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(54) **ELECTRONIC ATOMIZING DEVICE, CONTROL METHOD THEREOF, HEATING ASSEMBLY, ELECTRONIC APPARATUS AND STORAGE MEDIA**

ELEKTRONISCHE ZERSTÄUBUNGSVORRICHTUNG, STEUERUNGSVERFAHREN DAFÜR, HEIZANORDNUNG, ELEKTRONISCHE VORRICHTUNG UND SPEICHERMEDIEN

DISPOSITIF D'ATOMISATION ÉLECTRONIQUE, SON PROCÉDÉ DE COMMANDE, ENSEMBLE DE CHAUFFAGE, APPAREIL ÉLECTRONIQUE ET SUPPORT D'ENREGISTREMENT

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Description

TECHNICAL FIELD

[0001] The described embodiments relate to cigarette substitutes, and in particular to an electronic atomizing device, a control method thereof, a heating assembly, an electronic apparatus and a storage media.

BACKGROUND

[0002] One typical electronic atomizing device of heating does not burn, is an electronic product that imitates cigarettes. The electronic atomizing device could atomize tobacco into aerosol for user to suck. As a tool for quitting smoking, the electronic atomizing device has similar appearance, taste and sensation as those of cigarette, therefore it is commonly used by more and more smokers. For example, WO2017205692A1 discloses a vaporizer comprising a vaporizer body. A cartridge is attached on, in ,or partially in the vaporizer body. The cartridge and the vaporizer body are connected by contacts. The cartridge comprises a heater. When cartridge contacts and vaporizer body contacts are respectively engaged by coupling of the cartridge with the vaporizer body, an electrical power circuit can be formed allowing control of power flow from the power source 103 in the vaporizer body and the heater. Besides, An identifier is structural on the cartridge. The identifier includes codes or markings. WO2016200382A1 discloses an atomizer. The atomizer comprises a first heating element and a memory. The memory stores at least one of a first temperature cofficient of resistance curve associated with the first heating element and a first temperature-resistance transfer function associated with the first heating element.

SUMMARY OF THE DISCLOSURE

[0003] According to an aspect of the present disclosure, an electronic atomizing device may be provided. The electronic atomizing device may include a heating assembly and a main body. The heating assembly includes a memory chip and a heating body. The memory chip is configured to store a correspondence between a resistance of the heating body and a temperature of the heating body, and be acquired the correspondence between a resistance of the heating body and a temperature of the heating body by the main body of the electronic atomizing device. The correspondence between the resistance value and the temperature of the heating body is called as "temperature (T) - resistance value (R)" curve of the heating body. The heating body is configured to be electrically connected to the main body and is configured to be heated through a power supplied by a battery. The main body includes the battery coupled to a controlling assembly, the controlling assembly is configured to control a temperature of the heating body based on heating parameters, and the heating parameters comprise the correspondence between the resistance value and the temperature of the heating body (23). The main body includes a shell defining a chamber and a controlling assembly. The controlling assembly may be received in the chamber and configured to acquire the correspondence between the resistance of the heating body and the temperature of the heating body from the memory chip, and control the temperature of the heating body based on the correspondence between the resistance of the heating body and the temperature of the heating body when the heating assembly is electrically connected to the main body. The controlling assembly includes a detecting module, a timing module and a controlling module. The detecting module may be configured to to detect a current resistance of the heating body. The timing module may be configured to acquire working-time information of the electronic atomizing device. The controlling module may be configured to acquire the correspondence between the resistance of the heating body and the temperature of the heating body from the memory chip, obtain a real-time temperature of the heating body based on the current resistance of the heating body and the correspondence between the resistance of the heating body and the temperature of the heating body , and control the temperature of the heating body according to the real-time temperature of the heating body, the working-time information, and a preset temperature-time curve.

[0004] According to another aspect of the present disclosure, a controlling method of an electronic atomizing device may be provided. The electronic atomizing device includes a main body and a heating assembly having a memory chip and a heating body. The controlling method includes: acquiring, by the main body, a correspondence between a resistance of the heating body and a temperature of the heating body stored in the memory chip; and controlling, by the main body, temperature of the heating body based on the correspondence between the resistance of the heating body and the temperature of the heating body stored in the memory chip. The controlling method includes detecting, a current resistance of the heating body; obtaining, a real-time temperature of the heating body based on the current resistance of the heating body and the correspondence between the resistance of the heating body and the temperature of the heating body; acquiring, working-time information of the electronic atomizing device; and controlling, the temperature of the heating body according to the real-time temperature of the heating body, the working-time information of the electronic atomizing device and a preset temperature-time curve.

[0005] According to another aspect of the present disclosure, an electronic apparatus may be provided. The electronic apparatus includes a memory, a processor, and a computer program stored on the memory and operable by the processor, when executing the computer program, the processor performs the controlling method of an electronic atomizing device described above by

controlling the main body described above.

[0006] According to another aspect of the present disclosure, a storage medium storing instructions which, when executed by a processor, cause the processor to perform a controlling method of an electronic atomizing device described above by controlling the main body described above.

[0007] Different heating bodies may have different correspondences between a resistance of the heating body and a temperature of the heating body, since the heating assembly provided by embodiments of the present disclosure could store the correspondence between a resistance of the heating body and a temperature of the heating body and transmit the correspondence to a main body of the electronic atomizing device, the main body could control the temperature of the heating body according to the correspondence between the resistance and the temperature of the heating body. In this way, even if different heating assemblies are electrically connected to the main body respectively, the main body could determine how to control the temperature of the heating body of the currently connected heating assembly, as a result, a better taste of the atomized tobacco liquid could be realized.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] In order to make the technical solution described in the embodiments of the present disclosure more clear, the drawings used for the description of the embodiments will be briefly described. Apparently, the drawings described below are only for illustration but not for limitation. It should be understood that, one skilled in the art may acquire other drawings based on these drawings, without making any inventive work.

FIG. 1 is an isometric view of an electronic atomizing device according to an embodiment of the present disclosure.

FIG. 2 is a schematic view of a partial internal structure of a heating assembly according to an embodiment of the present disclosure.

FIG. 3 is a schematic view showing connection between some components within a heating body and some components within a main body of the atomizing device.

FIG. 4 is a schematic view of a circuit of the electronic atomizing device according to an embodiment of the present disclosure.

FIG. 5 is a schematic view of a "temperature-time" curve of a control method of the electronic atomizing device according to an embodiment of the present disclosure.

FIG. 6 is a schematic view of the pulse voltage of the control method of the electronic atomizing device according to an embodiment of the present disclosure.

FIG. 7 is a flowchart of the control method of the electronic atomizing device according to an embodiment of the present disclosure.

FIG. 8 is a flowchart of the control method of the electronic atomizing device according to another embodiment of the present disclosure.

FIG. 9 is a flowchart of the control method of the electronic atomizing device according to another embodiment of the present disclosure.

FIG. 10 is an isometric view of an electronic apparatus according to an embodiment of the present disclosure.

FIG. 11 is an isometric view of a storage media according to an embodiment of the present disclosure.

FIG. 12 is a schematic view of a calibration device of the electronic apparatus according to an embodiment of the present disclosure.

FIG. 13 is a flowchart of a calibration method of the electronic apparatus according to an embodiment of the present disclosure.

DETAILED DESCRIPTION

[0009] The "Embodiment" herein means that a particular feature, structure, or characteristic described in connection with the embodiments can be included in at least one embodiment of the present application. The appearances of the phrases in various places in the specification are not necessarily referring to a same embodiment, are not exclusive to or independent from other embodiments, and are not an alternative embodiment. Those skilled in the art will understand and implicitly understand that the embodiments described herein can be combined with other embodiments.

[0010] Referring to FIG. 1, an isometric view of an electronic atomizing device according to an embodiment of the present disclosure may be depicted. The electronic atomizing device may include a main body 10 and a heating assembly 20. It should be noted that, the main body 10 and heating assembly 20 are in a disassembled state shown in FIG. 1. During being used, the heating assembly 20 may be inserted into the main body 10 to be electrically connected to the main body 10.

[0011] An inner space of the heating assembly 20 may be configured to receive a heating body and a container containing tobacco or tobacco liquid. The heating assembly 20 may be electrically connected to and powered by the main body 10, such that the heating assembly 20 is heated to atomize tobacco into aerosol for users to suck.

[0012] Combining FIG. 1 with FIG. 2, FIG. 2 shows a partial internal structure of the heating assembly according to an embodiment of the present disclosure. The heating assembly 20 may include a housing 24, a first circuit board 21, a memory chip 22 arranged on the first circuit board 21 and a heating body 23.

[0013] The memory chip 22 may be arranged on the first circuit board 21, for example, be welded to the first circuit board 21. The heating body 23 may be connected to the first circuit board 21 through a heat conductive

member 23a. Specifically, the heat conductive member 23a may be made of metal material with good thermal conductivity. It should be understood that, the memory chip 22 and the heating body 23 may be arranged on an upper side surface of the first circuit board 21 (as shown in IFG. 2), the lower side surface of the first circuit board 21 may be provided with spring-contacting tongues (not shown). It could be understood that, the memory chip 22 may be connected to one of the spring-contacting tongues, the heat conductive member 23a may be connected to the other one of the spring contact tongues. After the heating assembly 20 is inserted into the main body 10, the heating assembly 20 could contact and be electrically coupled to circuit elements in the main body 10 through the spring-contacting tongues.

[0014] Alternatively, the number of the heat conductive member 23a may be two or more, for example, the heat conductive member 23a may include a positive electrode and a negative electrode.

[0015] Combining FIGs. 1 to 3, FIG. 3 shows the connection between some components within the heating body and some components within the main body. The main body 10 includes a shell 12 defining a chamber (not shown) and a through hole 10a communicating with the chamber, a battery (not shown) and a second circuit board 11 received in the chamber. The heating assembly 20 could be inserted into the main body 10 through the through hole 10a. The battery is configured to power the heating assembly 20. The second circuit board 11 may be configured to be electrically connected to the first circuit board 21.

[0016] The second circuit board 11 may be provided with a connecter 15 having spring-contacting tongues (not shown). After the heating assembly 20 is inserted into the main body 10, the spring contact tongues on the first circuit board 21 may be electrically connected to the spring contact tongues on the connecter 15 respectively, so as to achieve power and communication between the main body 10 and the heating assembly 20.

[0017] The heating body 23 of the electronic atomizing device is a vulnerable part since it usually works at high temperature for a long time. In the related product, the heating body 23 is encapsulated inside the electronic atomizing device, the service life of the heating body 23 is much shorter than other parts of the electronic atomizing device. When the heating body 23 is damaged, the whole electronic atomizing device will be scrapped.

[0018] In addition, many corrosive and adhesive substances will be released during the heating the tobacco materials. In some heating schemes, as the heating body 23 directly contact with the tobacco materials, tobacco derivative generated by heating may adhere to the surface of the heating body 23 unavoidably, which may contaminate the heating body 23. As a result, the quality of aerosol generated by the heating body 23 may be affected. Assembling schemes of heating body 23 in the related electronic atomizing device may be difficult for cleaning the heating body 23, user could just make a rough cleaning by inserting a brush into a narrow heating chamber for, and the tobacco derivative on the surface of the heating body 23 could hardly be removed thoroughly.

[0019] In some embodiments of the present disclosure, the heating assembly 20 may be detachable connected to the main body 10. After being damaged or contaminated, user could remove the heating assembly 20 from the main body 10 and simply replace a new heating assembly 20, the main body 10 could continue to be used. Therefore, the embodiments of the present disclosure could facilitate for the user to replace the heating assembly 20.

[0020] Replacing the heating assembly 20 may usually be a spontaneous behavior for the users, there are many kinds of heating assemblies for users to select. The heating body 23 in each kind of the heating assemblies may be different in materials, volumes and shapes, which may cause a different heating performance. As a result, temperature controlling may be very important during heating the tobacco, which would affect the taste of the tobacco directly.

[0021] Referring to FIG. 4, a schematic view of a circuit of the electronic atomizing device according to an embodiment of the present disclosure may be depicted. The main body 10 may further include a controlling assembly 14 arranged on the second circuit board 11. The battery may be coupled to the controlling assembly 14 and configured to power the heating body 23 under the controlling of the controlling module.

[0022] In some embodiments, the memory chip 22 is configured to store heating parameters and transmit the heating parameters to the main body 10, specifically, the controlling assembly 14. The heating body 23 is configured to be electrically connected to the main body 10 and heated according to controlling of the main body 10.

[0023] Specifically, the controlling assembly 14 is configured to be coupled to the memory chip 22 and the heating body 23 in condition that the heating assembly 20 is inserted into the main body 10 and connected to the main body 10. The controlling assembly 14 is configured to acquire the heating parameters stored in the memory chip 22, and control a temperature of the heating body 23 based on the heating parameters when the heating assembly 20 is electrically connected to the main body 10.

[0024] In some embodiments, the heating parameters include a correspondence between a resistance value and a temperature of the heating body 23. Since the memory chip 22 of embodiments of the present disclosure stores the heating parameters, the temperature corresponding to different heating bodies 23 could be controlled in different methods, which could realize a better taste of atomizing the tobacco.

[0025] Temperatures of the heating body 23 is changed when the heating body 23 being heated through the power supplied by the battery 13, accordingly, the resistance of the heating body 23 is changed with the changing of the temperatures. The correspondence be-

tween the resistance value and the temperature of the heating body 23 is called as "temperature (T) - resistance value (R)" curve of the heating body 23. Therefore, the real-time temperature of the heating body 23 can be known as long as the resistance value of the heating body 23 is obtained by real-time monitoring. Since each factor of a heating body, such as, material, manufacturing method and manufacturing device, is different from that of other heating bodies, parameters, such as, the "temperature (T) - resistance value (R)" curve, original resistance value R0, and temperature coefficient of resistance (TCR), may be different. In some embodiments, the heating parameters may further include the original resistance value R0 and the temperature coefficient of resistance (TCR).

[0026] In some embodiments, the controlling assembly 14 includes a detecting module141, a timing module 142 and a controlling module 143. The detecting module141 is configured to detect a current resistance of the heating body 23. The timing module 142 is configured to acquire working-time information of the electronic atomizing device. The controlling module 143 is configured to acquire the correspondence between the resistance and the temperature of the heating body from the memory chip, obtain a real-time temperature of the heating body based on the correspondence between the resistance of the heating body and the temperature of the heating body, and control the temperature of the heating body based on the real-time temperature of the heating body 23, the working-time information and a preset "temperature-time" curve. In some embodiments, the "temperature-time" curve may be stored in the memory chip 22, the controlling assembly 14 may acquire the "temperature-time" curve when acquiring the heating parameters. In other embodiments, the "temperature-time" curve may be stored in a memory of the main body 10, the controlling assembly 14 could acquire the "temperature-time" curve from the memory.

[0027] The working-time information of the electronic atomizing device may be the working time of the electronic atomizing device accumulated from the electronic atomizing device begins to work.

[0028] The detecting module 141 may detect the current resistance of the heating body 23 by calculating from parameters such as current and voltage and so on. In other embodiments, the resistance may be detected by other ways, for example, resonance method, ohmmeter method, DC bridge method, digital ohmmeter method and so on, which is not limited herein.

[0029] In some embodiments, the controlling module 143 may control the temperature of the heating body 23 based on the preset "temperature-time" curve and adapting the PID algorithm.

[0030] Embodiments of the present disclosure may be described below through a specific scenario.

[0031] When the user needs to use the electronic atomizing device, the heating assembly 20 may be firstly inserted into the main body 10 such that the heating assembly 20 is electrically connected to the main body 10. In some embodiments, a switch button on the main body 10 may be turn on, such that the controlling assembly 14 could be electrically connected to the memory chip 22 and the heating body 23, and the electronic atomizing device begins to work.

[0032] The controlling module 143 may acquire the correspondence between the resistance of the heating body 23 and the temperature of the heating body 23 from the memory chip 22. The timing module 142 may begin to reckon by time. The detecting module 141 may detect the current resistance of the heating body 23 and transmit the current resistance of the heating body 23 to the controlling module 143. The controlling module 143 may further obtain the real-time temperature of the heating body 23 based on the current resistance of the heating body 23 and the correspondence between the resistance of the heating body 23 and the temperature of the heating body 23. The controlling module 143 may control the voltage supplied to the heating body 23 based on the "temperature-time" curve, so as to control the temperature of the heating body 23.

[0033] It could be understood that, in order to have a good taste, different temperatures may be acquired in different time. In some embodiments, as shown in FIG. 5, abscissa represents time and ordinate represents temperature.

[0034] In the period of T0 to T1, the heating body 23 may be heated, the temperature of the heating body 23 may be raised from a room temperature WO to W1.

[0035] In the period of T1 to T2, the temperature of the heating body 23 may be maintained at W1.

[0036] In the period of T2 to T3, the temperature of the heating body 23 may be reduced from W1 to W2.

[0037] In the period of T3 to T4, the temperature of the heating body 23 may be maintained at W2.

[0038] After T4, the temperature of the heating body 23 may be reduced from W2 to room temperature.

[0039] In some embodiments, T1 may be 5-10s, T2 may be 12-18s, W1 may be 320-360°C, and W2 may be 300-340°C.

[0040] In some embodiments, T1=7s, T2=15s, W1=340°C, W2=320°C. Suppose the temperature of heating body 23 is reduced by 1°C, the resistance of the heating body 23 may be reduced 2.28 mΩ correspondingly. In the condition that the temperature is reduced from W1 to W2, that is, the temperature is dropped by 20 °C, the resistance may need to be reduced by 20*2.28 mQ.

[0041] Moreover, the heating temperature of the heating body may be controlled through electric energy by changing pulse frequency, pulse amplitude or duty ratio of the electricity supplied to the heating body 23. Referring to FIG. 6, for example, an enabling switch may be turn on in the t1 period, the battery may provide electric energy to the heating body. The enabling switch may be turn off in the t2 period, the battery may not provide electric energy to the heating body. Therefore, the tempera-

ture of the heating body may be adjusted by adjusting the percentage of t1 in the period T. Specifically, the temperature of the heating body may be raised by increasing the duty ratio if t1, and be lowered by decreasing the duty ratio of t1.

[0042] It could be understood that, in the above mentioned embodiments, the detecting module141, the timing module 142 and the controlling module 143 may be set separately in the form of physical circuits, such as detecting circuit, timer and controller. In other embodiments, any two or three of them may be integrated into one processing chip, such a processing chip with detecting, timing and controlling functions.

[0043] In some embodiments, as shown in FIG. 4, the memory chip 22 may store a first encrypted data. The correspondence between the resistance of the heating body 23 and the temperature of the heating body 23 stored in the memory chip 22 is processed by a calculation through a preset encryption algorithm and a first preset secret key to form the first encrypted data.

[0044] The controlling assembly 14 may be configured to process the correspondence between the resistance of the heating body 23 and the temperature of the heating body 23 acquired from the memory chip 22 by a calculation through the preset encryption algorithm and a second preset secret key to form a second encrypted data, read the first encrypted data from the memory chip 22, judge whether the second encrypted data and the first encrypted data are identical and control the temperature of the heating body 23 when the first encrypted data and the second encrypted data are identical.

[0045] One purpose of encryption is to prevent the replacing heating assembly from being counterfeit. In this way, it could be ensured that the heating assembly matches with the main body certifiably.

[0046] Referring to FIG. 7, a flowchart of the control method of the electronic atomizing device according to an embodiment of the present disclosure may be depicted. The control method may be adapted to electronic atomizing device. The electronic atomizing device includes a main body and a heating assembly detachable connected to the main body. The heating assembly includes a memory chip and a heating body. The detail structures of which may be shown in embodiments of FIGs. 1 to 4, which is not recited herein. The control method includes the following operations or actions.

[0047] In block S71, a correspondence between a resistance of the heating body and a temperature of the heating body stored in the memory chip is acquired by the main body.

[0048] In block S72, temperature of the heating body is controlled by the main body based on the correspondence between the resistance of the heating body and the temperature of the heating body stored in the memory chip.

[0049] Referring to FIG. 8, a flowchart of the control method of the electronic atomizing device according to another embodiment of the present disclosure may be depicted.

[0050] In block S81, a correspondence between a resistance of the heating body and a temperature of the heating body stored in the memory chip is acquired.

[0051] In block S82, current resistance of the heating body is detected.

[0052] In block S83, a real-time temperature of the heating body is obtained based on the current resistance of the heating body and the correspondence between the resistance of the heating body and the temperature of the heating body.

[0053] In block S84, working-time information of the electronic atomizing device is acquired.

[0054] In block S85, the temperature of the heating body is controlled according to the real-time temperature of the heating body, the working-time information of the electronic atomizing device and a preset temperature-time curve.

[0055] Referring to FIG. 9, a flowchart of the control method of the electronic atomizing device according to another embodiment of the present disclosure may be depicted.

[0056] In block S91, a correspondence between a resistance of the heating body and a temperature of the heating body stored in the memory chip is acquired.

[0057] In block S92, a first encrypted data stored in the memory chip may be acquired, the first encrypted data is formed by processing the correspondence between the resistance of the heating body and the temperature of the heating body stored in the memory chip by a calculation through a preset encryption algorithm and a first preset secret key.

[0058] In block S93, a second encrypted data may be formed by processing the correspondence between the resistance of the heating body and the temperature of the heating body acquired from the memory chip by a calculation through the preset encryption algorithm and a second preset secret key.

[0059] In block S94, whether the first encrypted data and the second encrypted data are identical may be judged by comparing the first and the second and the second encrypted data.

[0060] In block S95, the temperature of the heating body may be controlled when the first encrypted data and the second encrypted data are identical.

[0061] The first encrypted data may be compared with the second encrypted data to determine whether the first encrypted data and the second encrypted data are identical. If the first encrypted data and the second encrypted data are identical, the main body may control the temperature of the heating body

[0062] When the first encrypted data and the second encrypted data are not identical, the main body may not control the temperature of the heating body. In some embodiments, the main body may further output a warning to remind users to replace an appropriate heating assembly.

[0063] Referring to FIG. 10, an isometric view of an

electronic apparatus 100 according to an embodiment of the present disclosure may be depicted. The electronic apparatus includes a memory 101, a processer 102, and a computer program stored on the memory 101 and operable by the processor 102. When executing the computer program, the processor 102 performs a controlling method of an electronic atomizing device of any embodiments mentioned above.

[0064] Referring to FIG. 11, an isometric view of a storage media according to an embodiment of the present disclosure may be depicted. The storage medium 110 stores program or instructions 111, when the program or instructions 111 is executed by a processor, the processor is caused to perform a controlling method of an electronic atomizing device of any embodiments mentioned above.

[0065] Referring to FIG. 12, a schematic view of a calibration device of the electronic apparatus according to an embodiment of the present disclosure may be depicted. The calibration device may be configured to calibrate the heating assembly when electrically connected to the heating assembly of the electronic atomizing device.

[0066] The calibration device may be configured to determine the heating parameters of the heating body, that is, the correspondence between the resistance and the temperature of the heating body.

[0067] In some embodiments, the calibration device 120 may include a processer 121, a power 122, a sensor 123 and a communication module 124. The power 122, the sensor 123 and the communication module 124 may be coupled to the processer 121.

[0068] The power 122 may be configured to supply power energy. The sensor 123 may be configured to obtain the resistance and temperature of the heating body in the heating assembly outside of the calibration device. The processor 121 may be configured to obtain the correspondence between the resistance and the temperature to form the heating parameters. The communication module 124 may be configured to transmit the heating parameters to the heating assembly, for example, the memory chip of the heating assembly for storing.

[0069] The power 112 may be a battery arranged in the calibration device, or an outer power, which is not limited herein.

[0070] It could be understood that, the calibration device may be used in conjunction with electronic atomizing device, and configured to detect and store the parameters of the electronic atomizing device and the heating assembly during the manufacturing of the electronic atomizing device and the heating assembly.

[0071] Referring to FIG. 13, a flowchart of a calibration method of the electronic apparatus according to an embodiment of the present disclosure may be depicted. The calibration method may include the following operations or actions.

[0072] In block S131, the heating body of the heating assembly may be detected by the calibration device to obtain the heating parameters of the heating body when the calibration device is electrically connected to the heating assembly.

[0073] The heating parameters may include correspondence between the resistance and the temperature of the heating body.

[0074] In block 132, the heating parameters may be transmitted to the heating assembly for storing.

[0075] Alternatively, the calibration method may further include the following actions or operations: a first encrypted data may be formed by process the heating parameters by a calculation through a preset encryption algorithm and a fist preset secret key, and the first encrypted data may be transmitted to the heating assembly for storing. The first encrypted data may be configured to verify whether the heating assembly matches with the main body when the heating assembly is electrically connected to the main body.

[0076] It should be understood that the calibration method of the embodiments could be stored in the storage in form of computer program. When the processor executes the computer program, the above method may be executed.

[0077] Embodiments of the present disclosure, when implemented in form of software functional units and sold or used as dependent product, may be stored in a computer readable storage medium. Based on such understanding, the technical solution of the present disclosure, in essence, a part making a contribution over the prior art, or all/part of the technical solution may be embodied in the form of a software product stored in a storage medium. A number of instructions are included to cause a computer device (which may be a personal computer, server, or network device, etc.) or a processor to perform all or part of the actions/operations of the methods described in various embodiments of the present disclosure. The foregoing storage medium may include: a U disk, a mobile hard disk, a read-only memory (ROM), a random access memory (RAM), a magnetic disk, or an optical disk, and the like.

Claims

1. An electronic atomizing device, **characterized by** comprising:

   a heating assembly (20) comprising:

   a memory chip (22) is configured to store a correspondence between a resistance of the heating body (23) and a temperature of the heating body (23) and be acquired the correspondence between a resistance of the heating body (23) and a temperature of the heating body (23) by a main body (10) of the electronic atomizing device, the correspondence between the resistance value and the temperature of the heating body

(23) is called as "temperature (T) - resistance value (R)" curve of the heating body (23); and

a heating body (23) is configured to be electrically connected to the main body (10) and is configured to be heated through a power supplied by a battery (13), wherein the main body (10) comprises the battery (13) coupled to a controlling assembly (14), the controlling assembly (14) is configured to control a temperature of the heating body (23) based on heating parameters, and the heating parameters comprise the correspondence between the resistance value and the temperature of the heating body (23); and

a main body (10) configured to be connected to the heating assembly (20) and comprising:

a shell (12) defining a chamber; and

the controlling assembly (14) received in the chamber and configured to acquire the correspondence between the resistance of the heating body (23) and the temperature of the heating body (23) from the memory chip (22), and control the temperature of the heating body (23) based on the correspondence between the resistance of the heating body (23) and the temperature of the heating body (23) when the heating assembly (20) is electrically connected to the main body (10);

characterized in that, the controlling assembly (14) comprises:

a detecting module (141) configured to detect a current resistance of the heating body (23);

a timing module (142) configured to acquire working-time information of the electronic atomizing device; and

a controlling module (143) configured to acquire the correspondence between the resistance of the heating body (23) and the temperature of the heating body (23) from the memory chip (20), obtain a real-time temperature of the heating body (23) based on the current resistance of the heating body (23) and the correspondence between the resistance of the heating body (23) and the temperature of the heating body (23), and control the temperature of the heating body (23) according to the real-time temperature of the heating body (23), the working-time information, and a preset temperature-time curve.

2. The electronic atomizing device according to claim 1, the heating assembly (20) further comprising a first circuit board (21) and a housing (24), wherein the heating body (23), the memory chip (22) and the first circuit board (21) are received in the housing (24), wherein the memory chip (22) is arranged on the first circuit board (21), the heating body (23) is connected to the first circuit board (21) through a heat conductive member (23a)..

3. The electronic atomizing device according to claim 1 or 2, wherein the memory chip (22) is configured to store a first encrypted data, the stored first encrypted data is formed by processing the correspondence between the resistance of the heating body (23) and the temperature of the heating body (23) stored in the memory chip (22) by a calculation through a preset encryption algorithm and a first preset secret key, and configured to be compared with a second encrypted data formed by the main body (10) of the electronic atomizing device; and

the heating body (23) is configured to be controlled to be heated when the first encrypted data and the second encrypted data are identical.

4. The electronic atomizing device according to any one of claims 1 to 3, wherein heating body (23) is detachably connected to the main body (10).

5. The electronic atomizing device according to claim 2, wherein the main body (10) further comprises a second circuit board (11) received in the chamber and configured to be electrically connected to the first circuit board (21); and

the controlling assembly (14) is arranged on the second circuit board (11).

6. The electronic atomizing device according to any one of claims 1 to 5, wherein the controlling module (143) is configured to change at least one of pulse frequency, pulse amplitude and duty ratio of the electricity supplied to the heating body (23) to control the temperature of the heating body (23).

7. The electronic atomizing device according to any one of claims 1 to 6, wherein the controlling module (143) is further configured to process the correspondence between the resistance of the heating body (23) and the temperature of the heating body (23) acquired from the memory chip (20) by a calculation through the encryption algorithm and a second preset secret key to form the second encrypted data , read the first encrypted data from the memory chip (20), judge whether the first encrypted data and the second encrypted data are identical, and control the temperature of the heating body (23) when the first encrypted data and the second encrypted data are identical.

8. A controlling method of an electronic atomizing device, the electronic atomizing device comprises a main body and a heating assembly having a memory chip and a heating body, the controlling method comprises:

acquiring (S71, S81, S91), by the main body, a correspondence between a resistance of the heating body and a temperature of the heating body stored in the memory chip; and
controlling (S72), by the main body, temperature of the heating body based on the correspondence between the resistance of the heating body and the temperature of the heating body stored in the memory chip;
wherein the controlling, by the main body, temperature of the heating body based on the correspondence between the resistance of the heating body and the temperature of the heating body stored in the memory chip further comprises:

detecting (S82), a current resistance of the heating body;
obtaining (S83), a real-time temperature of the heating body based on the current resistance of the heating body and the correspondence between the resistance of the heating body and the temperature of the heating body;
acquiring (S84), working-time information of the electronic atomizing device; and
controlling (S85), the temperature of the heating body according to the real-time temperature of the heating body, the working-time information of the electronic atomizing device and a preset temperature-time curve.

9. The controlling method of an electronic atomizing device according to claim 8, wherein after the acquiring, by the main body, a correspondence between a resistance of the heating body and a temperature of the heating body stored in the memory chip, the method comprises:

acquiring (S92), a first encrypted data stored in the memory chip, wherein the first encrypted data is formed by processing the correspondence between the resistance of the heating body and the temperature of the heating body stored in the memory chip by a calculation through a preset encryption algorithm and a first preset secret key;
processing (S93), the correspondence between the resistance of the heating body and the temperature of the heating body acquired from the memory chip by a calculation through the preset encryption algorithm a second preset secret key to form a second encrypted data; and
judging (S94), whether the first encrypted data and the second encrypted data are identical; and
controlling (S95) the temperature of the heating body when the first encrypted data and the second encrypted data are identical.

10. An electronic apparatus (100), **characterized by** comprising a memory (101), a processor (102), and a computer program stored on the memory and operable by the processor (102), wherein when executing the computer program, the processor (102) performs a controlling method of an electronic atomizing device according to claim 8 or 9 by controlling the main body according to any one of claims 1-7.

11. A storage medium (110) storing instructions (111) which, when executed by a processor, cause the processor to perform a controlling method of an electronic atomizing device according to claim 8 or 9 by controlling the main body according to any one of claims 1-7.

Patentansprüche

1. Eine elektronische Zerstäubervorrichtung, **dadurch gekennzeichnet, dass** sie Folgendes umfasst:
Eine Heizgruppe (20), die Folgendes umfasst:

Ein Speicherchip (22), das konfiguriert ist, um eine Übereinstimmung zwischen einem Widerstand des Heizkörpers (23) und einer Temperatur des Heizkörpers (23) zu speichern und die Übereinstimmung zwischen dem Widerstand des Heizkörpers (23) und der Temperatur des Heizkörpers (23) durch einen Hauptkörper (10) der elektronischen Zerstäubervorrichtung zu erfassen, wobei die Übereinstimmung zwischen dem Widerstandswert und der Temperatur des Heizkörpers (23) als "Temperatur (T)-Widerstandswert (R)" - Kurve des Heizkörpers (23) bezeichnet wird; und
ein Heizkörper (23), der konfiguriert ist, um elektrisch an den Hauptkörper (10) angeschlossen zu werden und konfiguriert ist, um durch einen durch eine Batterie (13) gelieferten Strom geheizt zu werden, wobei der Hauptkörper (10) die mit einer Steuerungsanordnung (14) gekoppelte Batterie (13) umfasst, die Steuerungsanordnung (14) konfiguriert ist, um eine Temperatur des Heizkörpers (10) basierend auf Heizparametern zu steuern, und wobei die Heizparameter die Übereinstimmung zwischen dem Widerstandswert und der Temperatur des Heizkörpers (23) umfassen; und
einen Hauptkörper (10), der konfiguriert ist, um

an die Heizgruppe (20) angeschlossen zu werden, und der Folgendes umfasst:

einen Mantel (12), der eine Kammer definiert; und
wobei die Steuerungsanordnung (14) in der Kammer aufgenommen und konfiguriert ist, um die Übereinstimmung zwischen dem Widerstand des Heizkörpers (23) und der Temperatur des Heizkörpers (23) aus dem Speicherchip zu (22) erhalten und die Temperatur des Heizkörpers (23) basierend auf der Übereinstimmung zwischen dem Widerstand des Heizkörpers (23) und der Temperatur des Heizkörpers (23) zu steuern, wenn die Heizgruppe (20) elektrisch mit dem Hauptkörper (10) verbunden ist;
dadurch gekennzeichnet dass, die Steuerungsanordnung (14) Folgendes umfasst:

ein Erkennungsmodul (141), das konfiguriert ist, um einen augenblicklichen Widerstand des Heizkörpers (23) zu erkennen;
ein Zeitmodul (142), das konfiguriert ist, um Information über die Arbeitszeit der elektronischen Zerstäubungsvorrichtung zu erfassen; und
ein Steuermodul (143), das konfiguriert ist, um die Übereinstimmung zwischen dem Widerstand des Heizkörpers (23) und der Temperatur des Heizkörpers (23) aus dem Speicherchip (22) zu erhalten, eine Istzeittemperatur des Heizkörpers (23) basierend auf dem augenblicklichen Widerstand des Heizkörpers (23) und die Übereinstimmung zwischen dem Widerstand des Heizkörpers (23) und der Temperatur des Heizkörpers (23) zu erhalten, und um die Temperatur des Heizkörpers (23) übereinstimmend mit der Istzeittemperatur des Heizkörperss (23), die Arbeitszeitinformation und eine voreingestellte Temperatur-Zeit -Kurve zu steuern.

2. Die elektronische Zerstäubervorrichtung gemäss Anspruch 1, bei der die Heizgruppe (20) weiter eine erste Leiterplatte (21) und ein Gehäuse (24) umfasst, wobei der Heizkörper (23), das Speicherchip (22) und die erste Leiterplatte (21) im Gehäuse (24) aufgenommen sind, wobei das Speicherchip (22) an der ersten Leiterplatte (21) angeordnet ist, der Heizkörper (23) an die erste Leiterplatte (21) durch ein hitzeleitfähiges Element (23a) angeschlossen ist.

3. Die elektronische Zerstäubervorrichtung gemäss Anspruch 1 oder 2, bei der das Speicherchip (22) konfiguriert ist, um ersten verschlüsselte Daten zu speichern, wobei die ersten verschlüsselten Daten durch Verarbeitung der Übereinstimmung zwischen dem Widerstand des Heizkörpers (23) und der Temperatur des Heizkörpers (23) gebildet werden, die im Speicherchip (22) mittels einer Berechnung durch einen voreingestellten, Verschlüsselungsalgorithmus und einen ersten, voreingestellten, geheimen Schlüssel gespeichert werden und konfiguriert sind, um mit zweiten, verschlüsselten Daten vergleicht zu werden, die durch den Hauptkörper (10) der elektronischen Zerstäubervorrichtung gebildet wurden; und wobei der Heizkörper (23) konfiguriert ist, um zum Anheizen gesteuert zu werden, wenn die ersten verschlüsselten Daten und zweiten verschlüsselten Daten identisch sind.

4. Die elektronische Zerstäubervorrichtung gemäss irgendeinem der Ansprüche 1-3, bei der der Heizkörper (23) lösbar an den Hauptkörper (10) angeschlossen ist.

5. Die elektronische Zerstäubervorrichtung gemäss Anspruch 2, bei der der Hauptkörper (10) weiter eine zweite Leiterplatte (11) umfasst, die in der Kammer aufgenommen und konfiguriert ist, um elektrisch mit der ersten Leiterplatte (21) verbunden zu werden; und
bei der die Steuerungsanordnung (14) an der zweiten Leiterplatte (11) angeordnet ist.

6. Die elektronische Zerstäubervorrichtung gemäss irgendeinem der Ansprüche 1 bis 5, bei der das Steuermodul (143) konfiguriert ist, um mindestens einen fegender Parameter: die Pulsfrequenz, die Pulsamplitude und die relative Einschaltdauer der in den Heizkörper (23) gespeisten Elektrizität zu ändern, um die Temperatur des Heizkörpers (23) zu steuern.

7. Die elektronische Zerstäubervorrichtung gemäss irgendeinem der Ansprüche 1 bis 6, bei der das Steuermodul (143) weiter konfiguriert ist, um die vom Speicherchip (20) erhaltene Übereinstimmung zwischen dem Widerstand des Heizkörpers (23) und der Temperatur des Heizkörpers (23) zu verarbeiten, und zwar mittels einer Berechnung durch den verschlüsselten Algorithmus und einen zweiten voreingestellten, geheimen Schlüssel, um die zweiten, verschlüsselten Daten zu bilden, Lesen der ersten verschlüsselten Daten vom Speicherchip (20), Beurteilung, ob die ersten verschlüsselten Daten und die zweiten verschlüsselten Daten identisch sind, und Steuern der Temperatur des Heizkörpers (23), wenn die ersten verschlüsselten Daten und zweiten verschlüsselten Daten identisch sind.

8. Ein Steuerungsverfahren einer elektronischen Zerstäubervorrichtung, wobei die elektronische Zerstäubervorrichtung einen Hauptkörper und eine Heizgruppe mit einem Speicherchip und einen Heizkörper umfasst, wobei das Steuerungsverfahren Folgendes umfasst:

Erhalt (S71, S81, S91) durch den Hauptkörper einer Übereinstimmung zwischen einem Widerstand des Heizkörpers und einer im Speicherchip gespeicherte Temperatur des Heizkörpers; und
Steuern (S72) durch den Hauptkörper der Temperatur de Heizkörpers basierend auf der Übereinstimmung zwischen dem Widerstand des Heizkörpers und der Temperatur des im Speicherchip gespeicherten Heizkörpers;
wobei die Steuerung der Temperatur des Heizkörpers durch den Hauptkörper basierend auf der Übereinstimmung zwischen dem Widerstand des Heizkörpers und der Temperatur des im Speicherchip gespeicherten Heizkörpers weiter Folgendes umfasst:

Ermitteln (S82) eines gegenwärtigen Widerstandes des Heizkörpers;
Erhalt (S83) einer Istzeittemperatur des Heizkörpers basierend auf dem gegenwärtigen Widerstand des Heizkörpers und der Übereinstimmung zwischen dem Widerstand des Heitkörpers und der Temperatur des Heizkörpers;
Erhalt (S84) der Arbeitszeitinformation der elektronischen Zerstäubervorrichtung; und
Steuerm (S85) der Temperatur des Heizkörpers übereinstimmend mit der Istzeittemperatur des Heizkörpers, der Arbeitszeitinformation der elektronischen Zerstäubervorrichtung und einer voreingestellten Temperatur-Zeit-Kurve.

9. Das Steuerungsverfahren einer elektronischen Zerstäubervorrichtung gemäss Anspruch 8, bei dem nach Erhalt durch den Hauptkörper einer Übereinstimmung zwischen einem Widerstand des Heizkörpers und einer im Speicherchip gespeicherten Temperatur des Hauptkörers, das Verfahren weiter Folgendes umfasst:

Erhalt (S92) von ersten verschlüsselten im Speicherchip gespeicherten Daten, wobei die ersten verschlüsselten Daten durch Verarbeiten der Übereinstimmung zwischen dem Widerstand des Heizkörpers und der im Speicherchip gespeicherten Temperatur des Heizkörpers mit Hilfe einer Berechnung mittels eines vorgegebenen Verschlüsselungsalgorithmus und einem ersten vorgegebenen, geheimen Schlüssel gebildet werden;
Verarbeiten (S93) der Übereinstimmung zwischen dem Widerstand des Heizkörpers und der vom Speicherchip erhaltene Temperatur des Heizkörpers mit Hilfe einer Berechnung mittels des vorgegebenen Verschlüsselungsalgorithmus eines zweiten, vorgegebenen, geheimen Schlüssels, um zweite, verschlüsselte Daten zu bilden; und
Beurteilung (S94), ob die ersten verschlüsselten Daten und die zweiten verschlüsselten Daten identisch sind; und
Steuern (S95) der Temperatur des Heizkörpers, wenn die ersten verschlüsselten Daten und die zweiten verschlüsselten Daten identisch sind.

10. Ein elektronischer Apparat (100), **dadurch gekennzeichnet, dass** er einen Speicher (101) einen Prozesor (102) und ein im Speicher gespeichertes und durch den Prozessor (102) zu betreibendes Computerprogramm umfasst, wobei, wenn das Computerprogramm ausgeführt wird, der Prozessor (102) ein Steuerungsverfahren einer elektronischen Zerstäubervorrichtung gemäss Anspruch 8 oder 9 mittels Steuerung des Hauptkörpers gemäs irgendeinem der Ansprüche 1-7 ausführt.

11. Ein Speichermittel (110) für die Speicherung von Anweisungen (111), die, bei Ausführung durch einen Prozessor diesen dazu bringt, ein Steuerungsverfahren einer elektronischen Zerstäubervorrichtung gemäss Anspruch 8 oder 9 mittels Steuerung des Hauptkörpers gemäss irgendeinem der Ansprüche 1-7 anzuwenden.

Revendications

1. Dispositif électronique d'atomisation, **caractérisé en ce qu'**il comprend :
un ensemble de chauffage (20) comprenant :

une puce mémoire (22) configurée pour stocker une correspondance entre une résistance du corps chauffant (23) et une température du corps chauffant (23) de sorte que cette correspondance entre une résistance du corps chauffant (23) et une température du corps chauffant (23) puisse être acquise par un corps principal (10) du dispositif électronique d'atomisation, la correspondance entre la valeur de la résistance et la température du corps chauffant (23) étant appelée courbe « température (T) - valeur de la résistance (R) » du corps chauffant (23) ; et
un corps chauffant (23) configuré pour être connecté électriquement au corps principal (10) et configuré pour être chauffé grâce à une énergie fournie par une batterie (13), le corps principal

(10) comprenant la batterie (13) couplée à un ensemble de contrôle (14), l'ensemble de contrôle (14) étant configuré pour contrôler une température du corps chauffant (23) sur la base de paramètres de chauffage, et les paramètres de chauffage comprenant la correspondance entre la valeur de résistance et la température du corps chauffant (23) ; et

un corps principal (10) configuré pour être connecté à l'ensemble chauffant (20) et comprenant : une enveloppe (12) définissant une chambre ; et

l'ensemble de contrôle (14) logé dans la chambre et configuré pour enregistrer la correspondance entre la résistance du corps chauffant (23) et la température du corps chauffant (23) à partir de la puce mémoire (22) et contrôler la température du corps chauffant (23) sur la base de la correspondance entre la résistance du corps chauffant (23) et la température du corps chauffant (23) lorsque l'ensemble de chauffage (20) est connecté électriquement au corps principal (10) ;

caractérisé en ce que l'ensemble de contrôle (14) comprend :

un module de détection (141) configuré pour détecter une résistance électrique actuelle du corps chauffant (23) ;

un module de chronométrage (142) configuré pour acquérir des informations sur le temps de fonctionnement du dispositif électronique d'atomisation ; et

un module de commande (143) configuré pour enregistrer la correspondance entre la résistance du corps chauffant (23) et la température du corps chauffant (23) à partir de la puce mémoire (22), obtenir une température en temps réel du corps chauffant (23) sur la base de la résistance électrique actuelle du corps chauffant (23) et de la correspondance entre la résistance du corps chauffant (23) et la température du corps chauffant (23), et contrôler la température du corps chauffant (23) en fonction de la température en temps réel du corps chauffant (23), des informations relatives au temps de fonctionnement et d'une courbe température-temps préétablie.

2. Le dispositif électronique d'atomisation selon la revendication 1, dont l'ensemble de chauffage (20) comprend en outre une première carte de circuit imprimé (21) et un boîtier (24), dans lequel le corps chauffant (23), la puce de mémoire (22) et la première carte de circuit imprimé (21) sont logés dans le boîtier (24), dans lequel la puce de mémoire (22) est disposée sur la première carte de circuit imprimé (21), le corps chauffant (23) étant connecté à la première carte de circuit imprimé (21) par l'intermédiaire d'un élément conducteur de chaleur (23a).

3. Le dispositif électronique d'atomisation selon la revendication 1 ou 2, dans lequel la puce mémoire (22) est configurée pour stocker une première donnée encryptée, la première donnée encryptée stockée étant obtenue en traitant la correspondance entre la résistance du corps chauffant (23) et la température du corps chauffant (23) stockée dans la puce mémoire (22) par un calcul effectué au moyen d'un algorithme d'encryptage prédéfini et d'une première clé secrète prédéfinie, et configurée pour être comparée à une deuxième donnée encryptée générée par le corps principal (10) du dispositif électronique d'atomisation ; et

le corps chauffant (23) est configuré pour être commandé de manière à être chauffé lorsque les premières données encryptées et les secondes données encryptées sont identiques.

4. Le dispositif électronique d'atomisation selon une quelconque des revendications 1 à 3, dans lequel le corps chauffant (22) est relié au corps principal (10) de manière amovible.

5. Le dispositif électronique d'atomisation selon la revendication 2, dans lequel le corps principal (10) comprend en outre une deuxième carte de circuit imprimé (11) logée dans la chambre et configurée pour être connectée électriquement à la première carte de circuit imprimé (21) ; et

l'ensemble de commande (14) est disposé sur la deuxième carte de circuit imprimé (11).

6. Le dispositif électronique d'atomisation selon une quelconque des revendications 1 à 5, dans lequel le module de commande (143) est configuré pour modifier au moins une valeur parmi les es paramètres suivants : la fréquence d'impulsion, l'amplitude d'impulsion et le facteur de service de l'électricité fournie au corps chauffant (23) afin de contrôler la température du corps chauffant (23).

7. Le dispositif électronique d'atomisation selon une quelconque des revendications 1 à 6, dans lequel le module de commande (143) est en outre configuré pour traiter la correspondance entre la résistance du corps chauffant (23) et la température du corps chauffant (23) obtenue à partir de la puce mémoire (20) par un calcul via l'algorithme d'encryptage et une deuxième clé secrète prédéfinie pour former les deuxièmes données encryptées, lire les premières données encryptées de la puce mémoire (20), déterminer si les premières données encryptées et les secondes données encryptées sont identiques, et contrôler la température du corps chauffant (23) lors-

que les premières données encryptées et les secondes données encryptées sont identiques.

8. Procédé de commande d'un dispositif électronique d'atomisation, le dispositif électronique d'atomisation comprenant un corps principal et un ensemble de chauffage ayant une puce de mémoire et un corps chauffant, le procédé de commande comprenant les étapes suivantes :

l'acquisition (S71, S81, S91), par le corps principal, d'une correspondance entre une résistance du corps chauffant et une température du corps chauffant enregistrée dans la puce mémoire ; et
le contrôle (S72), par le corps principal, de la température du corps chauffant sur la base de la correspondance entre la résistance du corps chauffant et la température du corps chauffant enregistrée dans la puce de mémoire ;
où le contrôle, par le corps principal, de la température du corps chauffant sur la base de la correspondance entre la résistance du corps chauffant et la température du corps chauffant enregistrée dans la puce de mémoire comprend en outre les étapes suivantes :

la détermination (S82) d'une résistance électrique actuelle du corps chauffant ;
l'obtention (S83) d'une température en temps réel du corps chauffant sur la base de la résistance actuelle du corps chauffant et de la correspondance entre la résistance du corps chauffant et la température du corps chauffant ;
l'obtention (S84) d'informations sur le temps de fonctionnement du dispositif électronique d'atomisation ; et
contrôler (S85) la température du corps chauffant en fonction de la température en temps réel du corps chauffant, des informations sur le temps de fonctionnement du dispositif électronique d'atomisation et d'une courbe température-temps prédéfinie.

9. Le procédé de commande d'un dispositif électronique d'atomisation selon la revendication 8, dans lequel après l'acquisition, par le corps principal, d'une correspondance entre une résistance du corps chauffant et une température du corps chauffant enregistrée dans la puce de mémoire, le procédé comprend en outre les étapes suivantes :

l'obtention (S92) d'une première donnée encryptée stockée dans la puce mémoire, la première donnée encryptée étant obtenue par le traitement de la correspondance entre la résistance du corps chauffant et la température du corps chauffant stockée dans la puce mémoire au moyen d'un algorithme d'encryptage prédéfini et d'une première clé secrète prédéfinie ;
le traitement (S93) de la correspondance entre la résistance du corps chauffant et la température du corps chauffant obtenue à partir de la puce mémoire au moyen d'un calcul effectué par l'algorithme de cryptage prédéfini et d'une deuxième clé secrète prédéfinie, afin d'obtenir une deuxième donnée encryptée ; et
déterminer (S94) si les premières données encryptées et les secondes données encryptées sont identiques ; et
contrôler (S95) la température du corps chauffant lorsque les premières données encryptées et les secondes données encryptées sont identiques.

10. Un appareil électronique (100), **caractérisé en ce qu'**il comprend une mémoire (101), un processeur (102), et un logiciel stocké sur la mémoire et destiné à être mis en oeuvre par le processeur (102), dans lequel, lors de l'exécution du logiciel, le processeur (102) exécute un procédé de commande d'un dispositif électronique d'atomisation selon la revendication 8 ou 9 en commandant le corps principal selon une quelconque des revendications 1 à 7.

11. Un support de stockage (110) pour stocker des instructions (111) qui, lorsqu'elles sont exécutées par un processeur, amènent le processeur à exécuter un procédé de commande d'un dispositif électronique d'atomisation selon la revendication 8 ou 9 en contrôlant le corps principal selon une quelconque des revendications 1-7.

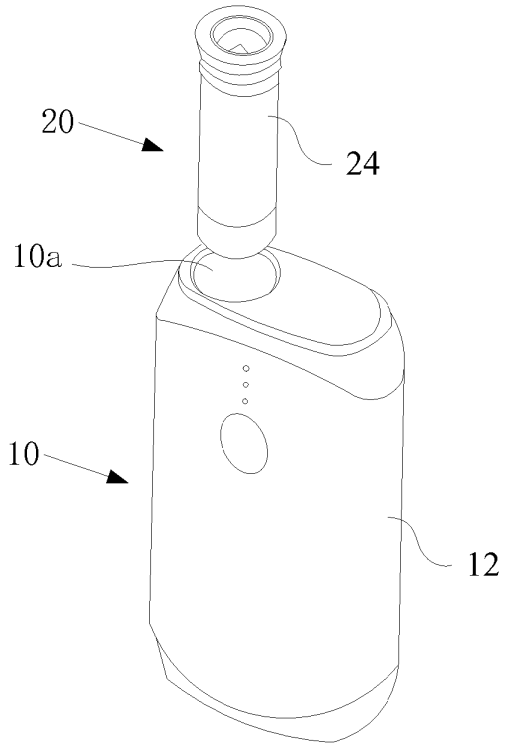

FIG. 1

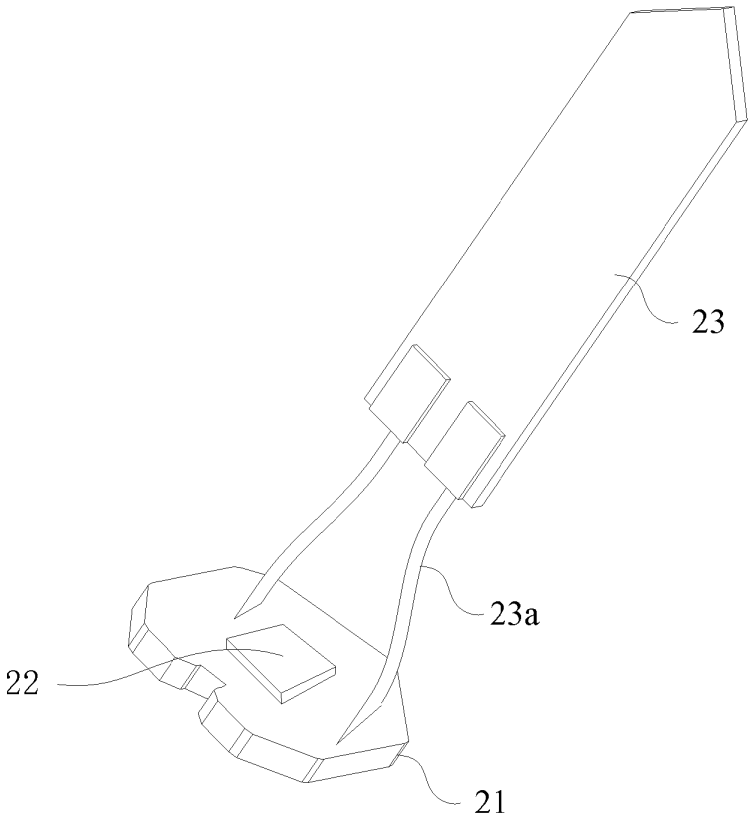

FIG. 2

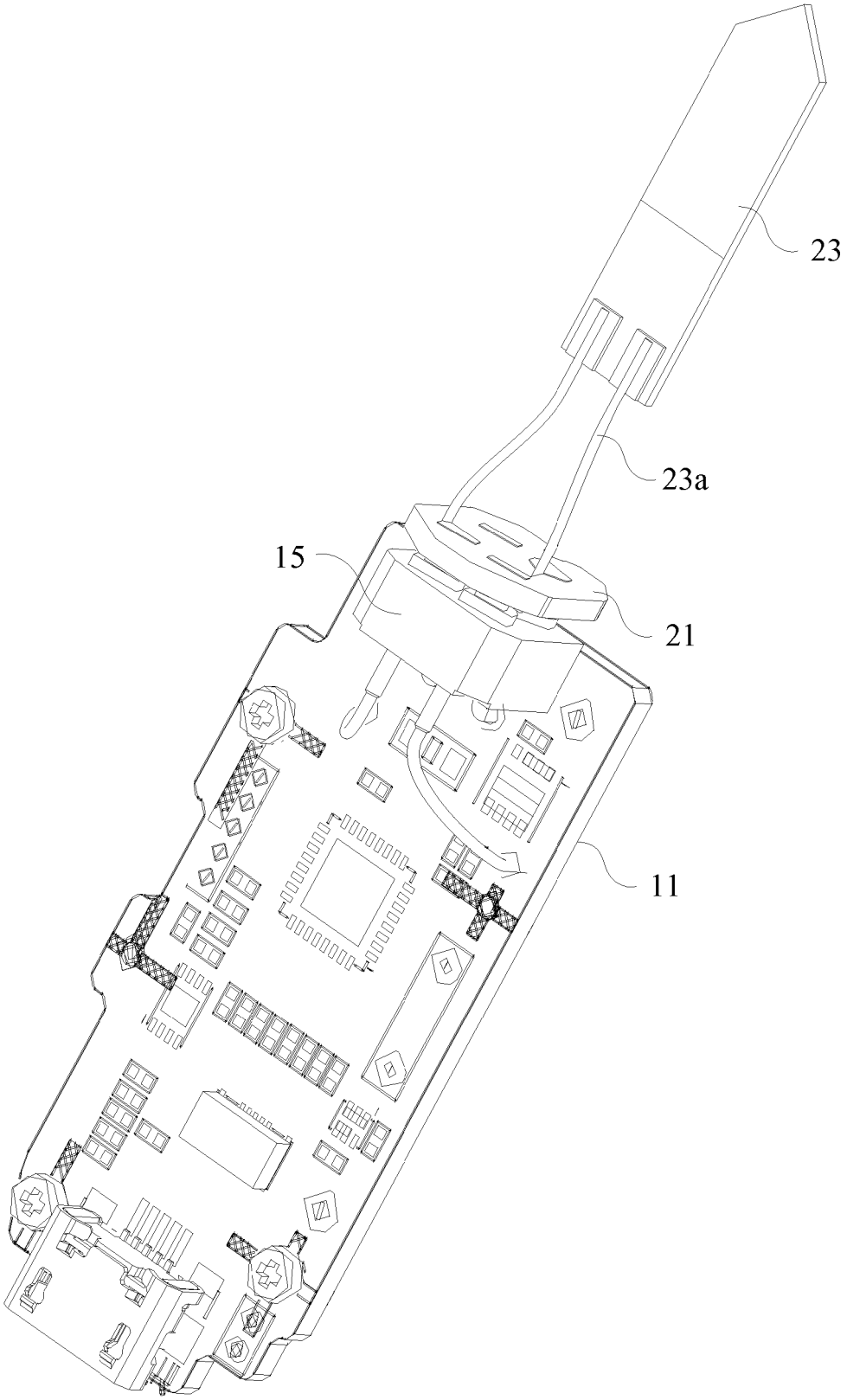

FIG. 3

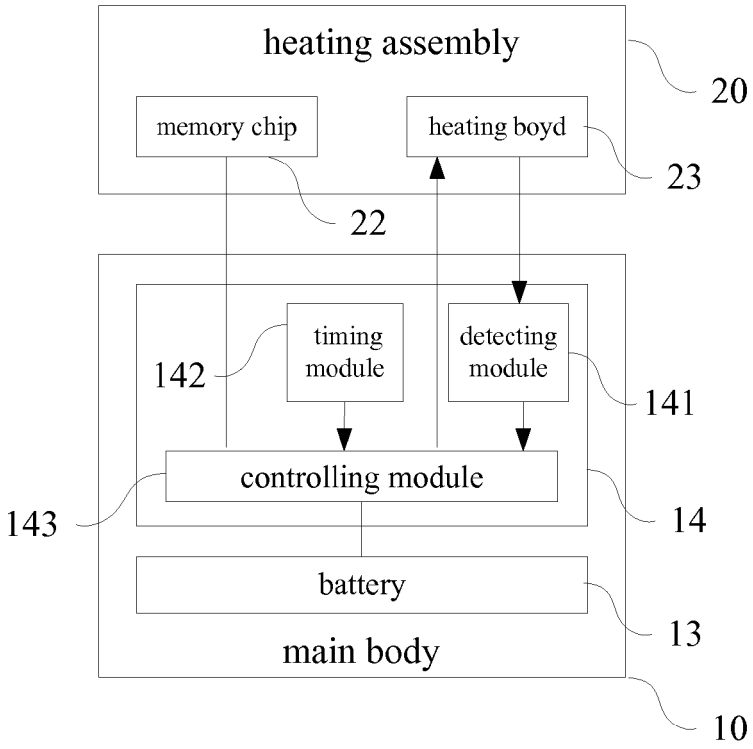
heating assembly
20
memory chip
heating boyd
23
22
timing module
detecting module
142
141
controlling module
143
14
battery
13
main body
10

FIG. 4

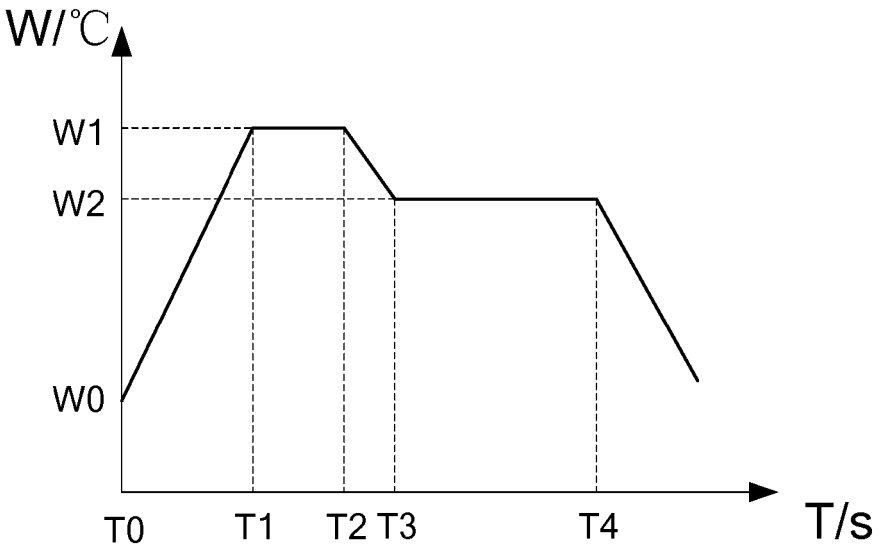
W/℃
W1
W2
W0
T0
T1
T2
T3
T4
T/s

FIG. 5

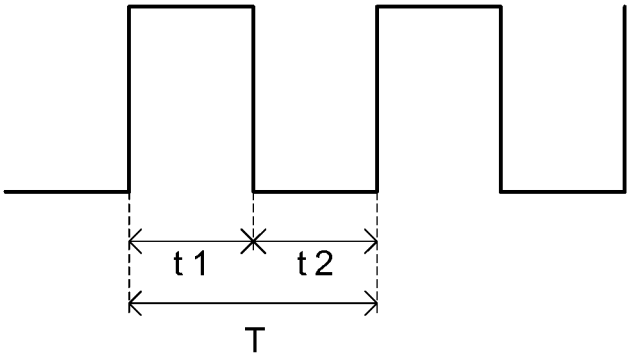
t 1
t 2
T

FIG. 6

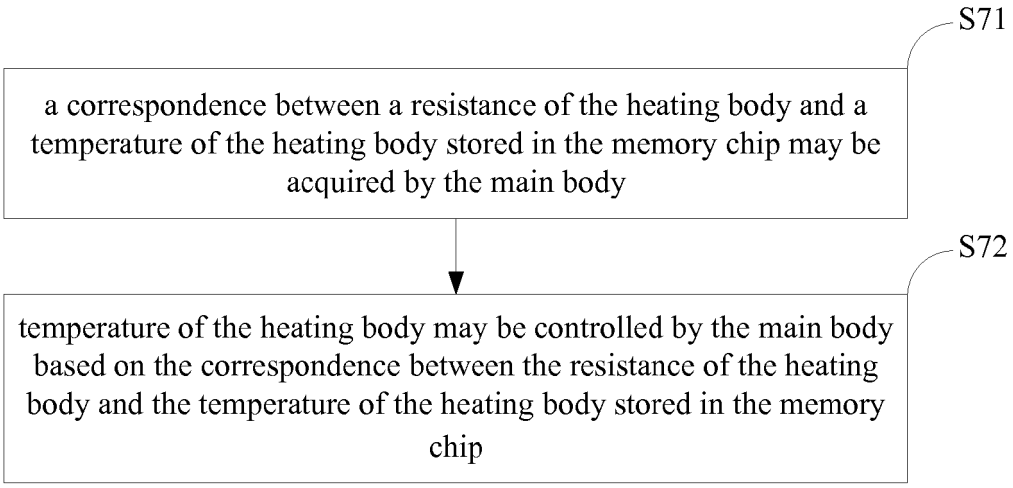
S71
a correspondence between a resistance of the heating body and a temperature of the heating body stored in the memory chip may be acquired by the main body
S72
temperature of the heating body may be controlled by the main body based on the correspondence between the resistance of the heating body and the temperature of the heating body stored in the memory chip

FIG. 7

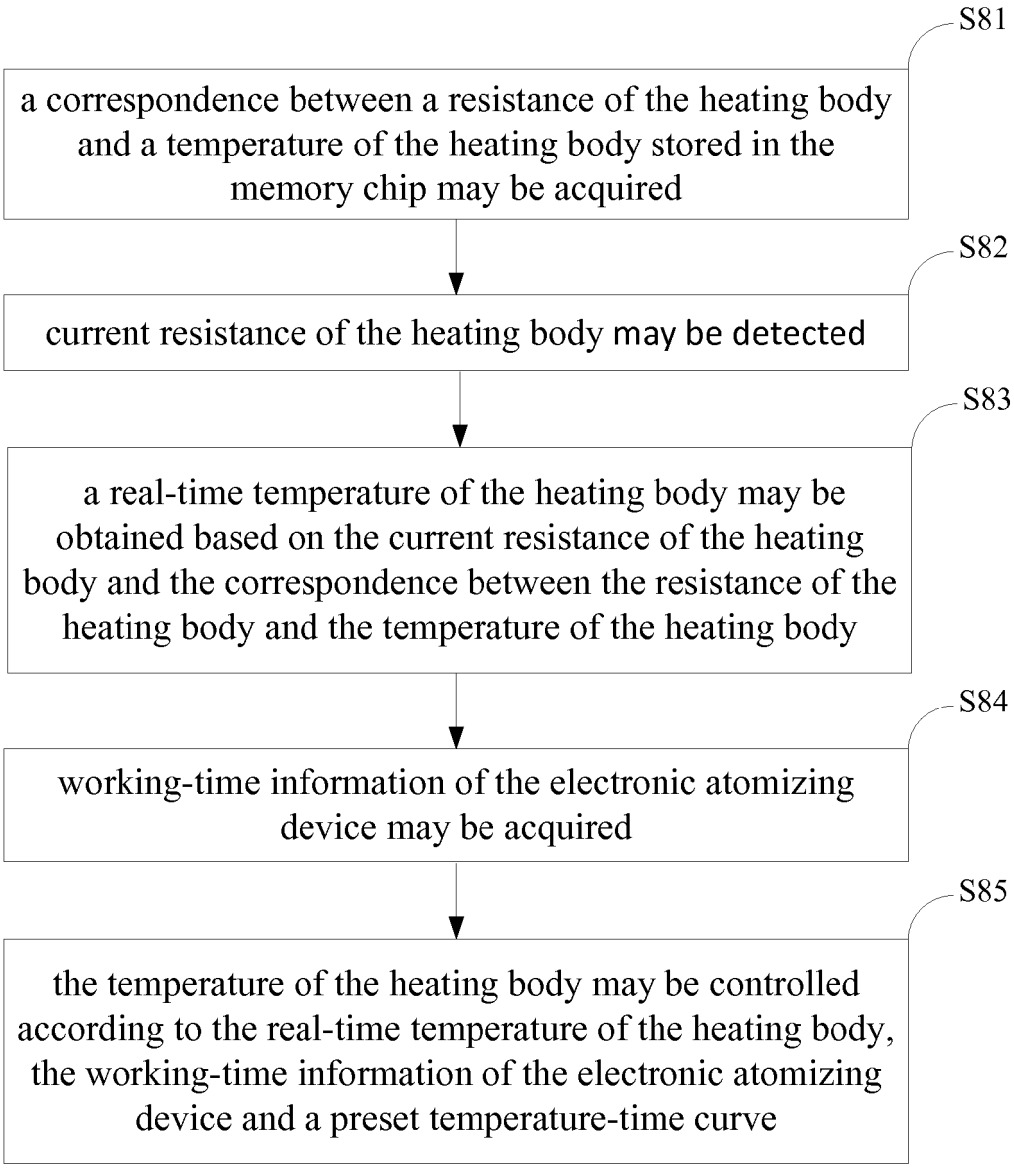
S81
a correspondence between a resistance of the heating body and a temperature of the heating body stored in the memory chip may be acquired
S82
current resistance of the heating body may be detected
S83
a real-time temperature of the heating body may be obtained based on the current resistance of the heating body and the correspondence between the resistance of the heating body and the temperature of the heating body
S84
working-time information of the electronic atomizing device may be acquired
S85
the temperature of the heating body may be controlled according to the real-time temperature of the heating body, the working-time information of the electronic atomizing device and a preset temperature-time curve

FIG. 8

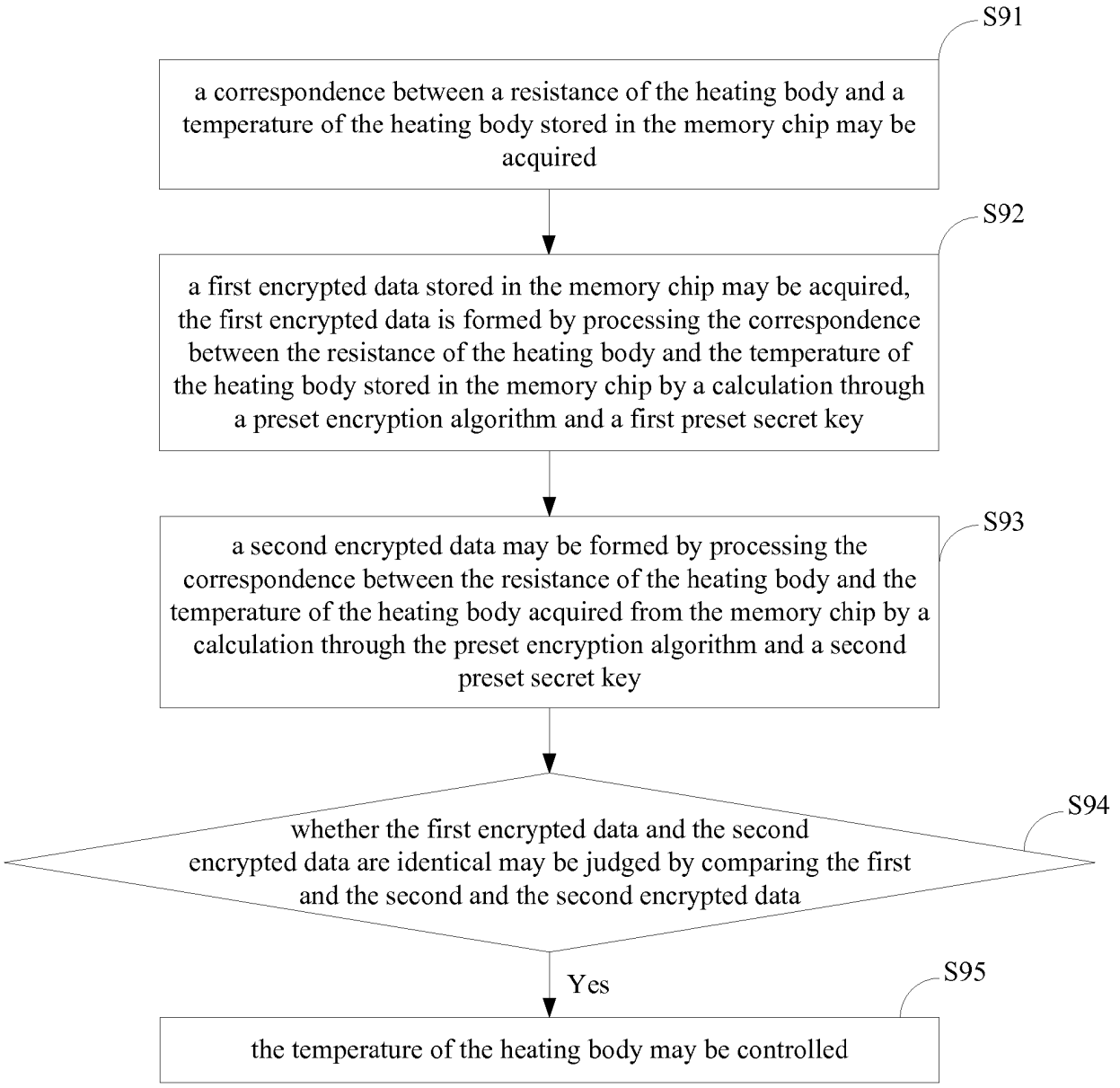
S91
a correspondence between a resistance of the heating body and a temperature of the heating body stored in the memory chip may be acquired
S92
a first encrypted data stored in the memory chip may be acquired, the first encrypted data is formed by processing the correspondence between the resistance of the heating body and the temperature of the heating body stored in the memory chip by a calculation through a preset encryption algorithm and a first preset secret key
S93
a second encrypted data may be formed by processing the correspondence between the resistance of the heating body and the temperature of the heating body acquired from the memory chip by a calculation through the preset encryption algorithm and a second preset secret key
S94
whether the first encrypted data and the second encrypted data are identical may be judged by comparing the first and the second and the second encrypted data
Yes
S95
the temperature of the heating body may be controlled

FIG. 9

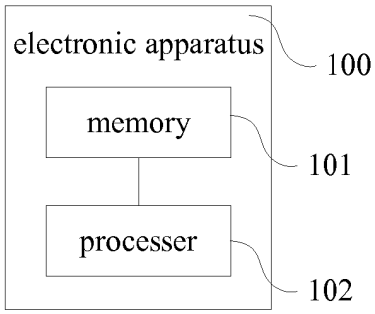
electronic apparatus
100
memory
101
processer
102

FIG. 10

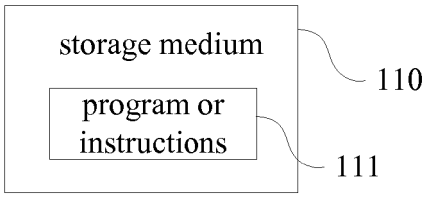

FIG. 11

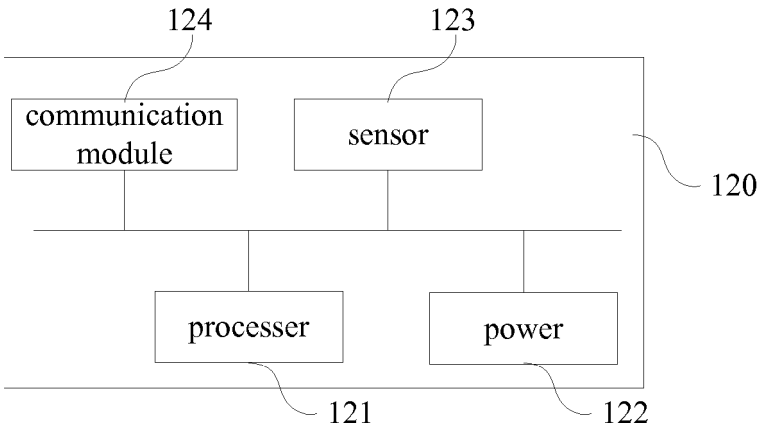

FIG. 12

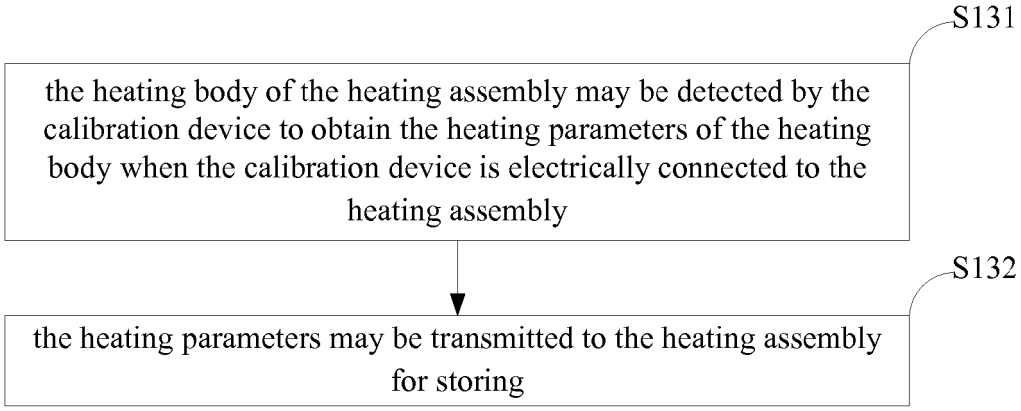

FIG. 13

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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- WO 2016200382 A1 **[0002]**