette, thereby reducing the resistance from non-smokers while improving the design aesthetics at the same time, and having a USB terminal formed on the outside to enable charging via a USB cable, thereby allowing for easy power supply without battery removal.

The electronic cigarette according to a preferred embodiment of the present design comprises a main body having a space unit partitioned by a partition wall formed therein; a power supply means accommodated in the space unit on one side in a manner that it can be replaced; a circuit panel provided on the front side of the space unit and electrically connected to the power supply means; a power connection terminal located within the space unit on the other side, electrically connected to the circuit panel, and selectively supplied with power from the power supply means by a signal from the circuit panel; a heating means coupled to the power connection terminal, accommodated in the space unit on the other side, and heated according to the power supply status of the power connection terminal; and a cartridge having liquid tobacco filled on one side and an intake portion formed on the other side, wherein said one side is coupled to the heating means in a manner that heat can be transferred, allowing the vaporized liquid tobacco to be inhaled through the intake portion when the heating means generates heat.

Representative figure – FIG. 1



*Scope of claims of utility model***Claim 1**

An electronic cigarette comprising

a main body having a space unit partitioned by a partition wall formed therein;

a power supply means accommodated in the space unit on one side in a manner that it can be replaced;

a circuit panel provided on the front side of the space unit and electrically connected to the power supply means;

a power connection terminal located within the space unit on the other side, electrically connected to the circuit panel, and selectively supplied with power from the power supply means by a signal from the circuit panel;

a heating means coupled to the power connection terminal, accommodated in the space unit on the other side, and heated according to the power supply status of the power connection terminal; and

a cartridge having liquid tobacco filled on one side and an intake portion formed on the other side, wherein said one side is coupled to the heating means in a manner that heat can be transferred, allowing the vaporized liquid tobacco to be inhaled through the intake portion when the heating means generates heat.

Claim 2

Deleted

Claim 3

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*Specification**Detailed description of the design**Technical field*

[0001] The present design relates to an electronic cigarette, and more particularly, to an electronic cigarette having components of an electronic cigarette arranged in parallel to make the overall external shape different from that of a cigarette, thereby reducing the resistance from non-smokers while improving the design aesthetics at the same time, and having a USB terminal formed on the outside to enable charging via a USB cable, thereby allowing for easy power supply without battery removal.

Background art

[0002] Recently, electronic cigarettes exhibiting effects similar to those of actual cigarettes have been developed as smoking cessation aids.

[0003] With these electronic cigarettes, when the user holds the electronic cigarette in his or her mouth and inhales in the same manner as a regular cigarette, a light that resembles the look of a burning cigarette is produced at the tip of the electronic cigarette, and water vapor is generated like smoke inside the electronic cigarette and discharged to the outside, allowing the user to experience a feeling similar to smoking actual cigarettes.

[0004] However, these electronic cigarettes were usually formed in the same shape as real cigarettes, giving non-smokers the exact same feeling as smoking real cigarettes, leading to a negative outlook of electronic cigarette smokers.

[0005] Additionally, lithium-ion rechargeable batteries were mainly used inside conventional electronic cigarettes, but to charge them, a separate charger that needed to be connected to an external power outlet had to be used, making them difficult to charge or use in places without power outlets.

*Details of the design**Problem to be solved*

- [0006] Therefore, the purpose of the present design is to provide an electronic cigarette having components of an electronic cigarette arranged in parallel to make the overall external shape different from that of a cigarette, thereby reducing the resistance from non-smokers while improving the design aesthetics at the same time.
- [0007] Another purpose of the present design is to provide an electronic cigarette having a USB terminal formed on the outside to enable charging via a USB cable, thereby allowing for easy power supply without battery removal.

Means to solve the problems

- [0008] The purpose of the present design described above is achieved by providing an electronic cigarette comprising a main body having a space unit partitioned by a partition wall formed therein; a power supply means accommodated in the space unit on one side in a manner that it can be replaced; a circuit panel provided on the front side of the space unit and electrically connected to the power supply means; a power connection terminal located within the space unit on the other side, electrically connected to the circuit panel, and selectively supplied with power from the power supply means by a signal from the circuit panel; a heating means coupled to the power connection terminal, accommodated in the space unit on the other side, and heated according to the power supply status of the power connection terminal; and a cartridge having liquid tobacco filled on one side and an intake portion formed on the other side, wherein said one side is coupled to the heating means in a manner that heat can be transferred, allowing the vaporized liquid tobacco to be inhaled through the intake portion when the heating means generates heat.
- [0009] According to a preferred feature of the present design, a USB terminal, which is capable of charging the power supply means when a USB cable electrically connected to an external power source is inserted, is formed on one side of the main body.
- [0010] According to a more preferred feature of the present design, a control button, which is electrically connected to the circuit panel and transmits a power application signal to the circuit panel depending on the status of operation to control the power application status of the power supply means, is installed on the other side of the main body.

Effect

- [0011] The parallel electronic cigarette according to a preferred embodiment of the present design has the advantage of having components of an electronic cigarette arranged in parallel to make the overall external shape different from that of a cigarette, thereby reducing the resistance from non-smokers while improving the design aesthetics at the same time.
- [0012] Additionally, by having a USB terminal formed on the outside to enable charging via a USB cable, the power can be supplied easily without removing the battery, even in places without external power outlets.

Detailed description of the embodiments

- [0013] FIG. 1 shows a perspective view of an electronic cigarette according to an embodiment of the present design, FIG. 2 shows a bottom perspective view of an electronic cigarette according to an embodiment of the present design, FIG. 3 shows a cross-sectional view of an electronic cigarette according to an embodiment of the present design, FIG. 4 shows an exploded perspective view of an electronic cigarette according to an embodiment of the present design, and FIG. 5 shows an in-use state diagram of an electronic cigarette according to an embodiment of the present design.
- [0014] The electronic cigarette (1) according to a preferred embodiment of the present design comprises a main body (10) having a space unit partitioned by a partition wall (12) formed therein; a power supply means (20) accommodated in the space unit on one side in a manner that it can be replaced; a circuit panel (30) provided on the front side of the space unit and electrically connected to the power supply means (20); a power connection terminal (40) located within the space unit on the other side, electrically connected to the circuit panel (30), and selectively supplied with power from the power supply means (20) by a signal from the circuit panel (30); a heating means (50) coupled to the power connection terminal (40), accommodated in the space unit on the other side, and heated according to the power supply status of the power connection terminal (40); and a cartridge (60) having liquid tobacco filled on one side and an intake portion (64) formed on the other side, wherein said one side is coupled to the heating means (50) in a manner that heat can be transferred, allowing the vaporized liquid tobacco to be inhaled through the intake portion (64) when the heating means (50) generates heat.

- [0015] The main body (10) forms the overall appearance of the electronic cigarette (1) and serves to mount the components to be described later therein.
- [0016] This main body (10) is provided with a front finishing member (14) on the front side, the interior of which forms a space unit partitioned into two sides by a partition wall (12), and an opening and closing member (18) for inserting and withdrawing the power supply means (20), which will be described later, is coupled to the main body (10) in a manner that they can be electrically connected at the end of the space unit on one side, and the end of the space unit on the other side is formed with a penetration so that a cartridge (60), which will be described later, can be inserted.
- [0017] Additionally, the cover (16) is force-fitted on the upper side so that it can be opened and closed, and it is preferred that, between the aforementioned main body (10) and the front finishing member (14), although not depicted, an LED member, which can be switched on and off, is provided in a manner that it can be turned on to indicate the operation of the control button (80), which will be described later.
- [0018] As for the illumination of the LED member according to the operation of the control button (80), a blue light will turn on under normal circumstances, but a red light will turn on when the liquid tobacco needs to be refilled or when the power supply means (20) needs to be charged.
- [0019] Meanwhile, a USB terminal (70) is formed on one side of the aforementioned main body (10), and a USB cable (not depicted) electrically connected to an external power source is inserted into this USB terminal (70) to play the role of making it possible to charge the power supply means (20).
- [0020] As such, the aforementioned USB terminal (70) enables easy and rapid power charging without disconnecting the power supply means (20) in places where there is no external power outlet, such as a vehicle, as well as in places where a PC is provided.
- [0021] Additionally, although not depicted, a memory chip electrically connected to the USB terminal (70) is provided on one side of the space unit, allowing data to be stored through the USB terminal (70).
- [0022] Meanwhile, a control button (80) is installed on the other side of the main body (10) where the aforementioned USB terminal (70) is formed, and this control button (80) is electrically connected to the circuit panel (30), which will be described later, and transmits a power application signal to the circuit panel (30) depending on the status of operation to play the role of determining whether to supply power to the power supply means (20).
- [0023] Therefore, when the control button (80) is operated, this signal is transmitted to the circuit panel (30), and through this, the power of the power supply means (20) is transmitted to the power connection terminal (40) and heats the electrically connected heating member (52), which will be described later.
- [0024] Meanwhile, a power supply means (20) is accommodated in the space unit on one side of the aforementioned main body (10) in a manner that it can be replaced, and this power supply means (20) is connected to the circuit panel (30) in a manner that enables power supply and serves to selectively supply power to the heating member (52) by operation of the aforementioned control button (80).
- [0025] This power supply means (20) is preferably a rechargeable battery that can be charged through the aforementioned US cable (not depicted), but in situations where charging is not possible, it can be replaced with a general disposable battery.
- [0026] Additionally, an opening and closing member (18) that opens and closes by the screw-coupling method with the main body (10) is provided at the end of the aforementioned space unit on one side, that is, at the end of the other side of the front finishing member (14), and the power supply means (20) can be replaced through this opening and closing member (18).
- [0027] Meanwhile, a circuit panel (30) is provided inside the aforementioned front finishing member (14), and this circuit panel (30) is electrically connected to the power supply means (20), receives an operation signal of the aforementioned control button (80), and transmits the power of the power supply means (20) to the power connection terminal (40) to play the role of selectively heating the heating member (52).
- [0028] Because the operating relationship of this circuit panel (30) is the same as that of the circuit panel (30) according to the prior art that performs the same role, and a further detailed description will be omitted for the sake of simplification of the specification.
- [0029] Additionally, a power connection terminal (40) is located in the aforementioned space unit on the other side, and this power connection terminal (40) is electrically connected to the aforementioned control panel (30) and plays the role of selectively supplying power to the power supply means (20) by a signal from the circuit panel (30).
- [0030] This power connection terminal (40) is electrically connected to the circuit panel (30) so as to receive power from the power supply means (20) through the circuit panel (30), and is threaded on the outer circumference so as to be screw-coupled with the heating means (50).
- [0031] Meanwhile, in the space unit on the other side of the main body (10) where the aforementioned power connection terminal (40) is located, a heating means (50) is accommodated by being coupled with the power connection terminal (40), and this heating means (50) generates heat depending on the power supply status of the power connection terminal (40), thereby playing the role of vaporizing the liquid tobacco absorbed inside the cartridge (60), which will be described later.

- [0032] This heating means (50), on one end, has a thread formed on its inner circumference to allow screw-coupling with the power connection terminal (40), and on the other end, comprises a case member (54) with a hollow interior so as to be coupled with the cartridge (60), and a heating member (52) that is electrically connected to the aforementioned power connection terminal (40) and generates heat with the power transmitted therethrough.
- [0033] The aforementioned heating member (52) selectively generates heat only when power is supplied, and because it is the same as the heating element according to the prior art, a further detailed description will be omitted for the sake of simplification of the description.
- [0034] Meanwhile, a cartridge (60) is coupled to the other end of the case member (54) of the aforementioned heating means (50), and this cartridge is filled with liquid tobacco on one side coupled to the case member (54) and an intake portion (64) is formed on the other side protruding to the outside of the main body (10), and that one side is coupled to the heating means (50) in a manner that heat can be transferred to play the role of allowing the vaporized liquid tobacco to be inhaled through the intake portion (64) when the heating means (50) generates heat.
- [0035] An absorbent material (62), such as cotton, is provided on the inside of one side of this cartridge (60) so that liquid tobacco can be filled, and an intake portion (64) is formed on the other side so that the user can inhale by holding it in his or her mouth, and the case member (54) and the cartridge (60) are press-fitted and coupled to each other to the extent that they can be detached to easily refill the liquid tobacco.
- [0036] Hereinafter, the overall method for using the electronic cigarette (1) according to a preferred embodiment of the present design will be described as follows.
- [0037] First, operate the control button (80) to check whether the power supply means (20) is charged before using the electronic cigarette (1), and then, if it needs to be charged, insert a USB cable (not depicted) into the USB terminal (70) for charging.
- [0038] Once the charging is completed, check whether the liquid tobacco needs to be refilled, and if it does, hold the intake portion (64) of the cartridge (60) first and then rotate it to separate the screw-coupled case member (54) and the power connection terminal (40) from the main body (10).
- [0039] Then, after separating the cartridge (60) from the case member (54) of the heating means (50), which is press-fitted and fixed, refill liquid tobacco by pouring it into the absorbent material.
- [0040] Then, combine the heating means (50) and the cartridge (60) with the main body (10) in the reverse order of the method described above, and then use the electronic cigarette (1).
- [0041] First, the electronic cigarette (1) with the user's hand, and then the intake portion (64) is brought to the user's mouth and they gently bite it with their lips.
- [0042] Then, the control button (80) is pressed with one finger of the hand holding the cigarette while inhaling, and at this time, an electrical signal is transmitted from the control button (80) to the circuit panel (30), and through this signal, power is transmitted from the power supply means (20) to the power connection terminal (40).
- [0043] When the heating means (50) connected to the power connection terminal (40) generates heat through this power and the user inhales through the intake portion (64), the generated heat vaporizes the liquid tobacco filled in the absorbent material (62) in the form of water vapor, and smoking occurs as this water vapor flows into the user's body through the intake portion (64).
- [0044] Because the present design can be modified and implemented in various ways by a person having ordinary skill in the art without departing from the gist of the claims claimed by the scope of claims of the utility model, the scope of technical protection of the present design is not limited to the specific preferred embodiments described above.

Brief description of the drawings

- [0045] FIG. 1 shows a perspective view of an electronic cigarette according to an embodiment of the present design.
- [0046] FIG. 2 shows a bottom perspective view of an electronic cigarette according to an embodiment of the present design.
- [0047] FIG. 3 shows a cross-sectional view of an electronic cigarette according to an embodiment of the present design.
- [0048] FIG. 4 shows an exploded perspective view of an electronic cigarette according to an embodiment of the present design.
- [0049] FIG. 5 shows an in-use state diagram of an electronic cigarette according to an embodiment of the present design.

[0050] *Description of reference numerals for major parts of figures*

[0051] 1: Electronic cigarette	10: Main body
[0052] 12: Partition wall	14: Front finishing member
[0053] 16: Cover	18: Opening and closing member
[0054] 20: Power supply means	30: Circuit panel
[0055] 40: Power connection terminal	50: Heating means
[0056] 52: Heating member	54: Case member
[0057] 60: Cartridge	62: Absorbent material
[0058] 64: Intake portion	70: USB terminal
[0059] 80: Control button	

Figures

FIG. 1

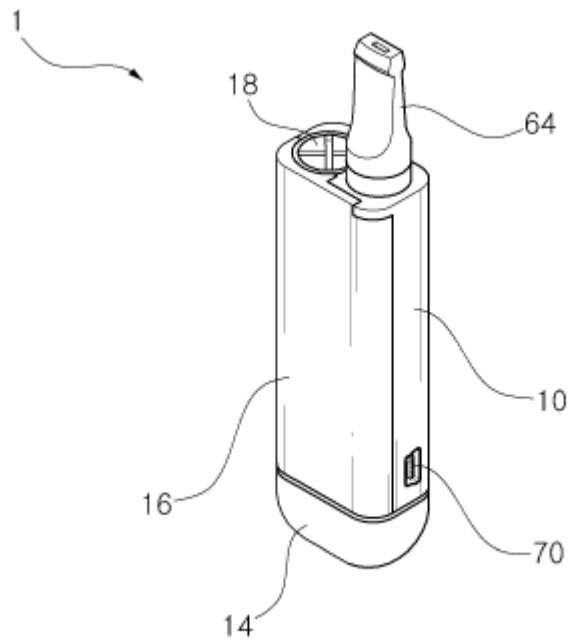


FIG. 2

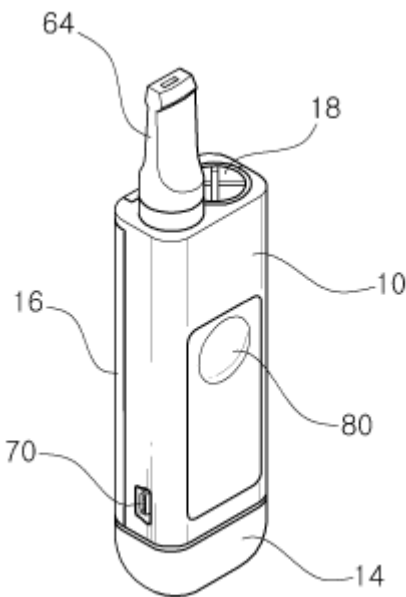


FIG. 3

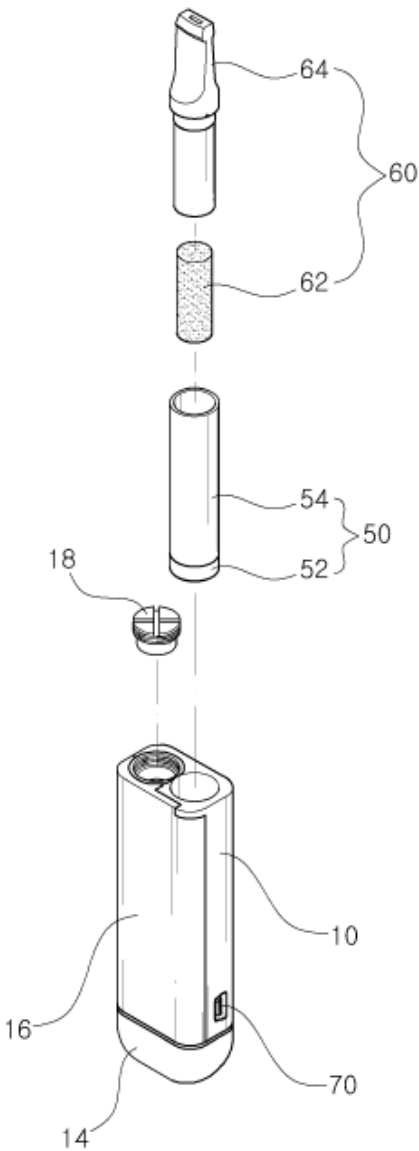


FIG. 4

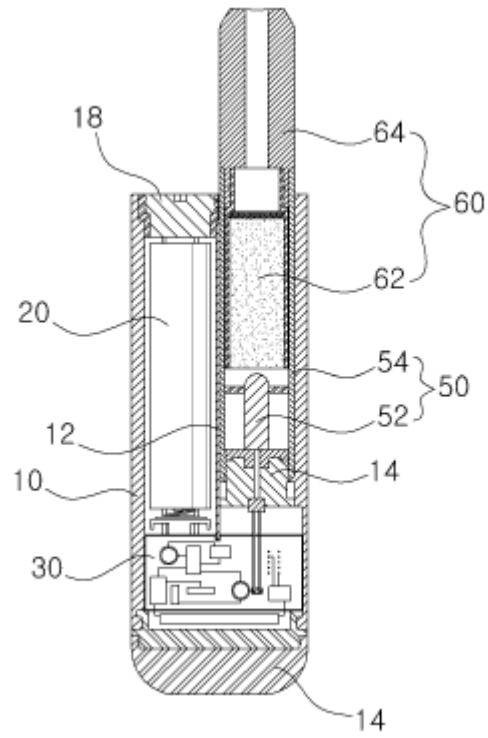


FIG. 5

