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(54) **Body grooming device**

(57) The present invention is concerned with a body grooming device that comprises a head section (200) that comprises a drivable body grooming unit (230), a hand piece section (300) that comprises a drive (330), and an attachment section (100) detachably arranged

between the head section (200) and the hand piece section (300). The attachment section (100) comprises a power transmission unit (190) arranged for transmitting power from the hand piece section (300) to the head section (200) in an operation mode of the body grooming device.

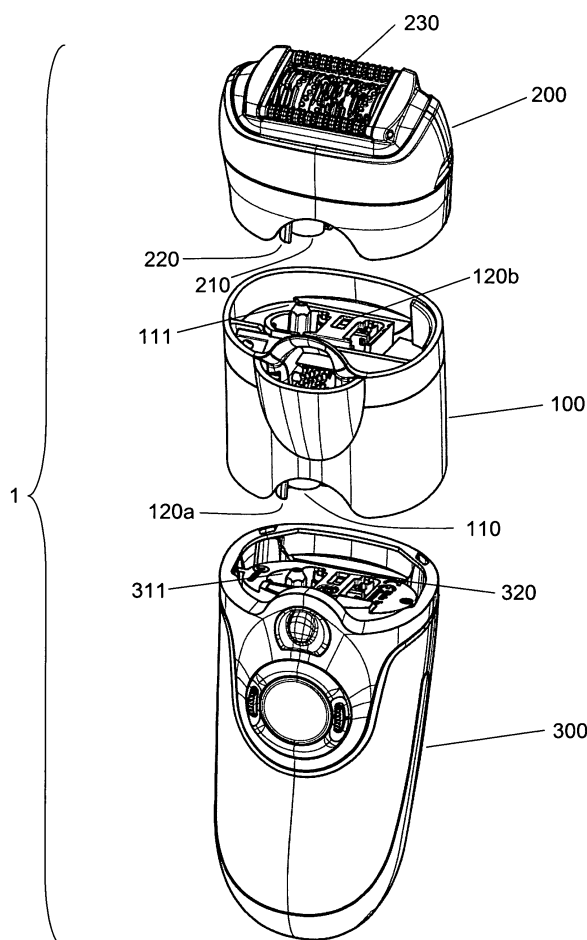


Fig. 2

Description

FIELD OF THE INVENTION

[0001] The present invention is concerned with body grooming devices that have a head section and a hand piece section that can be detachably connected. The present invention in particular is concerned with body grooming devices according to the previous sentence wherein the head section comprises a drivable body grooming unit and the hand piece section comprises a drive.

BACKGROUND OF THE INVENTION

[0002] It is known to add further functions to a body grooming device. E.g. European patent application 08005323.4 describes an epilator device that further comprises a vaporizer for applying vaporized liquid onto the skin during operation of the epilator device.

SUMMARY OF THE INVENTION

[0003] It is desirable to improve known body grooming devices and in particular to provide a body grooming device that adds additional comfort to the user or additional functionality in an improved manner.

[0004] An improved body grooming device is given in accordance with claim 1.

[0005] The proposed body grooming device comprises a head section and a hand piece section. The head section comprises a drivable body grooming unit, e.g. an epilation unit, a shaving unit or a massaging unit etc. and the hand piece section comprises a drive, e.g. a DC motor or a linear motor. Additionally, the body grooming device comprises an attachment section that in an attached state is detachably arranged between the head section and the hand piece section. The attachment section comprises a power transmission unit for transmitting power from the hand piece section to the head section, so that power generated by the drive is passed through to drive the drivable body grooming unit in an operation mode with the necessary power (power in the present context means mechanically provided power). The power transmission unit thus effectively couples the drive disposed in the hand piece with the drivable body grooming unit. According to an embodiment, the attachment section has an attachment section coupling that couples to a hand piece power output of the hand piece section and an attachment section power output that couples to a head section coupling of the head section. During operation, the power provided through the hand piece power output is transmitted by the power transmission unit through the attachment section and provided via the head section coupling to the drivable body grooming unit.

[0006] Such an attachment section can e.g. be used to individualize the body grooming device by e.g. adding length to the device when the attachment section is

mounted between the head section and the hand piece section. Users having larger hands than others may find it more convenient to use the body grooming device with the mounted attachment section. Instead of extending the body grooming device, the attachment section may also provide for an angle between the head section and the hand piece section that is not present if the head section is directly mounted to the hand piece section. Some users may find it more convenient if the hand piece section is arranged at a certain angle with respect to the head section. An attachment section as described can provide for such an arrangement. Different attachment sections may differ in their geometrical parameters, e.g. two different attachment sections may differently extend the length of the body grooming device or may lead to different angles between the head section and the hand piece section. Different attachment sections may hence be used by different users to individualize the body grooming device according to their wishes. The attachment section coupling and the attachment section power output are part of the power transmission unit. The attachment section coupling and the attachment section power output may be movably supported in the attachment section and they may be connected by a simple shaft so that the power provided at the attachment section coupling is transmitted to the attachment section power output via the shaft. In a realization, the attachment section coupling may comprise a cavity to receive the hand piece section power output in a form-fit manner so that e.g. a rotation of the hand piece power output is transmitted to the attachment section coupling. In a refinement, the power transmission unit comprises a gear section to e.g. realize a change in the direction of the shaft axis or a lateral shift of the shaft axis or a change in the frequency of a rotary motion provided at the attachment section coupling.

[0007] A "body grooming device" is a device out of the class of devices that are used to treat the body, specifically the skin, by hair removal through plucking, shaving or sheering, by massaging (e.g. to stimulate blood circulation, remove muscle tension or to treat cellulites), peeling or abrading, by rubbing in an application material such as a nurturing lotion etc. The drivable body grooming unit may comprise a combination of two or more sub-units for performing two or more of the mentioned grooming treatments.

[0008] In another embodiment, the attachment section comprises a second attachment section coupling that mates in the attached state with a second hand piece section power output. In such an embodiment, the power transmission unit transmits power from the drive in the hand piece section to the drivable body grooming unit in the head section and the second attachment section coupling and second hand piece power output arrangement can be used to transfer power from the drive in the hand piece section to a powered unit in the attachment section.

[0009] In another embodiment of the proposed body grooming device, the attachment section comprises a

powered unit. The powered unit may e.g. be an ultrasonic vaporizer that is powered with energy. The energy source may then be comprised in the hand piece section (where this should include cases in which an energy source such as a battery or an accumulator is present in the hand piece section and cases where the hand piece section is connected to mains voltage) or in the attachment section. In an embodiment, the hand piece section is equipped with a hand piece energy contact structure and the attachment section with an attachment section energy contact structure. The hand piece energy contact structure may comprise electrical contacts that connect in an assembled state with electrical contacts of the attachment section energy contact structure so that energy can be transferred from the energy source to the powered unit in a wired manner. In another realization, the energy is transferred in a wireless manner, e.g. inductively, in which case the hand piece energy contact structure may comprise a primary coil for generation of electromagnetic radiation and the attachment section energy contact structure may comprise a secondary coil for receiving the energy from the electromagnetic radiation. Alternatively, the powered unit may be mechanically drivable, e.g. the powered unit may comprise a fan or a pump. The drive for driving such a powered unit may be present in the hand piece or in the attachment section. In the first case, the attachment section may have a second attachment section coupling to connect with a second hand piece power output of the hand piece. Alternatively, power may be extracted from the power transmission unit by a power extraction unit, which can be realized, e.g., as a gear wheel arrangement. In such an embodiment with a powered unit present in the attachment section, the attachment section can add a function to the body grooming device without the need to amend the hand piece section and/or the head section. Different attachment sections could then provide different functions. Such a modular approach makes the body grooming device very versatile.

[0010] In another embodiment, the attachment section of the proposed body grooming device comprises a container. A container can be used to store a liquid, a lotion, or a gel. The container may be coupled to a liquid supply that is arranged to contact the skin during operation of the body grooming device. In particular, the liquid supply can be arranged to transport liquid from the container to the skin due to capillary forces.

[0011] In a further embodiment, the attachment section comprises a first attachment section connector structure that detachably couples in the attached state with a hand piece connector structure and a second attachment section connector structure that detachably couples in the attached state with a head section connector structure. In this embodiment, the three parts of the body grooming device can be detachably connected by using the additional connector structures. In a refinement of this embodiment, the hand piece section connector structure is arranged to detachably connect also with the head

section connector structure. Hence, the head section and the hand piece section can also be connected together without the attachment section attached in between. In such a case, the head section power output is also arranged to mate with the head section coupling.

[0012] The invention is also concerned with an attachment section as described that can be detachably coupled between a head section and a hand piece section so that a body grooming device is formed. The attachment section comprises a power transmission unit for transferring power from the hand piece section to the head section. A drivable body grooming unit present in the head section can thus be driven by a drive present in the hand piece section. Such an attachment section may be sold as an accessory for a two-part body grooming device that has only a head section and a hand piece section so that customers can add functionality to the two-part body grooming device according to their individual wishes or a customer can geometrically adapt the two-part body grooming device according to individual wishes by using such an attachment section.

[0013] The invention is further concerned with a kit comprising a head section comprising a drivable body grooming unit, a hand piece section comprising a drive, and a first attachment section comprising a power transmission unit, where the first attachment section is arranged to become detachably attached between the head section and the hand piece section to form a body grooming device such that in operation the power transmission unit transmits power from the hand piece section to the head section. Hence, the power transmission unit passes through the power generated by the drive so that the drivable body grooming unit can be driven in an operation state of the body grooming device.

[0014] In an embodiment, the kit further comprises a second attachment section that differs from the first attachment section in at least a geometrical parameter or a function provided by the second attachment section. The geometrical parameter can in particular be the different length of the first attachment section and the second attachment section or the different angle between head section and hand piece section introduced by the first attachment section or the second attachment section. The attachment sections may geometrically coincide but differ in a function. E.g. the first attachment section may serve no other function than to provide an extension of the hand piece section, while the second attachment section may have an atomizer unit for applying a mist of atomized liquid onto the skin during operation.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] The invention will be further elucidated by detailed explanation of exemplary embodiments and with reference to figures. In the figures

Fig. 1 is a perspective view onto a body grooming device as proposed where the head

- section, the attachment section, and the hand piece section are in an attached state;
- Fig. 2 is a perspective view onto the body grooming device as shown in Fig. 1A but in a detached state in which the head section, the attachment section, and the hand-piece section are detached from each other;
- Fig. 3 is a perspective view onto the top of an exemplary attachment section;
- Fig. 4 is a schematic depiction of a first embodiment of the body grooming device as proposed with the three sections shown in a detached state;
- Fig. 5 is a schematic depiction of a second embodiment of the body grooming device as proposed with the three sections shown in a detached state;
- Fig. 6 is a schematic depiction of the various elements of an exemplary embodiment of an attachment section shown together with a drive and a drive shaft that are disposed within the hand piece section; and
- Figs. 7A-7D are depictions of various embodiments of body grooming devices as proposed with attachment sections that vary a geometrical parameter of the body grooming device.

DETAILED DESCRIPTION OF THE INVENTION

[0016] Fig. 1 is a perspective view onto an exemplary embodiment of a body grooming device 1 as proposed. The body grooming device 1 is shown in an assembled state. The body grooming device 1 is realized as an epilator device. The body grooming device 1 comprises a head section 200, an attachment section 100, and a hand piece section 300. The attachment section 100 is detachably connected in between the head section 200 and the hand piece section 300. The head section 200 comprises a drivable body grooming unit 230, which in the shown embodiment is realized as an epilation cylinder for plucking hairs from the skin during operation. In another embodiment, the body grooming device 1 may be realized as an electric shaver and the drivable body grooming unit 230 as a foil shaver head.

[0017] Fig. 2 is a perspective view onto the body grooming device 1 as shown in Fig. 1 but with the three sections shown in a detached state (exploded view of the three sections). The hand piece section 300 comprises a hand piece section power output 311, which is realized as a hexagon shaft. The hand piece power output 311 is connected with a drive shaft of a drive that is disposed within the hand piece 300 (reference is made to Figs. 4 - 6 and the respective description concerning the drive shaft and the drive). The hand piece section 300 further comprises a hand piece connector structure 320.

The attachment section 100 comprises on a side that is intended for coupling with the hand piece section 300 an attachment section coupling 110, which in the shown embodiment is realized as a shaft having a hexagon recess.

The attachment section 100 further has on the side intended for coupling with the hand piece section 300 a first attachment section connector structure 120a. The attachment section comprises and the side intended for coupling with the head section 200 an attachment section power output 111 that is realized as a hexagon shaft. The attachment section coupling 110 and the attachment section power output 111 are parts of a power transmission unit to transfer power provided by the hand piece section 300 to the head section 200. In certain embodiments, the attachment section coupling 110 and the attachment section power output 111 are connected by a simple drive shaft or a gear arrangement (this is discussed in more detail with reference to Figs. 4 - 6). Independent on whether the attachment section simply provides for a geometrical adaption of the body grooming device (see Figs. 7A - 7D) or adds a function (see Fig. 3), the attachment section 100 provides for the transmission of power from the hand piece section 300 to the head section 200. The attachment section 100 further comprises on the side intended for coupling with the head section 200 a second attachment section connector structure 120b. The head section 200 comprises a head section coupling 210 that is realized as a shaft having a hexagon recess. The head section 200 further comprises a head section connector structure 220.

[0018] The hand piece section power output 311 is arranged to mate with the attachment section coupling 110 in the attached state. In the shown embodiment, the hexagon shaft then sits in the respective form-fit hexagon recess provided in the shaft of the attachment section coupling 110. In another embodiment, the hand piece power output 311 is realized as a gear wheel and the attachment section coupling 110 is also realized as a gear wheel, the teeth of the gear wheels meshing with each other in the attached state. Any other realization of the hand piece power output 311 and the attachment section coupling 110 known to a skilled person are also possible. In the same manner, the attachment section power output 111 mates with the head section coupling 210 in the attached state. In the present example, the hexagon shaft of the attachment section 100 then sits in the respective form-fit hexagon recess provided in the shaft of the head section coupling 111.

[0019] The hand piece connector structure 320 is arranged to mate with the first attachment section connector structure 120a in the attached state; in the shown embodiment, the first attachment section connector structure 120a is realized a undercut structures that are received by recesses of the hand piece connector structure 320. At least an element of the hand piece connector structure 320 is movably arranged. In the shown embodiment, the undercut structures snap-fit onto movably mounted hooks and can be released from the snapped

state by a push button realized on the back of the hand piece section 300 that moves the hooks against a spring bias. The attachment section 100 and the hand piece section 300 can be detached while the push button is depressed. Similarly, the head section 200 comprises a head section connector structure 220 and the attachment section 100 comprises a second attachment section connector structure 120b. The second attachment section connector structure 120b is realized essentially identical to the hand piece section connector structure 320 and the head section connector structure 220 is realized essentially identical to the first attachment section connector structure 120a. As further, the attachment section coupling 110 is designed essentially identical to the head section coupling 110 the head section coupling 210 and the head section connector structure 220 can also mate with the hand piece section power output 311 and the hand piece section connector structure 320. A two-part body grooming device could thus be formed without the attachment section 100, which renders the proposed body grooming device 1 as specifically versatile.

[0020] Fig. 3 is a perspective view onto an exemplary embodiment of an attachment section 100 in accordance with a body grooming device as proposed. As described with reference to Fig. 2, the attachment section 100 comprises first and second attachment section connector structures 120a and 120b, a attachment section coupling 110, and an attachment section power output 111. The attachment section 100 further comprises an atomizer unit 170 of which a rotatably mounted brush-like element 171 is visible, which brush-like element 171 sits within a housing outlet 140. Liquid can be supplied via a liquid supply outlet 153 during operation of the device and the rotating brush-like element 171 atomizes the liquid into fine droplets that are catapulted out of the housing outlet 140 by centrifugal forces. Hence, the attachment section 100 as shown adds a function to the body grooming device, namely provision of atomized liquid. The attachment section 100 may comprise a liquid supply 150 that comprises a container 151 for storing a liquid. In another embodiment, the attachment section provides a different functionality, e.g. it provides a heated vapor to soften skin and hairs or any other functionality.

[0021] Fig. 4 is a schematic depiction of an exemplary embodiment of a body grooming device 1 as proposed. The body grooming device 1 is shown in a detached state for clarification reasons. The body grooming device 1 comprises a head section 200, an attachment section 100, and a hand piece section 300. The head section 200 comprises a drivable body grooming unit 230 that is coupled to the head section coupling 210 via a drive shaft 212. The drivable body grooming unit 230 may comprise a gear arrangement or an excenter extending into an elongated hole to convert the vertical rotational movement that in the shown embodiment is provided by the drive shaft 212 into a horizontal rotational movement or into a linear oscillatory movement, respectively. The head section 200 further comprises a head section con-

necter structure 220. The head section connector structure 220 comprises several undercut elements that are intended to snap-fit into respective recesses that are part of the second attachment connector structure 120b when being attached. The hand piece section 300 comprises a drive 330 that in the shown embodiment is coupled to a hand piece section power output 311 and a second hand piece section power output 311a via a coupling structure 312. The coupling structure 312 may comprise shafts, gear wheels, and the like. In certain embodiments, the rotational speeds provided by the hand piece section power output 311 and the second hand piece section power output 311a are different due to different gear transmission ratios realized between the drive 330 and the two power outputs. The hand piece section 300 further comprises a hand piece connector structure 320 that has several recesses (indicated by dotted lines) for receiving undercut elements of the first attachment section connector structure 120a when being attached. An energy source 335 is arranged in the hand piece section 300 and a hand piece section electrical contact structure 336 is provided that is intended for contacting an attachment section electrical contact structure 136 of the attachment section 100 so that energy can be transferred in the attached state from the energy source 335 to a first powered unit 170 (which may be an atomizer unit, e.g. an ultrasonic vaporizer) of the attachment section 100. The attachment section 100 comprises an attachment section coupling 110 and an attachment section power output 111 that are connected by a first shaft 112. Attachment section coupling 110, attachment section power output 111, and first shaft 112 form the power transmission unit 190 of the shown embodiment. The attachment section 100 further comprises a second attachment section coupling 110a, which is intended to mate with second hand piece section power output 311 a in the attached state. Attachment section coupling 111a is coupled to a second powered unit 160, which may be a blower unit. The first powered unit 170 is connected to an electrical contact structure 136 to receive energy from the energy source 335 present in the hand piece section 300. Alternatively, the attachment section 100 may comprise an energy source to provide energy to e.g. the first powered unit 170 or a drive may be arranged in the attachment section 100 to drive the second powered unit 160 (which is discussed with reference to Fig. 5). The attachment section 100 comprises a second attachment section connector structure 120b that comprises recesses (indicated by dotted lines) into which the undercut elements of the head section connector structure 220 will snap when those two sections are attached. The undercut elements of the head section connector structure 220 and of the first attachment section connector structure 120a may be realized as flexible elements, e.g. made from a natural or synthetic rubber, so that they can be released from the snapped state by pulling the respective section apart with a certain force so that the elasticity of the flexible elements leads to deformation and thus to

unlocking.

[0022] Fig. 5 is a schematic depiction of another embodiment of a body grooming device as proposed. Elements identical to elements in Fig. 4 are not explained again and reference is made to the previous paragraph. The hand piece section 300 of the shown embodiment does not comprise a second hand piece power output anymore but the drive 330 is connected via drive shaft 312 to the hand piece section power output 311. Hand piece section 300 may nevertheless comprise an energy source to energize the drive 330 or the hand piece section 300 may be connectable to mains power via a cord. In contrast to the previous embodiment, the attachment section 100 comprises a drive 130 and an energy source 135. The energy source 135 is coupled to a first powered unit 170, which may be an atomizer unit such as an ultrasonic vaporizer. The attachment 100 may further comprise a container to store a liquid that is vaporized. The drive 130 that is energized by the energy source 135 is coupled to a second powered unit 160, which may be a blower unit, via a drive shaft 112a. It is to be understood that Fig. 5 is just illustrating the possible elements that can be present in an attachment section 100 of a body grooming device 1 as proposed. In another embodiment, the attachment section 100 comprises a drive 330 coupled to a powered unit but it does not comprise an energy source but receives energy through an attachment section electrical contact structure 136 as depicted in Fig. 4. In another embodiment, attachment section 100 comprises an energy source 135 coupled to a powered unit 170 but not a drive.

[0023] Depending on the function provided by the attachment section 100, the skilled person can combine the various discussed elements as needed.

[0024] Fig. 6 is a schematic depiction of the possible elements present in the attachment section 100 as shown e.g. in Fig. 3 and additionally the drive 330 and drive shaft 312 that are disposed in the hand piece section 300 are shown. Housing and mounting structures are neglected in Fig. 6 for sake of simplicity. Fig. 6 shows a power transmission unit 190 and a power extraction unit 180, and further parts of a first powered unit 170 realized as an atomizer unit and of a second powered unit 160 realized as a blower unit. Further, a liquid supply 150 is shown. The power transmission unit 190 comprises the attachment section coupling 110, the attachment section power output 111, a first shaft 112 extending from the attachment section coupling 110, which first shaft 112 ends in a first gear wheel 114, which first gear wheel 114 meshes with a second gear wheel 115. The second gear wheel 115 is mounted on a second shaft 113 that is connected with the attachment section power output 111. The first and second gear wheels 114, 115 form a gear section 191 that is used to provide for an offset between the axis of the first shaft 112 and the axis of the second shaft 113 (in Fig. 6 this is shown to be a lateral offset but an angular offset may alternatively or additionally be realized). Depending on, e.g., the geometry and other requirements

of the attachment section 100, the gear section 191 could be dispensed with. In certain embodiments, the attachment section coupling 110 and the attachment section power output 111 may hence be connected by a simple drive shaft (these three elements would then form the power transmission unit 190). In the present embodiment, the drive 330 that is arranged in the hand piece section has a drive shaft 312 that ends in the hand piece section power output 311 (indicated with dotted lines), which in Fig. 6 engages with the attachment section coupling 110. The power extraction section 180 couples to the first gear wheel 114 of the power transmission unit 190 to extract power from the power transmission unit 190 to drive a fan 161 of the blower unit 160 and a brush-like element 171 of the atomizer unit 170. It is to be understood that in an embodiment in which no offset between a first shaft 112 and a second shaft 113 is required, a single shaft extending between the attachment section coupling 110 and the attachment section power output 111 may be provided with a fixedly mounted gear wheel to couple with the power extraction unit 180. In the shown embodiment, a third gear wheel 181 meshes with the first gear wheel 114. The third gear wheel 181 is mounted on a common axis with a first bevel gear wheel 182. The first bevel gear wheel 182 meshes with a second bevel gear wheel 183 to tilt the rotation axis by 90 degrees from a rotation around a vertical axis to a rotation around a horizontal axis. The second bevel gear wheel 183 is mounted on a common axis with a fourth gear wheel 184. The fourth gear wheel 184 meshes with a fifth gear wheel 185, which fifth gear wheel 185 drives the fan axis 162 on which the fan 161 is fixedly mounted. The fifth gear wheel 185 meshes with a sixth gear wheel 186 which in turn meshes with a seventh gear wheel 187. The seventh gear wheel 187 drives the atomizer axis 173 to which the brush-like element 171 is fixedly mounted. Sizes of the gear wheels and hence gear transmission ratios are chosen according to the needs of the power extraction section 180 to drive the fan axis 162 and the atomizer axis 173 at certain rotational speeds. It is to be understood that the exemplary embodiment shown in Fig. 6 is not to be interpreted as limiting the present invention. It is a specific embodiment of the general concept and any gear arrangement that would be considered by a skilled person should also fall under the subject matter of the present application.

[0025] Fig. 6 further depicts the liquid supply 150. The liquid supply 150 comprises a container 151 and a capillary force element 152 that extends into the container 151. A liquid that is stored in the container 151 is drawn to the liquid supply outlet 153 by capillary forces, which are effectual independent on the orientation of the body grooming device. The capillary force element 151 may be made from a fibrous or porous material. Container 150 and capillary force element 151 can be realized as a replaceable module so that certain wear of the material of the capillary force element 151 at the liquid supply outlet 153 due to the mechanical contact with the rotating

bristle-like protrusion 172 of the brush-like element 171 is acceptable.

[0026] Figs. 7A - 7D show side views of four exemplary examples of body grooming devices 1 in which various exemplary embodiments of attachment sections 100a - 100d (in the following labeled as first to fourth attachment section) are used to modify a geometrical parameter of the body grooming device 1. The body grooming device 1 may, e.g., be sold in the configuration as shown in Fig. 7A (or a two-part body grooming device could be sold as basic device). The configuration of the body grooming device 1 shown in Fig. 7A is characterized by a length of the body grooming device 1 that is influenced by the length d1 of the first attachment section 100a and an angle α_1 between a centre axis of the hand piece section 300 and a central axis of the head section 200, which angle is also influenced by the first attachment section 100a. A second attachment section 100b as shown in Fig. 7B may be sold together with the body grooming device 1 as shown in Fig. 7A or the second attachment section 100b may be sold separately. Fig. 7B shows the attached state of the body grooming device 1. The second attachment section 100b has a length d2 that is essentially identical to the length d1 of the attachment section 100 shown in Fig. 7A, hence $d_1 = d_2$. But the second attachment section 100b provides for a different angle α_2 between the central axis of the hand piece section 300 and the central axis of the head section 200, which angle is larger than the angle as indicated in Fig. 7A, hence $\alpha_2 > \alpha_1$. In Fig. 7C a third attachment section 100c is shown that has a length d3 that is larger than the length d1 of the first attachment section 100a shown in Fig. 7A, hence $d_3 > d_1$. The angle between the central axis of the hand piece section 300 and the central axis of the head section 200 is essentially identical to the angle as indicated in Fig. 7A. Fig. 7D shows an exemplary body grooming device 1 with a fourth attachment section 100d. The fourth attachment section 100d is about as long as the third attachment section 100c but provides for an even larger angle α_3 between the centre axis of the hand piece section 300 and the centre axis of the head section, hence $\alpha_3 > \alpha_2$. Obviously, the shown embodiments are just illustrations of the general concept of an attachment section and various other attachment sections do also fall under the subject matter of the present invention.

[0027] The dimensions and values disclosed herein are not to be understood as being strictly limited to the exact numerical values recited. Instead, unless otherwise specified, each such dimension is intended to mean both the recited value and a functionally equivalent range surrounding that value. For example, a dimension disclosed as "40 mm" is intended to mean "about 40 mm."

Claims

1. Body grooming device comprising:

a head section (200) that comprises a drivable body grooming unit (230);
a hand piece section (300) that comprises a drive (330); and
an attachment section (100) detachably arranged between the head section (200) and the hand piece section (300), the attachment section (100) comprising a power transmission unit (190) arranged for transmitting power from the hand piece section (300) to the head section (200) in an operation mode of the body grooming device.

2. Body grooming device according to one of claim 1, wherein the attachment section (100) has an attachment section coupling (110) that mates in the attached state with a hand piece section power output (311) and an attachment section power output (111) that mates in an attached state with a head section coupling (210), the attachment section coupling (110) and the attachment section power output (111) being part of the power transmission unit (190).
3. Body grooming device according to claim 2, wherein the head section coupling (210) is arranged to be connectable with the hand piece power output (311).
4. Body grooming device according to claim 2 or claim 3 that comprises a second attachment section coupling (110a) that mates in an attached state with a second hand piece section power output (311 a).
5. Body grooming device according to one of claims 1 to 4, wherein the attachment section (100) comprises a powered unit (160; 170).
6. Body grooming device according to claim 5, wherein the attachment section (100) comprises a power extraction section (180) that is coupled with the powered unit (160; 170) and the power transmission unit (190).
7. Body grooming device according to one of claims 1 to 6, wherein the attachment section comprises a drive (130).
8. Body grooming device according to one of claims 1 to 7, wherein the attachment section (100) comprises an energy source (135).
9. Body grooming device according to one of claims 1 to 8, wherein the attachment section (100) comprises a container (151).
10. Body grooming device according to one of claims 1 to 9, wherein the attachment section (100) comprises an attachment section energy contact structure (136) and the hand piece section (300) comprises

an hand piece section energy contact structure (336).

11. Body grooming device according to one of claims 1 to 10, said attachment section (100) comprising a first attachment section connector structure (120a) that detachably mates in the attached state with a hand piece connector structure (320) and a second attachment section connector structure (120b) that detachably mates in the attached state with a head section connector structure (220). 5
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12. Body grooming device according to claim 11, said hand piece connector structure (320) is arranged to be connectable with the head section connector structure (220). 15

13. Body grooming device according to one of claims 1 to 12, wherein the body grooming device (1) is realized as a device from the group consisting of an epilator device, a shaving device, a massaging device, a peeling device, an abrading device, and a rubbing device. 20

14. Attachment section for detachably connecting a head section (200) that comprises a drivable body grooming unit (230) and a hand piece section (300) that comprises a drive (330) of a body grooming device (1), the attachment section (100) comprising a power transmission unit (190) for transmitting power from the hand piece section (300) to the head section (200) in an attached state during operation. 25
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15. Kit comprising: 35
 - a head section (200) of a body grooming device (1) that comprises a drivable body grooming unit (230);
 - a hand piece section (300) that comprises a drive (330); and 40
 - a first attachment section (100; 100a) that comprises a power transmission unit (190);
 - wherein the first attachment section (100; 100a) is arranged so that it can be detachably coupled between the head section (200) and the hand piece section (300) so that the power transmission unit (190) transmits power from the hand piece section (300) to the head section (200) in an operation mode. 4550

16. Kit according to claim 15 that comprises at least a second attachment section (100b; 100c; 100d) comprising a power transmission unit (190) and said second attachment section differing from the first attachment section (100; 100a) at least in a geometrical parameter ($d1$; $\alpha1$) or in a function provided by the second attachment section (100b; 100c; 100d). 55

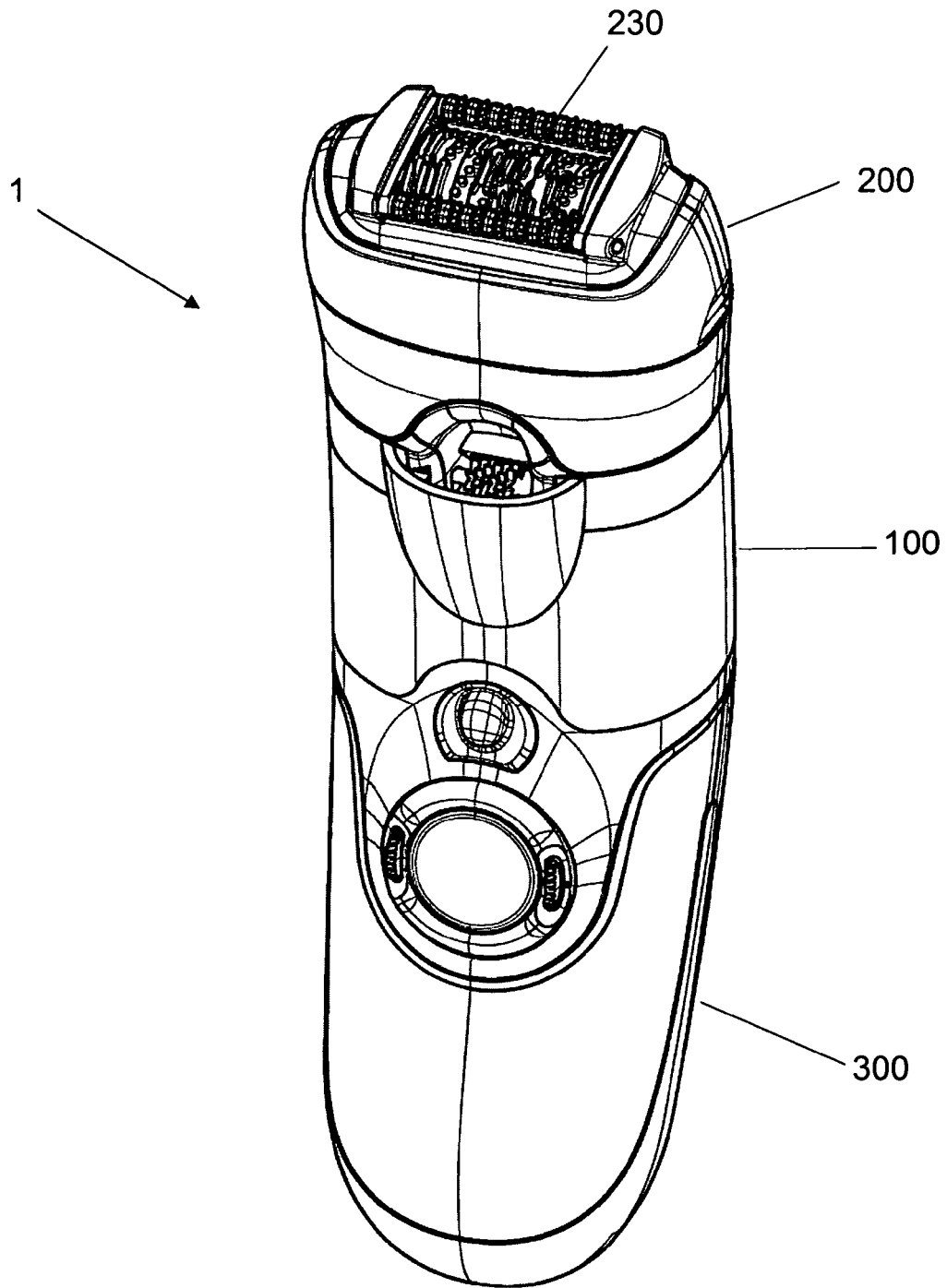


Fig. 1

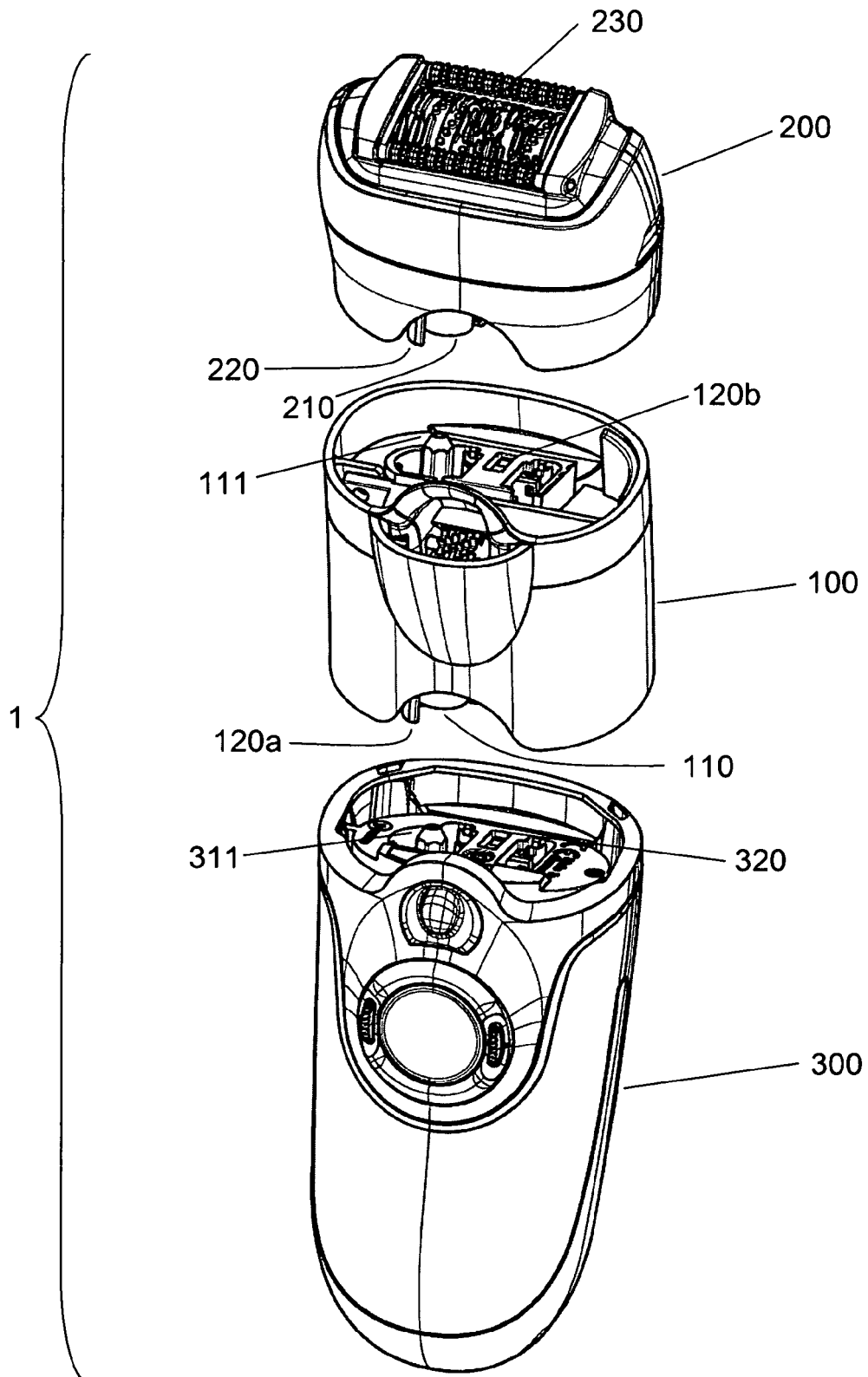


Fig. 2

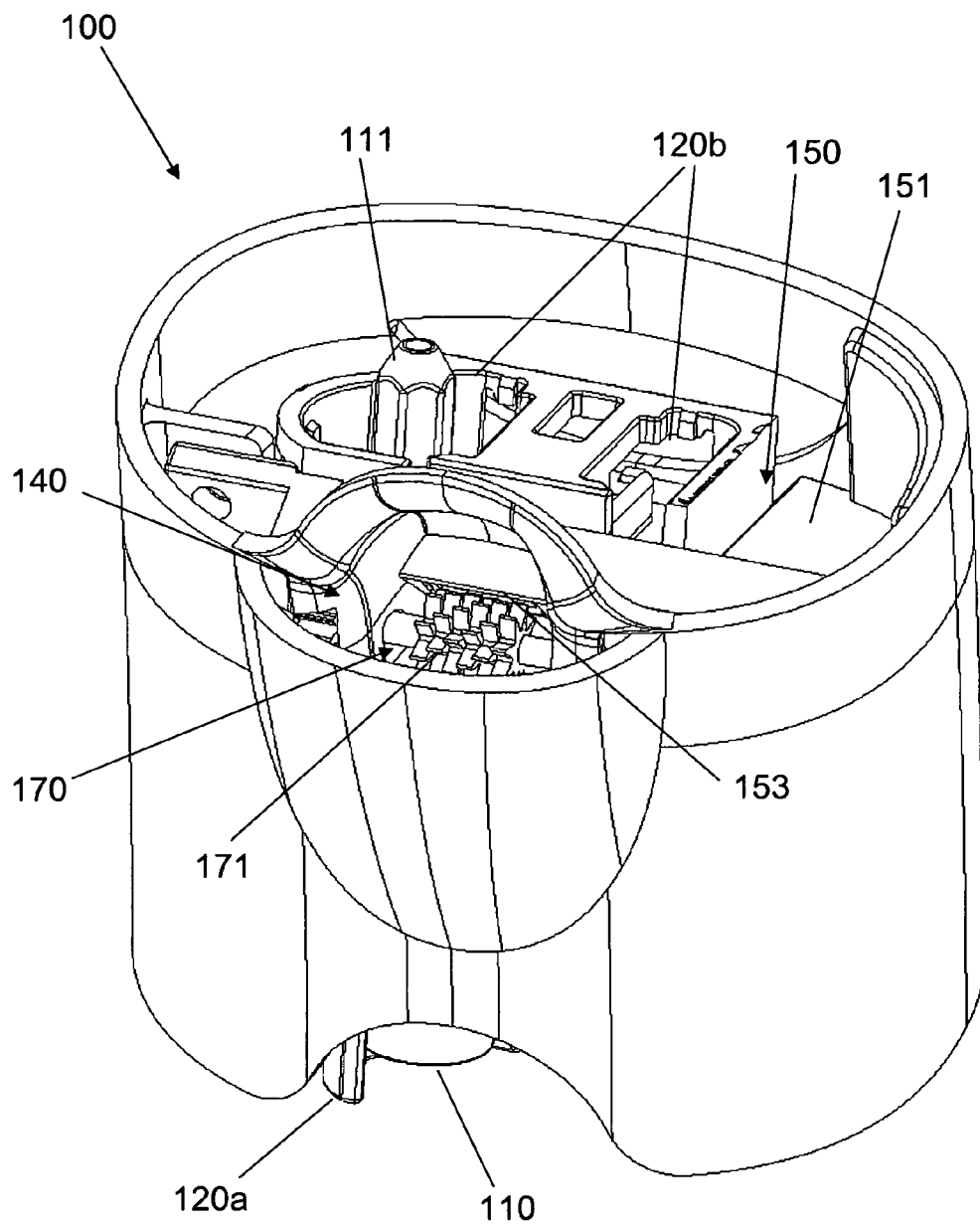


Fig. 3

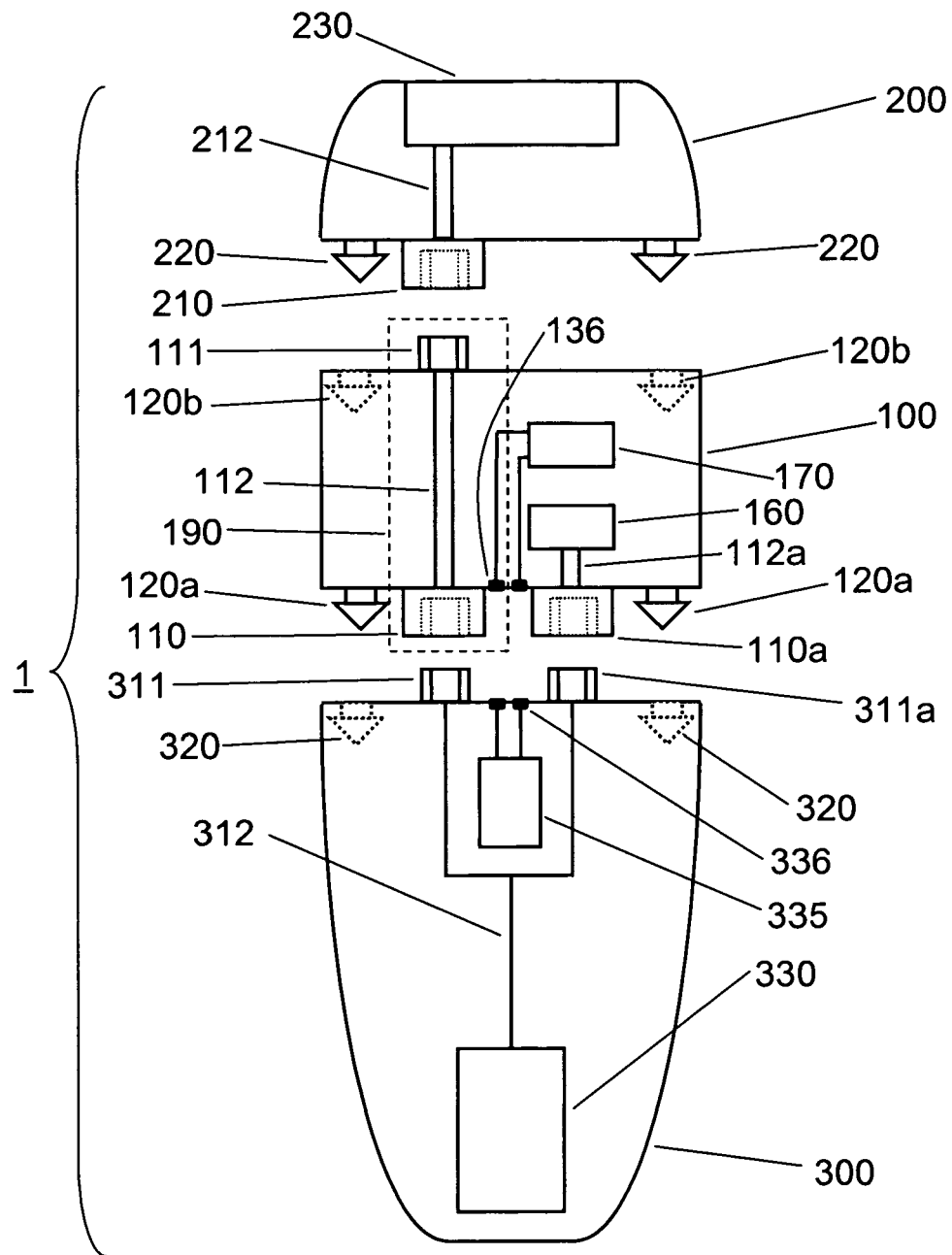


Fig. 4

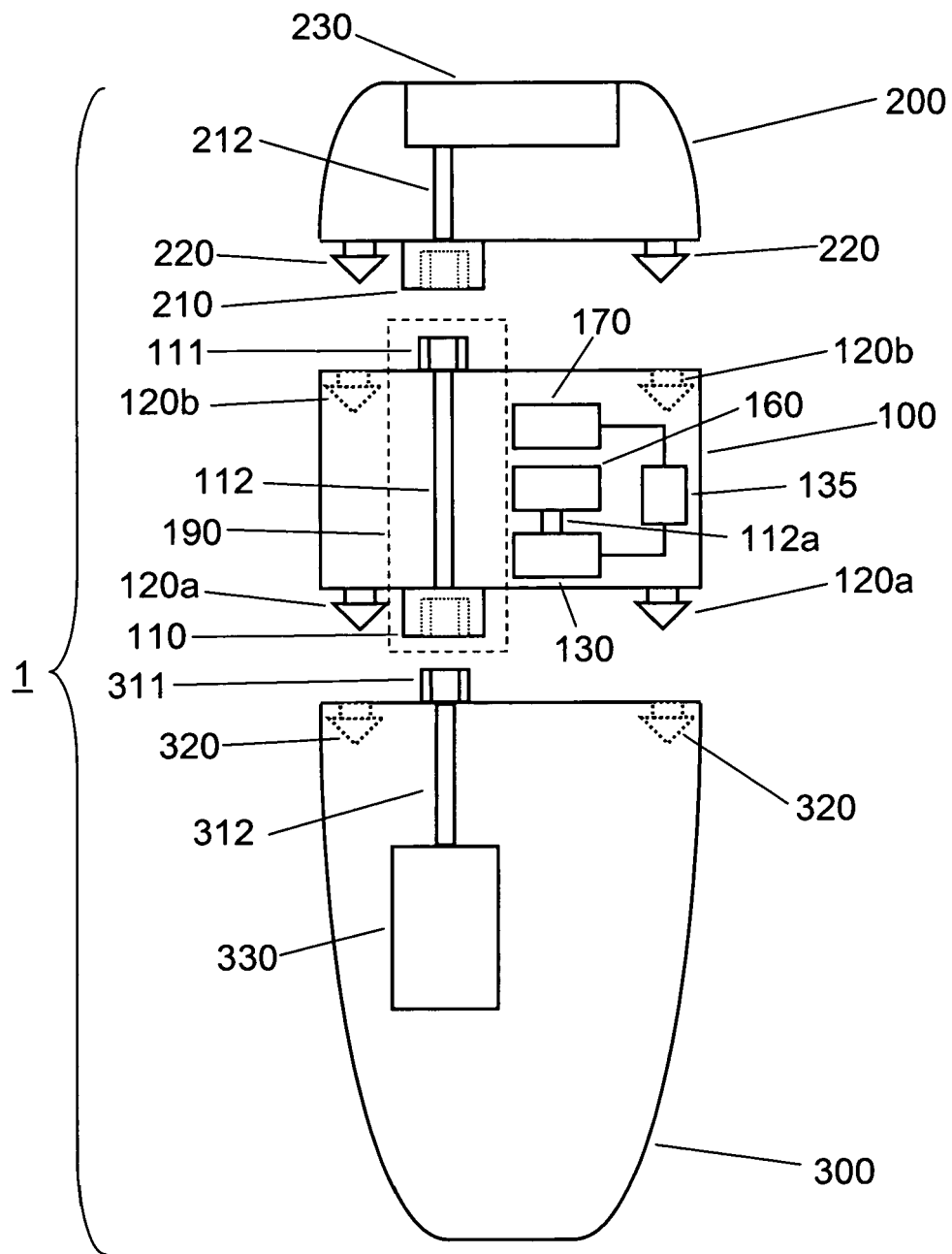


Fig. 5

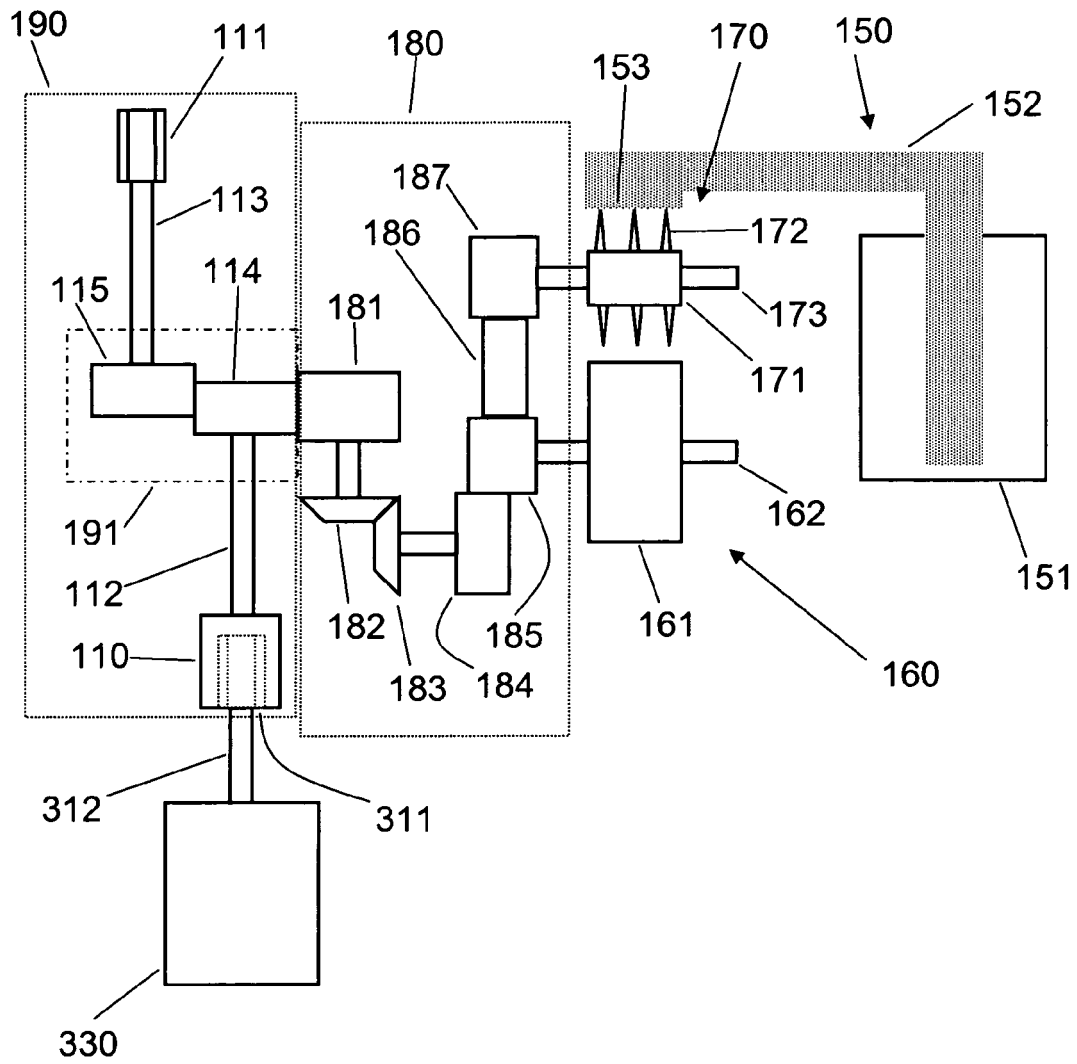
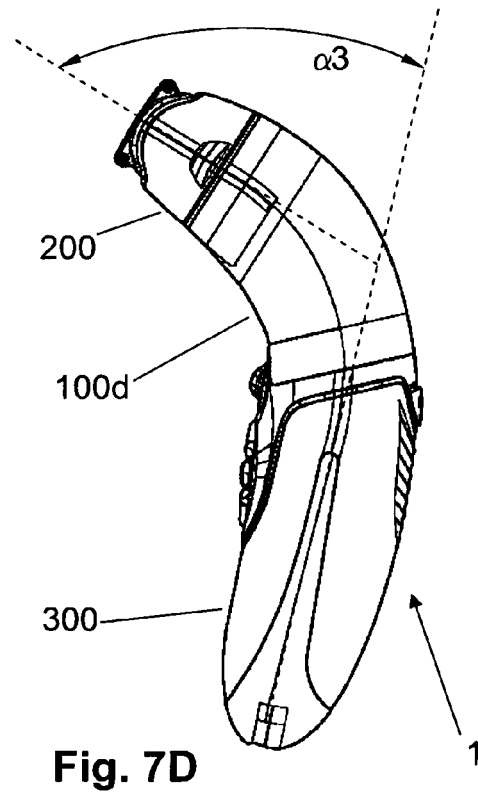
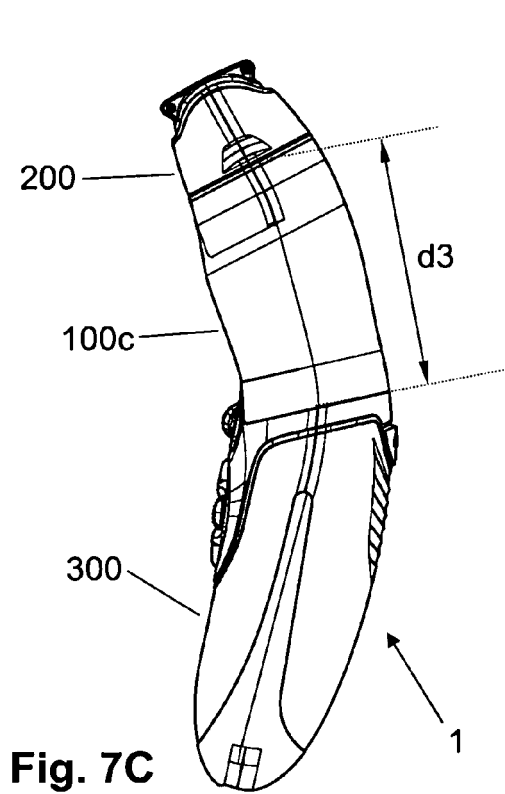
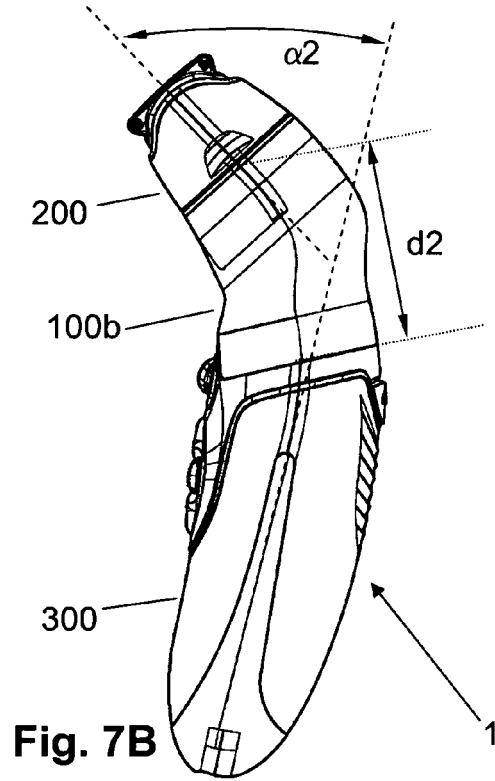
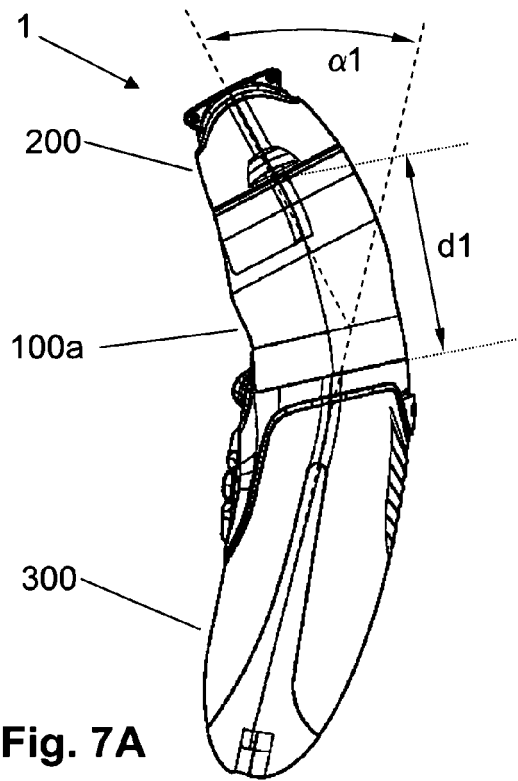


Fig. 6





EUROPEAN SEARCH REPORT

Application Number
EP 09 00 5019

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Munich		7 August 2009	Koob, Michael
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