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(19) **United States**(12) **Patent Application Publication**
Suh(10) **Pub. No.: US 2009/0056735 A1**(43) **Pub. Date: Mar. 5, 2009**(54) **ROLL TYPE EYELASH CURLER****Publication Classification**(76) Inventor: **Jeong-Joo Suh, Seoul (KR)**(51) **Int. Cl.****A45D 2/48** (2006.01)**A45D 1/04** (2006.01)(52) **U.S. Cl.** **132/217; 219/222; 219/225**(57) **ABSTRACT**

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In a roll type eyelash curler which includes a rod shaped heating and curling unit able to heat and lift upward an eyelash and to form an eyelash in a wave shape, a power supply unit for supplying an electric power to the heating and curling unit for heating, a controller for controlling the operation of the power supply unit, and a main body **100** for accommodating the above elements, there is provided a roll type eyelash curler which comprises a power supply unit having a cellular phone power connector for receiving an electric power from the cellular phone.

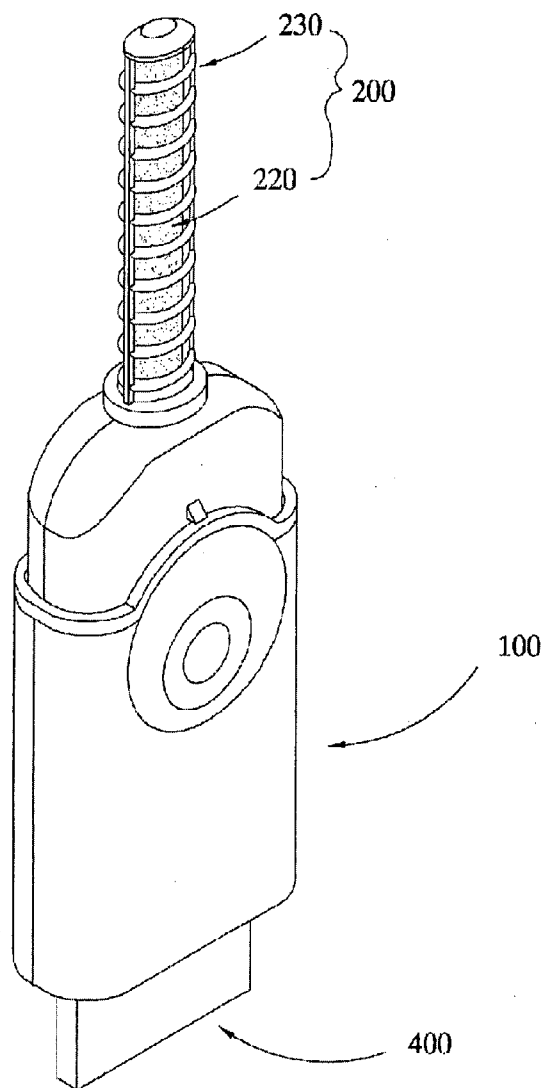


FIG. 1

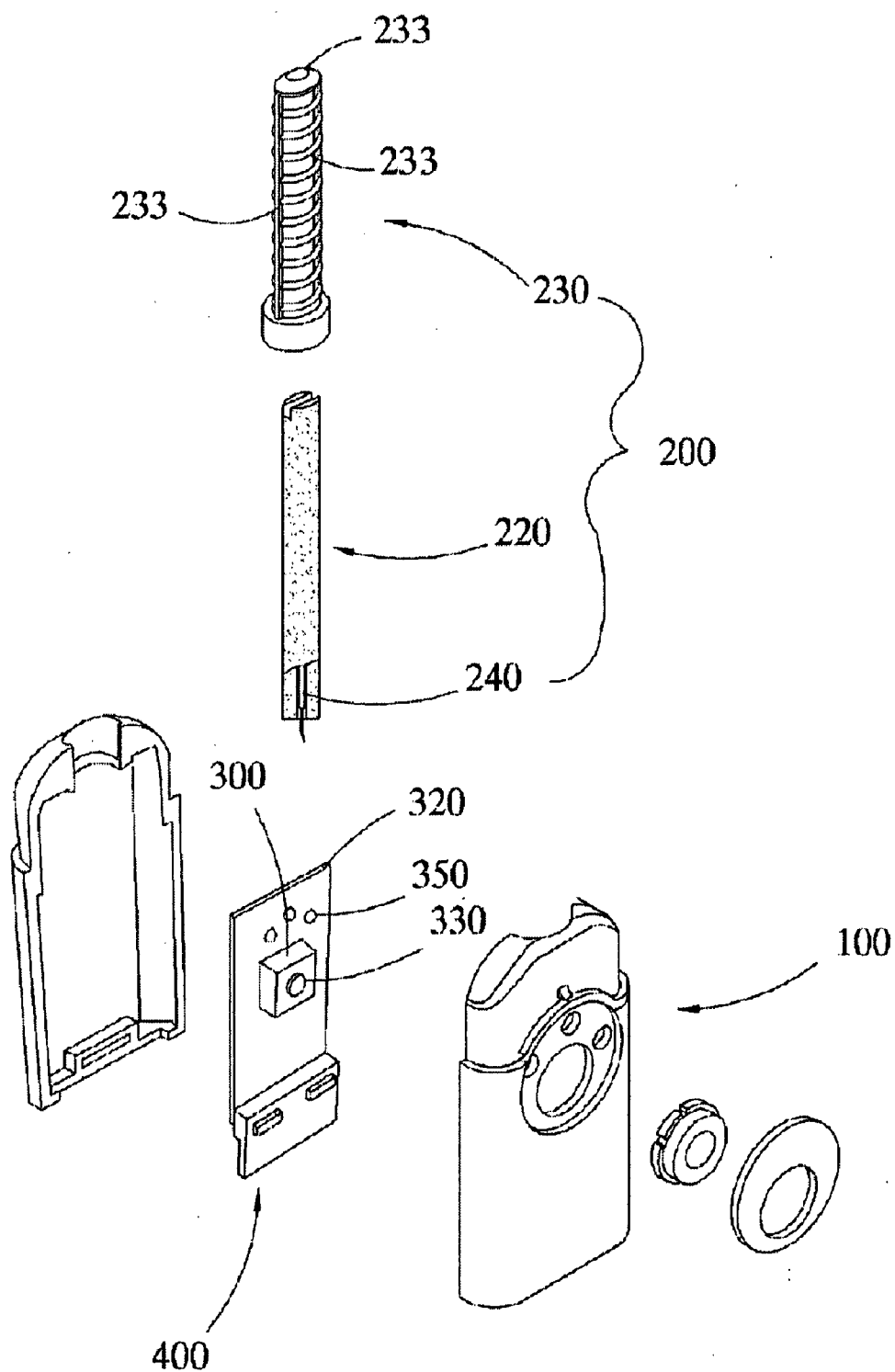


FIG. 2

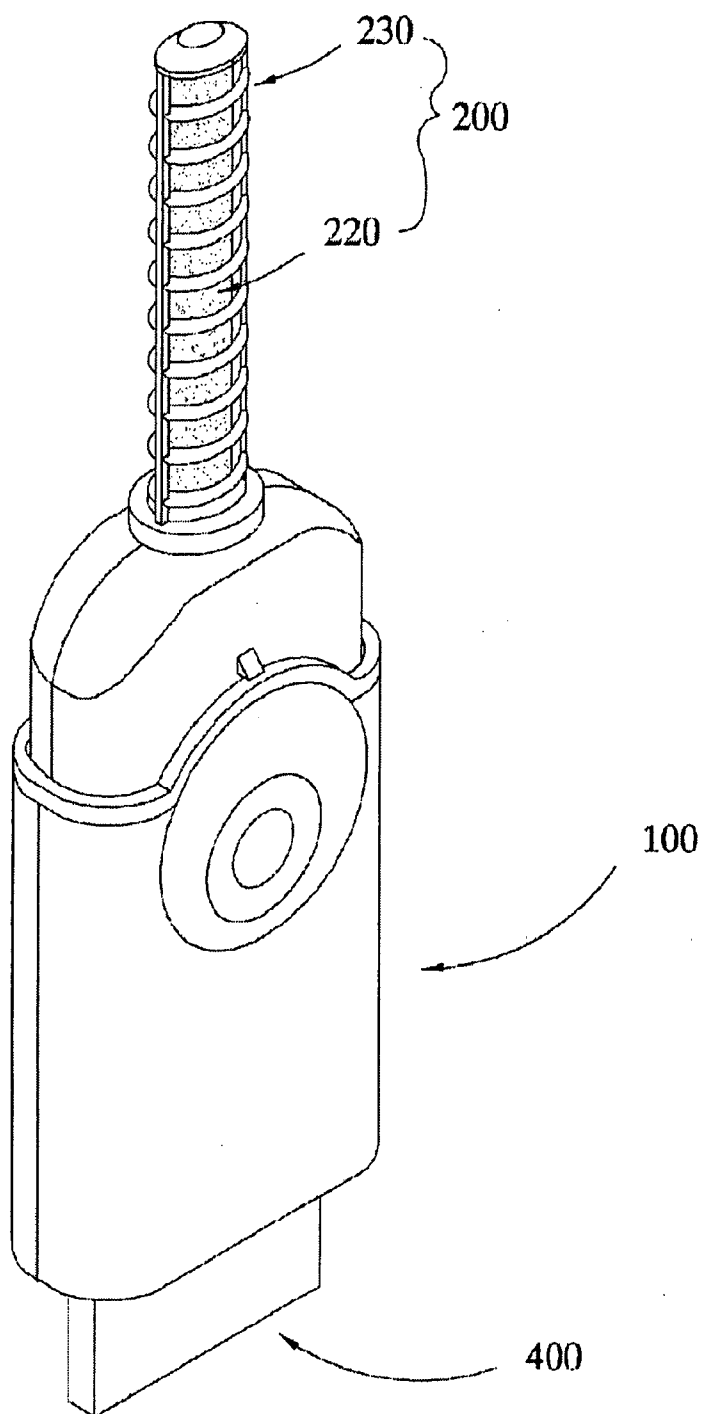


FIG. 3

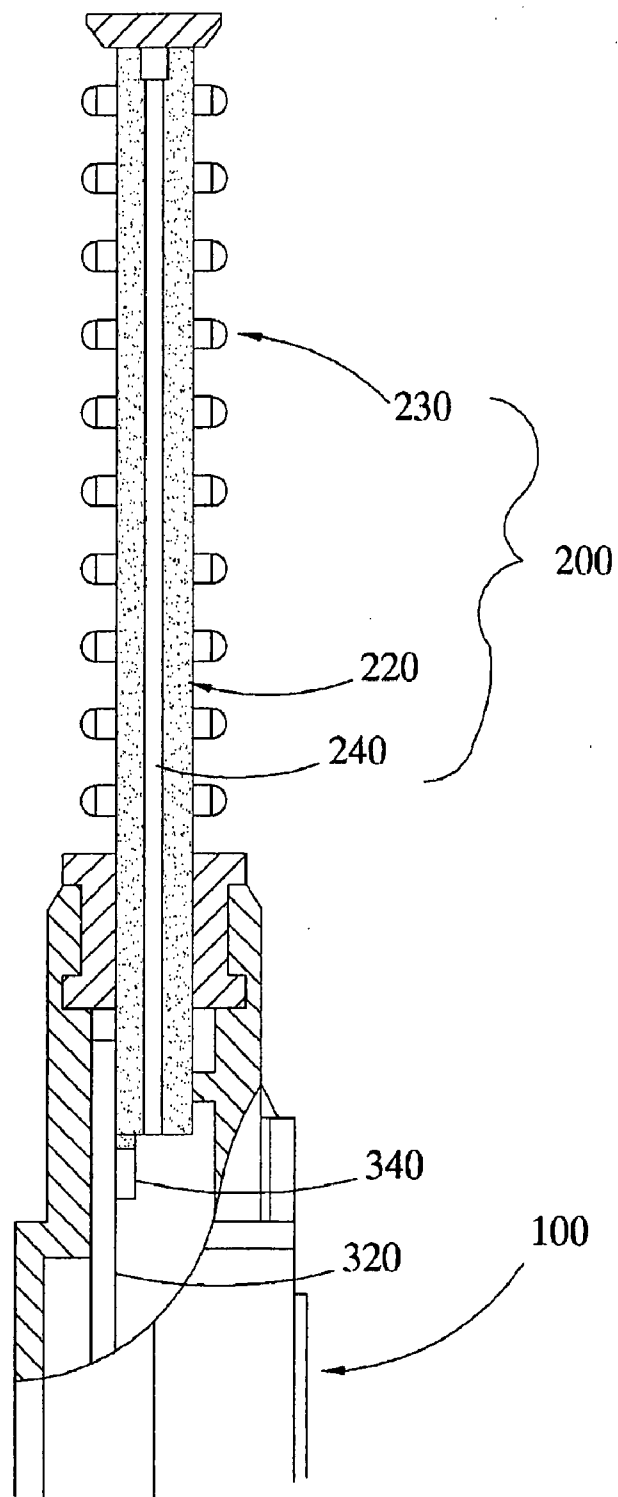


FIG. 4

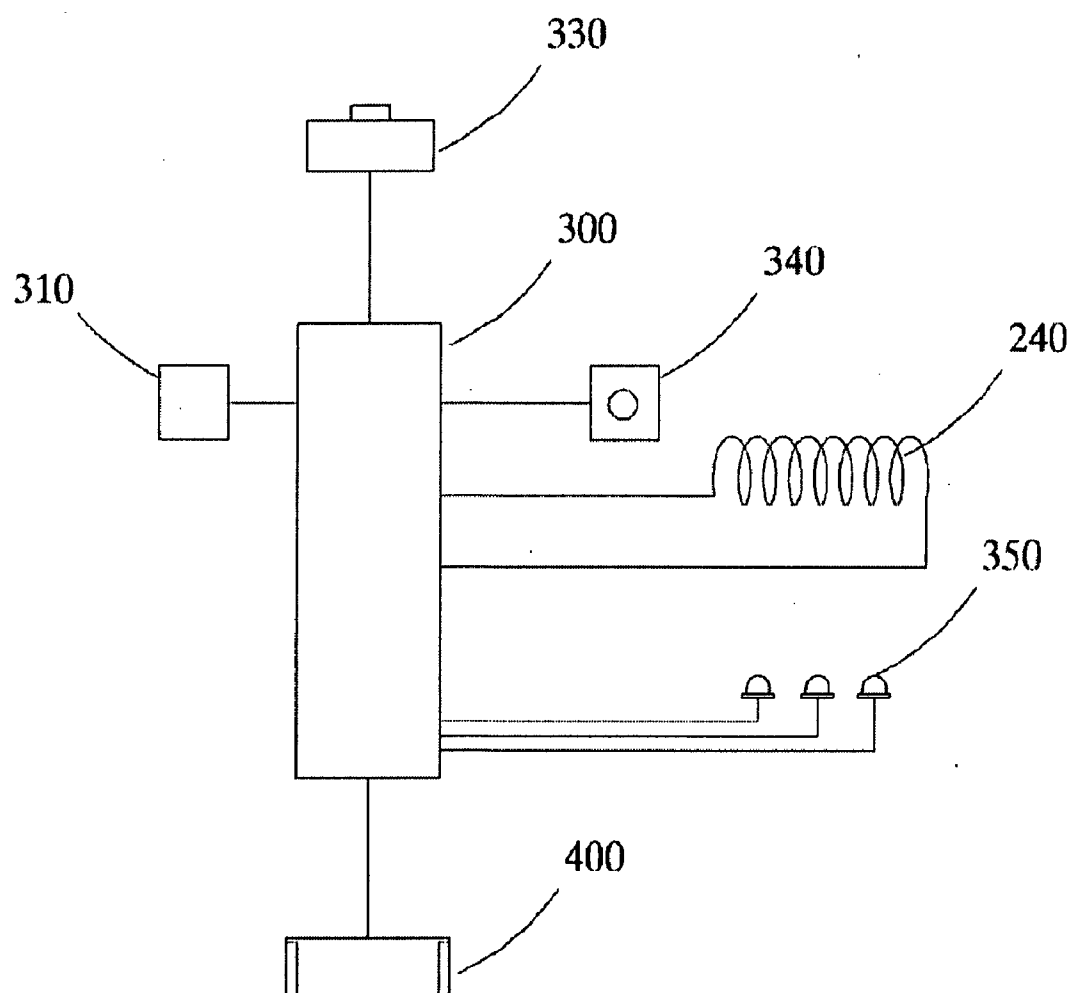


FIG. 5

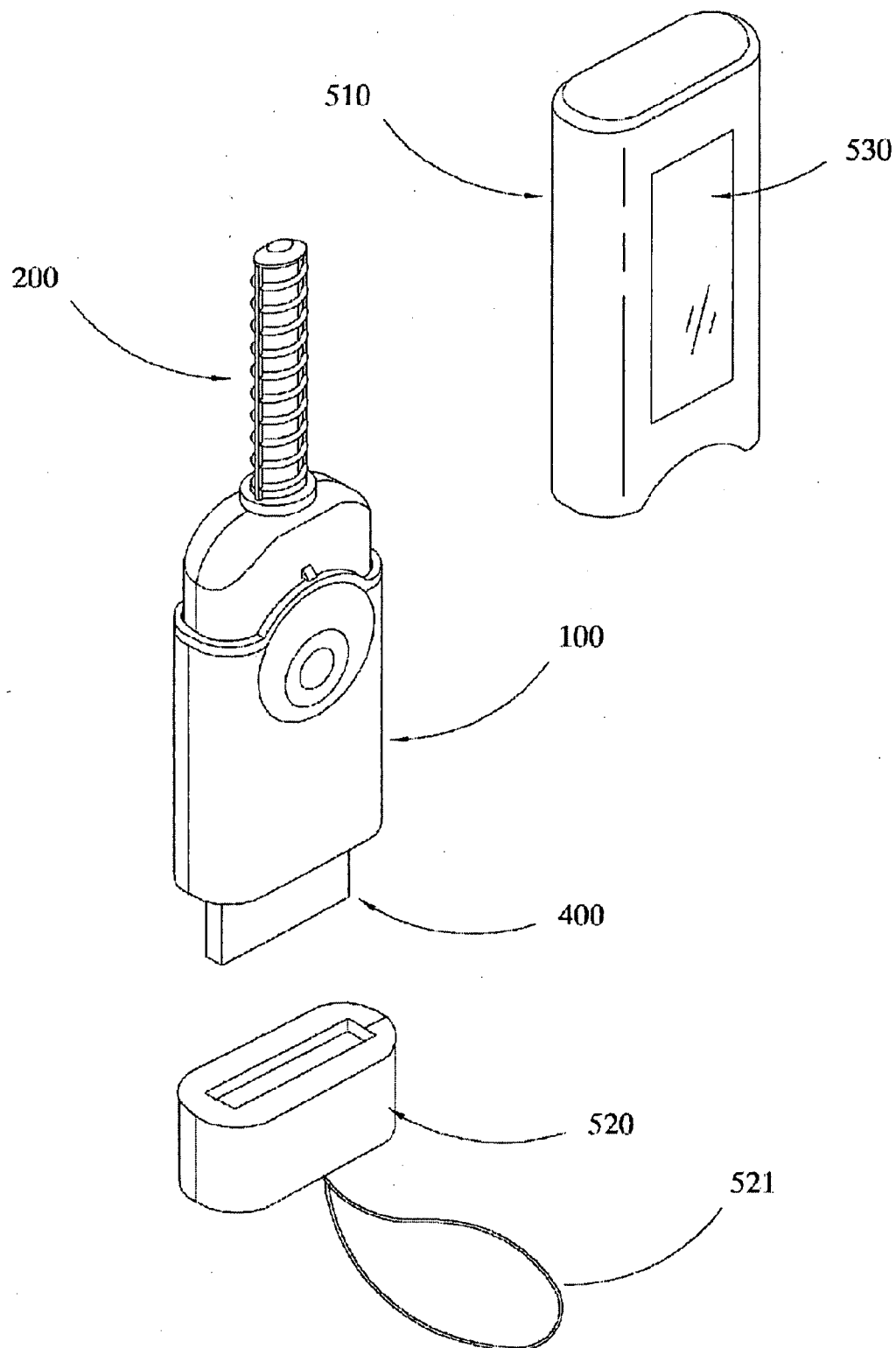


FIG. 6

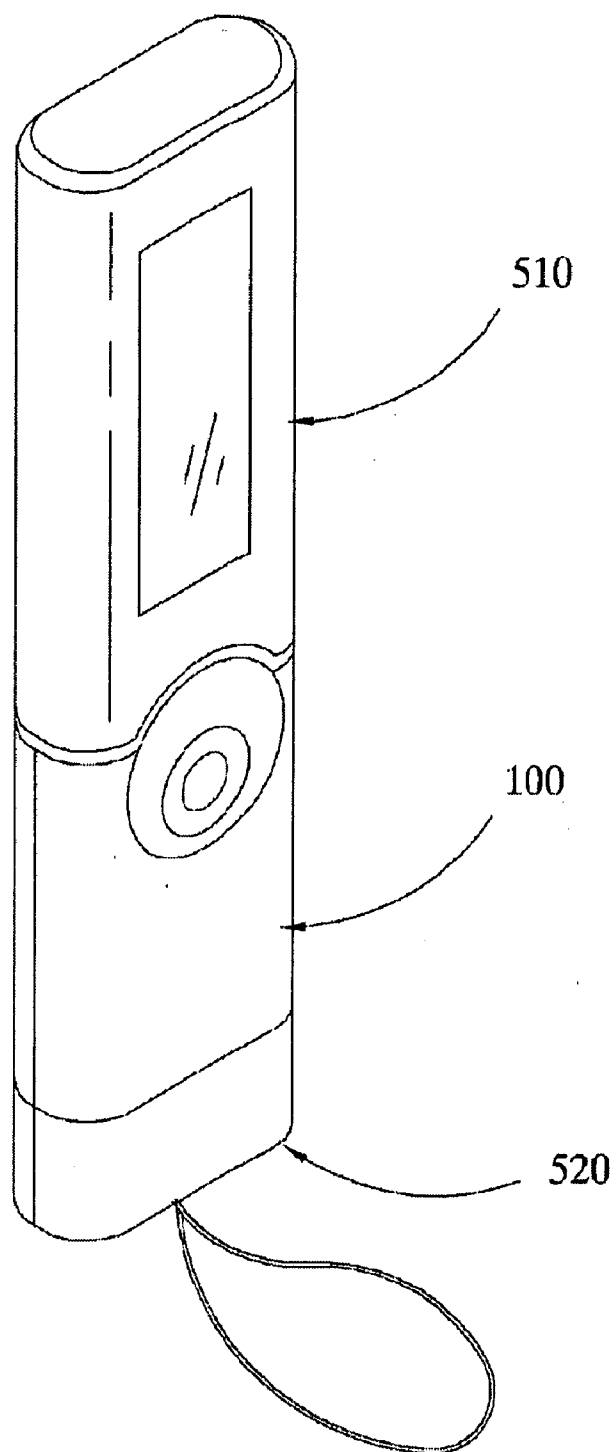


FIG. 7

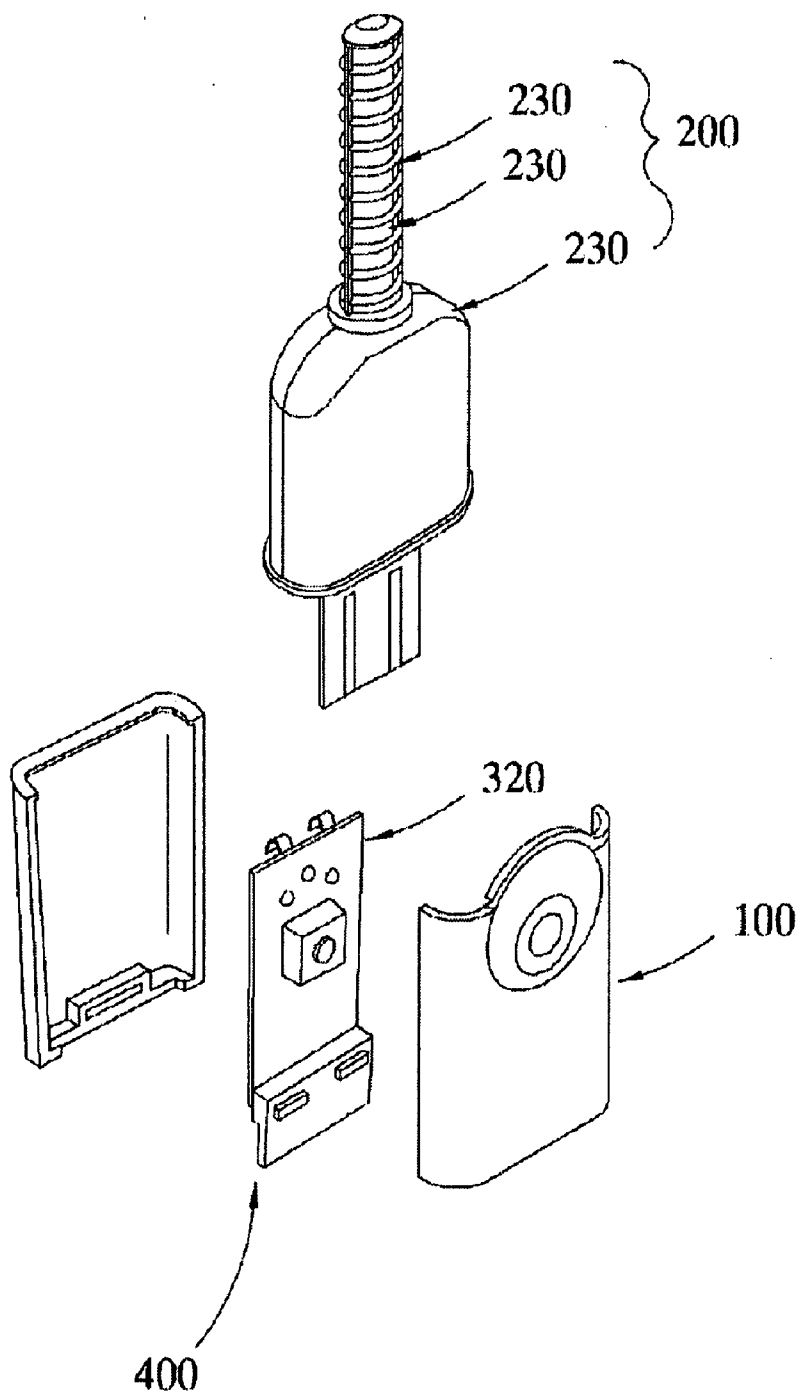
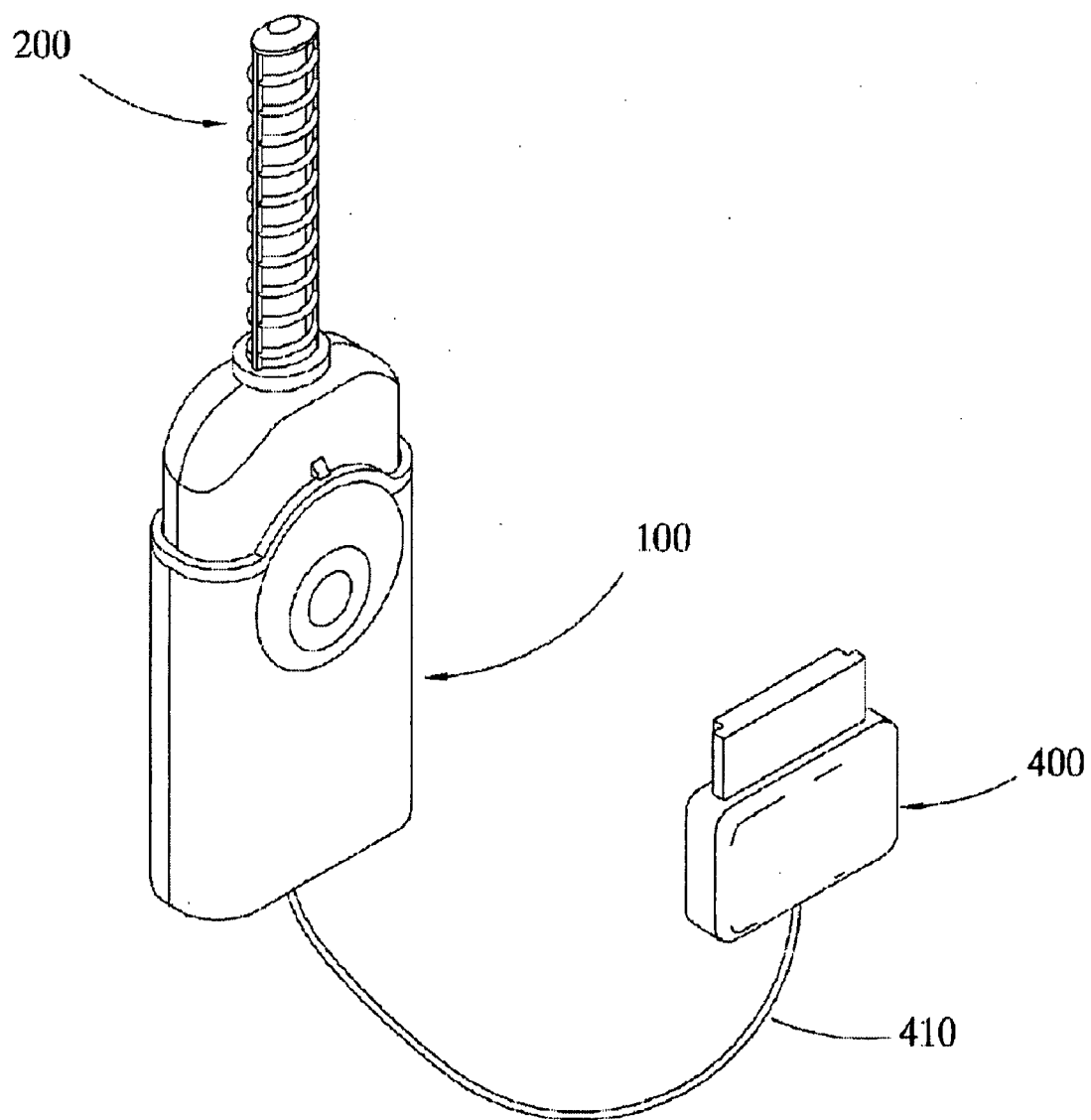


FIG. 8



ROLL TYPE EYELASH CURLER

CLAIM OF PRIORITY

[0001] This application makes reference to, incorporates the same herein, and claims all benefits accruing under 35 U.S.C. §119 from an application for ROLL TYPE EYELASH CURLER earlier filed in the Korean Intellectual Property Office on 29 Aug. 2007 and there duly assigned Serial No. 10-2007-0087326, and filed in the World Intellectual Property Office on 31 Aug. 2007, and there duly assigned Serial No. PCT/KR2007/004198.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a roll type eyelash curler, and in particular to a roll type eyelash curler in which there is provided a cellular phone power connector in a roll type eyelash curler which is able to lift upward an eyelash and curls the same, so that it is possible to curl using an electric power from a cellular phone. In addition, a curler is formed of a thermal storage rod for thereby obtaining a uniform heating with the help of a thermal storage, so that it is possible to prevent an eyelash from being damaged, and a reliable curling can be implemented.

[0004] 2. Description of the Related Art

[0005] Generally, an eyelash curler has a function for enhancing a beauty look of a woman by providing an eyelash with an artificial waveform, so that a user's eyes can be seen larger.

[0006] The eyelash curler may be classified into a press type eyelash curler which pinches an eyelash, and a roll type eyelash curler which is able to form a wave by rolling up an eyelash while fast heating the same.

[0007] In the eyelash curler, a roll type eyelash curler comprises a rod shaped heating and curling unit formed of a heater for lifting upward part of an eyelash while heating the same, a power supply unit for supplying electric power to the heating and curling unit for heating, a controller for controlling the operations of the power supply unit, and a body for accommodating the above elements.

[0008] In the roll type eyelash curler, a wave curling is performed while heating part of an eyelash from a lower side of an eyelash while lifting upward the same.

[0009] In the above conventional roll type eyelash curler, since a battery is mounted in the interior of the same for a power supply, the whole size of the system is large, and since the life span of the mounted battery is limited, an operational power is supplied with below 1.5V, so that a heating temperature of the movable curling unit is low, and a heating time may increase.

[0010] Since the structure of the heating and curling unit is formed of a heater for heating and a protection net for protecting by surrounding the heater, a high temperature air of the heater may be directly applied to an eyelash, so that an eyelash may be burnt and damaged without a very careful work.

[0011] In addition, since the construction of the heating and curling unit is focused at one side owing to its fixing structure, it is very difficult to use the same.

[0012] According to the conventional roll type eyelash curler, it is impossible to adjust the temperature of the mov-

able curler unit, so that when an artificial eyelash is being worn, a curling work cannot be performed.

SUMMARY OF THE INVENTION

[0013] Accordingly, it is an object of the present invention to overcome the problems encountered in the conventional art in which when a battery is mounted, since the power of the same is weak, a reliable operation is not obtained. It is possible to prevent an eyelash from being damaged during a curling process which occurs since a heater of a heating and curling unit is directly exposed. It is possible to overcome that a curling work is performed only in one direction.

[0014] To achieve the above objects, there is provided a roll type eyelash curler which comprises a cellular phone power connector in a roll type eyelash curler. In addition, there is further provided a heating and curling unit formed of a thermal storage rod in a roll type eyelash curler.

[0015] In the roll type eyelash curler according to the present invention, an electric power of the cellular phone can be used by providing a cellular phone power connector. So, a battery is not needed, so that the size of the curler is minimized. Since a reliable high voltage can be used, there are so many advantages.

[0016] Since a heating and curling unit is formed of a thermal storage rod, a uniform heating can be obtained with the help of a thermal storage, so that it is possible to prevent a damage of an eyelash during a curling process, and a reliable curling can be obtained.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] A more complete appreciation of the invention and many of the attendant advantages thereof, will be readily apparent as the same becomes better understood by reference to the following detailed description when considered in conjunction with the accompanying drawings in which like reference symbols indicate the same or similar components, wherein:

[0018] FIG. 1 is a disassembled perspective view illustrating a roll type eyelash curler according to an embodiment of the present invention.

[0019] FIG. 2 is a perspective view illustrating a roll type eyelash curler according to an embodiment of the present invention.

[0020] FIG. 3 is a detailed side cross sectional view illustrating a heating and curling unit according to an embodiment of the present invention.

[0021] FIG. 4 is a major view of a controller according to an embodiment of the present invention.

[0022] FIG. 5 is a disassembled perspective view illustrating a cover according to an embodiment of the present invention.

[0023] FIG. 6 is a perspective of an engagement of FIG. 5.

[0024] FIG. 7 is a disassembled perspective view illustrating a construction that a heating and curling unit is extendable according to another embodiment of the present invention.

[0025] FIG. 8 is a perspective view illustrating a construction that a cellular phone power connector is engaged with a power cable according to another embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0026] In a roll type eyelash curler which includes a rod shaped heating and curling unit able to heat and lift upward an

eyelash and to form an eyelash in a wave shape, a power supply unit for supplying an electric power to the heating and curling unit for heating, a controller for controlling the operation of the power supply unit, and a main body for accommodating the above elements, there is provided a roll type eyelash curler which comprises a power supply unit having a cellular phone power connector for receiving an electric power from the cellular phone.

[0027] The preferred embodiments of the present invention will be described with reference to the accompanying drawings.

[0028] The terms and words used in the description of the invention and claims are not limited to the ordinary meaning in their definitions, but they should be interpreted as a meaning and concept corresponding to a technical concept of the present invention in consideration with the principle that the basic concept of the terminals can be properly defined for the best descriptions of the present invention that an inventor seeks as his invention.

[0029] So, as the present invention may be embodied in several forms without departing from the spirit or essential characteristics thereof, it should also be understood that the above-described examples are not limited by any of the details of the foregoing description, unless otherwise specified, but rather should be construed broadly within its spirit and scope as defined in the appended claims, and therefore all changes and modifications that fall within the meets and bounds of the claims, or equivalences of such meets and bounds are therefore intended to be embraced by the appended claims.

[0030] As shown in FIGS. 1 through 4, in a roll type eyelash curler which includes a rod shaped heating and curling unit able to heat and lift upward an eyelash and to form an eyelash in a wave shape, a power supply unit for supplying an electric power to the heating and curling unit for heating, a controller for controlling the operation of the power supply unit, and a main body 100 for accommodating the above elements, there is provided a roll type eyelash curler which comprises a power supply unit having a cellular phone power connector 400 for receiving an electric power from the cellular phone.

[0031] As shown in FIG. 2, the cellular phone power connector 400 may be integrally protruded from a lower side of a main body 100 or may be electrically connected with an operation controller via a power cable 410 having a certain length. More preferably, it is integrally protruded from a lower side of the main body 100.

[0032] As shown in FIGS. 1 and 3, the heating and curling unit 200 is protruded from an upper side of the main body 100 and comprises a curling body 210 connected with the main body 100, a rod shaped thermal storage rod 220 of which one end is restricted by means of the curling body 210, with a heater 240 being provided in the interior of the same, and a heating net 230 which is covered on the thermal storage rod 220 and of which a lower end is engaged at the curling body 210.

[0033] As shown in FIGS. 1 and 2, the curling body 210 maybe integral with the main body 100 or may be exposed as shown in FIG. 7.

[0034] As shown in FIGS. 1 and 3, the thermal storage rod 220 is preferably formed of a ceramic material which is able to emit a far infrared ray when it is heated by means of the heater.

[0035] As shown in FIG. 1, the heating net 230 includes a support bar 231 at both ends of the same, a guide ring 232

having a guide unit 234 provided at both ends of the support bar 231 at regular intervals, and a support cap 233 which has a cap profile at an end of the support bar 231 and supports an end of the thermal storage rod 220 at an inner side of the same. The heating net 230 is preferably formed of a heat resistance resin having a low thermal conductivity.

[0036] As shown in FIG. 4, the controller includes an operation button 330 which is protruded in an outward direction of the main body 100 and is operated by a user, a temperature detector 340 for detecting a temperature of the heating and curling unit 200, and an operation controller 300 for controlling a heating temperature based on a user's operation by controlling a power supply to the heater 240 in accordance with an operation signal of the operation button 330 and a detection temperature of the temperature detector 340.

[0037] The temperature control of the operation controller 300 is implemented along with two stages consisting of an initial operation temperature of below 55°C at which an artificial eyelash can be curled, and a curling operation temperature of above 60°C at which a natural eyelash can be curled.

[0038] According to another embodiment of the controller, it may included a timer unit 310 for inputting a time signal into the operation controller 300 for disconnecting a power supply to the heater 240 after a set time passes. The power supply to the heater 240 is preferably performed in accordance with a control of the operation controller 300 when inputting an operation signal based on a re-operation of the operation button 330.

[0039] The operation controller 300 is mounted on the power substrate 320 provided on the main body 100, and the operation button 330 is mounted on one side of the power substrate 320.

[0040] The controller may include an operation lamp 350 for indicating an operation state based on a user's operation on a flashing basis. The operation lamp 350 may be mounted on the power substrate 320 via the center of the operation button 330 and may be visibly seen.

[0041] The power substrate 320 is accommodated in the interior of the main body 100, and the cellular phone power connector 400 is mounted at the lower side of the same.

[0042] The main body 100 consists of two housings which are separable forward and backward.

[0043] As shown in FIGS. 5 and 6, there are provided a curling unit cover 510 converted on the heating and curling unit 200, and a connector cover 520 covered on the protruded cellular phone power connector 400. The connector cover 520 may have an engaging strap 521 for binding a strap hanger of the cellular phone.

[0044] A mirror 530 maybe provided on either an outer surface of the main body 100 or an outer surface of the curling unit cover 510 for checking a curling process of the eyelash.

[0045] The cellular phone power connector 400 has a structure similar with the charging connector for a charge via a data connector provided in the cellular phone. Since the detailed construction is known by those who skilled in the art, the detailed description of the same will be omitted.

[0046] The operation of the present invention will be described.

[0047] In the roll type eyelash curler, when it is needed to curl an eyelash using the present invention in which the power supply unit is formed of a cellular phone power connector 400 for receiving power from the cellular phone, the cellular phone power connector 400 attached at a backside of the body 100 is engaged by inserting into a data connector(I/O connector) provided at a lower side of the cellular phone, so that an operation voltage higher than an ordinary battery is supplied

to the heater **240** of the operation curling unit **220** in accordance with a control of the controller.

[0048] When the voltage higher than an ordinary battery is supplied to the heater **240**, the thermal storage **221** formed of a ceramic material is fast and reliably heated, and the heat is stored, and the heating is uniformly performed. Since the thermal storage rod **220** is made of a ceramic material, it is possible to minimize the damage of the eyelash with the help of a far infrared ray radiation.

[0049] In the above state, the main body **100** is caught along with the cellular phone and is approached toward the eyelash using the guide unit **234** of the heating net **230**, and the lower side of the eyelash is contacted with the thermal storage rod **220**, and a protein and chemical reaction occurs at the eyelash by means of the heat of the thermal storage rod **220**, and the eyelash is lifted upward for thereby forming waves.

[0050] The heating and curling unit **200** of the present invention includes a temperature detector **340**, so that the temperature may consist of two stages of an initial operation temperature

at which an artificial eyelash is curled at below 55°C, and a curling operation temperature at which a natural eyelash can be curled at above 60°C. The heating state may be indicated via the operation lamp **350**. It is possible to selectively set a heating temperature based on an artificial eyelash and a natural eyelash.

[0051] In a state that the controller of the present invention is connected with a cellular phone, when it is used for a certain time period, the operation controller **300** receives a time signal from the timer **310**, and the power supply to the heater **240** is disconnected. So, it is possible to prevent a power loss of the cellular phone.

[0052] In the present invention, the heating and curling unit **200** is covered with the curling unit cover **510**, and it is engaged via the connector cover **520** bound to the cellular phone, so that it may be used as a cellular phone accessory. A mirror **530** may be provided on either the main body **100** or the curling unit cover **510**, so that a user can curl an eyelash while checking the eyelash curling process on the mirror.

[0053] As described above, in the roll type eyelash curler according to the present invention, there is provided a cellular phone power connector for using a power of the cellular phone. A battery is additionally not needed in the present invention, and the size of the curler is minimized. Since it is portable, and a voltage of the cellular phone is used, there are many conveniences in use.

[0054] The heating of the thermal storage rod can be fast performed, and the heating is performed with the thermal storage rod formed of a ceramic material, so that an uniform heating can be obtained. In the heating process, the ceramic material of the thermal storage rod emits far infrared rays, so that it is possible to minimize the damage of eyelash during the curling process.

[0055] The heating net of the heating and curling unit forms a guide unit at both sides, so that it is possible to curl using both sides. When a data connector of the cellular phone is provided at a side surface, the use of the same is more convenient.

[0056] The present invention is provided with a temperature detector, a two-stage temperature control of an initial operation temperature and a curling operation temperature is performed. The heating state is indicated along with an operation lamp, so that it is possible to curl an artificial eyelash, and it is possible to curl an actual natural eyelash based on a user's selection.

[0057] The controller of the present invention is provided with a timer unit for inputting a time signal into an operation controller, so that a power to the heater can be disconnected after a certain time passes, whereby a power loss of a cellular phone can be prevented.

What is claimed is:

1. In a roll type eyelash curler which includes a rod shaped heating and curling unit able to heat and lift upward an eyelash and to form an eyelash in a wave shape, a power supply unit for supplying an electric power to the heating and curling unit for heating, a controller for controlling the operation of the power supply unit, and a main body for accommodating the above elements, a roll type eyelash curler, comprising:

solid power supply unit having a cellular phone power connector for receiving an electric power from the cellular phone.

2. The curler of claim 1, wherein said cellular phone power connector is electrically connected with the operation controller via a power cable having a certain length.

3. The curler of claim 1, wherein said heating and curling unit is engaged at an upper side of the main body in a protruded shape and comprises a curling body engaged with the main body, a rod shaped thermal storage rod of which one end is restricted by means of the curling body and is protruded and which has a heater in the interior of the same, and a heating net which is covered on the thermal storage rod and of which a lower end is engaged with the curling body, and said heating net includes a support bar at both sides, a guide ring which is engaged at the support bar at a regular interval and has a guide unit at both sides, and a support cap which has a cap shape at an end of the support bar and supports an end of the thermal storage rod at an inner side of the same.

4. The curler of claim 3, wherein said curling body is extendable from the main body.

5. The curler of claim 3, wherein said thermal storage rod is made of a ceramic material which is able to emit a far infrared ray during a heating by a heater.

6. The curler of claim 1, wherein said controller comprises: an operation button which is exposed to an outside of the main body and is operated by a user;

a temperature detector which detects a temperature of the heating and curling unit; and

an operation controller which controls a heating temperature based on a user's operation by controlling power supply to the heater in accordance with an operation signal of the operation button and a detection temperature of the temperature detector.

7. The curler of claim 6, wherein said controller comprises a timer unit for inputting a time signal into the operation controller for disconnecting a power supply to the heater when a set time passes; and an operation lamp for indicating an operation state based on a user's operation on a flashing basis.

8. The curler of claim 1, wherein a curling unit cover covers the heating and curling unit, and a connector cover covers the protruded cellular phone power connector, and said connector cover has a binding strap which is fixed at a strap hanger of the cellular phone.

9. The curler of claim 8, wherein a mirror is provided at either an outer surface of the main body or an outer surface of the curling unit cover for checking an eyelash curling process.