

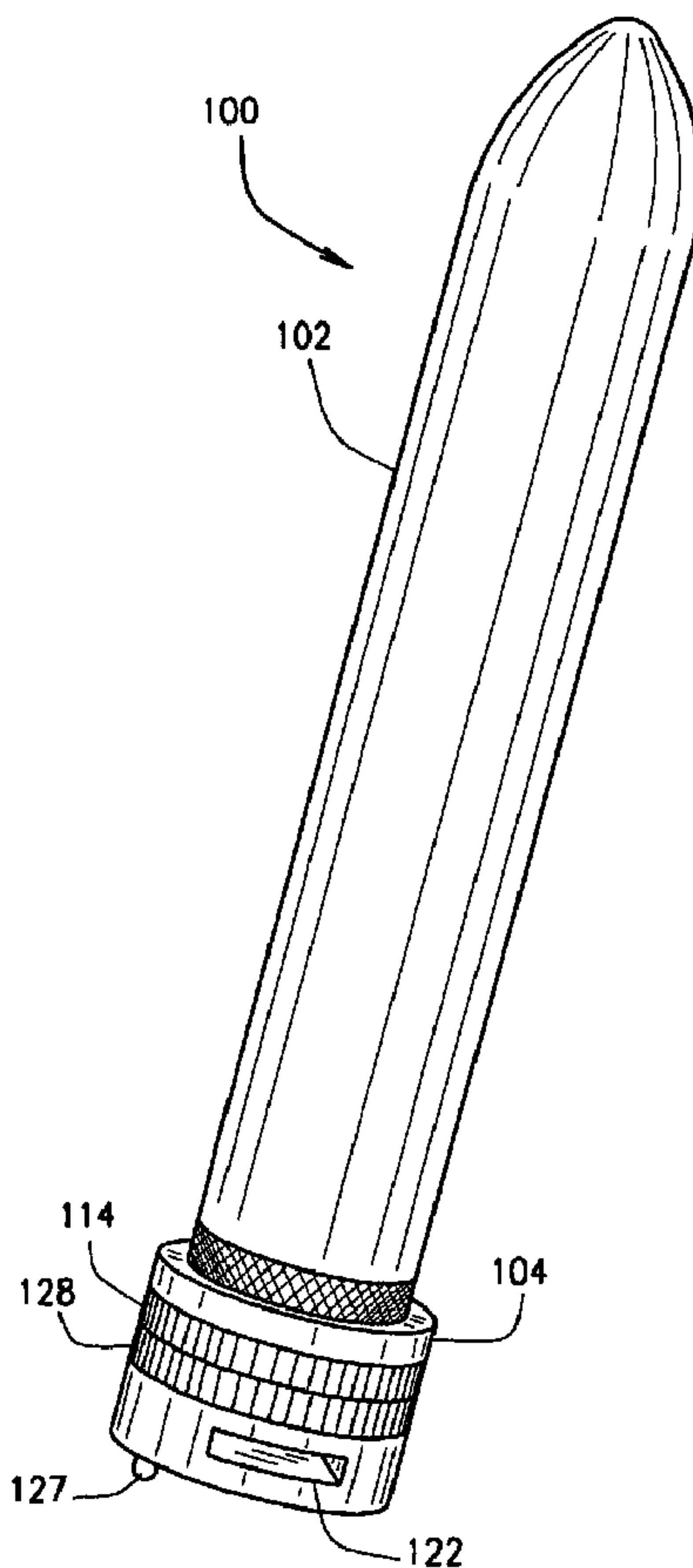


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(54) Title: SEXUAL STIMULATION DEVICE WITH AUDIO FEATURES



(57) Abrégé/Abstract:

A sexual stimulation device (100) according to one embodiment generally includes a housing (102) and at least one end cap (104) attached to the housing (102). The end cap (104) includes a data access device (120) for accessing audio data from a data

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device. The end cap (104) further includes a sound emitter (124) for emitting audio corresponding to the audio data accessed by the data access device (120) from the data device.

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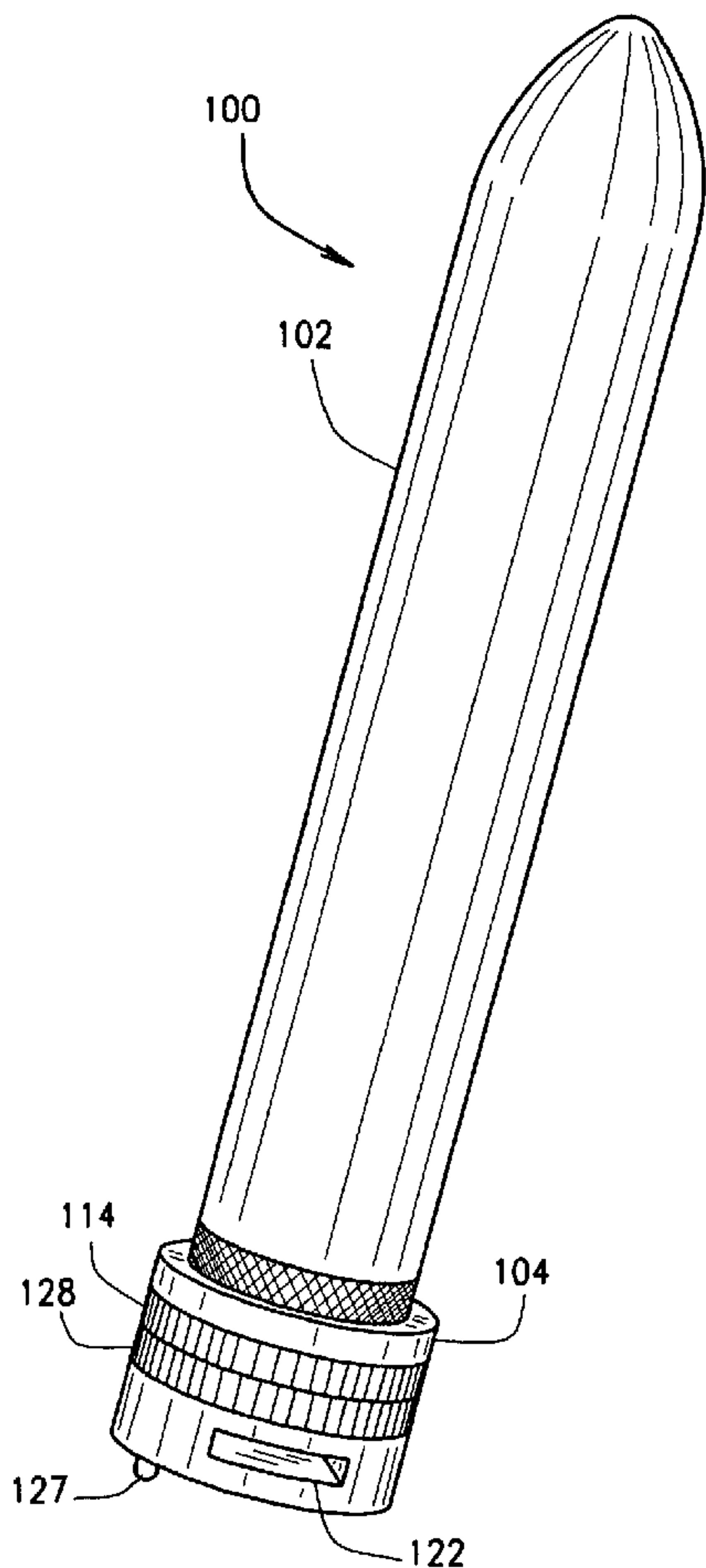
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(54) Title: SEXUAL STIMULATION DEVICE WITH AUDIO FEATURES



(57) Abstract: A sexual stimulation device (100) according to one embodiment generally includes a housing (102) and at least one end cap (104) attached to the housing (102). The end cap (104) includes a data access device (120) for accessing audio data from a data device. The end cap (104) further includes a sound emitter (124) for emitting audio corresponding to the audio data accessed by the data access device (120) from the data device.

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SEXUAL STIMULATION DEVICES AND TOYS WITH AUDIO FEATURES AND RELATED METHODS

FIELD

[0001] The present invention relates to sexual stimulation devices and toys that include features for playing prerecorded audio and/or personalized audio.

BACKGROUND

[0002] Dildos, vibrators, and other sex devices and toys are distributed throughout the world generally in sexual novelty shops and through Internet merchants. These devices can be used as adult sexual aids and/or given merely as gag gifts, for example, at an office party to embarrass the recipient. Usually, however, their primary purpose is that of a sexual stimulant.

[0003] Dildos and vibrators are usually phallic shaped so as to resemble the form (if not the size) of the penis or phallus. Typically, the term "dildo" generally refers to and includes phallic-shaped devices that are static or non-vibrating, while the term "vibrator" generally refers to and includes phallic-shaped devices that include a system for causing vibration of the device. But vibrators can also be shaped in other ways besides phallic shaped, and/or be provided such that they are not anatomically correct.

SUMMARY

[0004] According to one aspect of the present invention, a sexual stimulation device generally includes a housing and at least one end cap attached to the housing. The end cap includes a data access device for accessing audio data from a data device. The end cap further includes a sound emitter for emitting audio corresponding to the audio data accessed by the data access device from the data device.

[0005] Further aspects and features of the present invention will become apparent from the detailed description provided hereinafter. It should be understood that the detailed description and specific examples, while indicating exemplary embodiments of the invention, are intended for purposes of illustration only and are not intended to limit the scope of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] The present invention will become more fully understood from the detailed description and the accompanying drawings, wherein:

[0007] FIG. 1 is a perspective view of a phallic-shaped vibrator including an end cap having an audio system according to one embodiment of the present invention;

[0008] FIG. 2 is a view of the vibrator shown in FIG. 1 with a portion of the housing removed to illustrate the batteries, vibration-generating motor, and threaded engagement between the end cap and the housing;

[0009] FIG. 3 is an exploded perspective view of the vibrator device shown in FIGS. 1 and 2 with the end cap removed from the housing;

[0010] FIG. 4 is a schematic illustrating various components including audio components of the vibrator shown in FIGS. 1 through 3;

[0011] FIG. 5 is a block diagram illustrating various components including audio components and control circuitry for controlling operation of the vibrator shown in FIG. 1;

[0012] FIG. 6 is a schematic of another embodiment in which the vibrator end cap includes batteries for providing electrical power for operating both an audio system and a vibration-generating motor;

[0013] FIG. 7 is a schematic of another embodiment in which the vibrator end cap includes batteries for providing electrical power for operating the audio system, but the vibration-generating motor receives electrical power from a separate set of batteries;

[0014] FIG. 8 is a perspective view of a static or non-vibrating phallic-shaped device including an end cap having an audio system according to another embodiment of the present invention;

[0015] FIG. 9 is a schematic of the end cap shown in FIG. 8 and further illustrating the audio system and batteries for providing electrical power for operating the audio system;

[0016] FIG. 10 is a perspective view of a phallic-shaped device including an end cap with an outer surface resembling a figurine;

[0017] FIG. 11 is a perspective view of a phallic-shaped device and a plurality of interchangeable data devices each having audio data such that a

user can choose which audio is played by selecting from amongst the data devices;

[0018] FIG. 12 is a perspective view of a phallic-shaped device and a plurality of interchangeable end caps each having a data device with audio data such that a user can choose which audio is played by selecting and then attaching the selected end cap to the phallic-shaped device;

[0019] FIG. 13 is a perspective view of a phallic-shaped device having an end cap with an audio system and illustrating a remote control device for controlling operation of the phallic-shaped device according to another embodiment of the invention;

[0020] FIG. 14 is a perspective view of a phallic-shaped device having LEDs according to another embodiment of the invention;

[0021] FIG. 15 is a block diagram illustrating an exemplary system for personalizing or customizing audio to be played by a sexual stimulation device according to another embodiment of the invention;

[0022] FIG. 16 is a perspective view of a phallic-shaped vibrator including an end cap having an audio system according to another embodiment of the present invention;

[0023] FIG. 17 is a back perspective view of the vibrator shown in FIG. 16;

[0024] FIG. 18 is a perspective view of an end cap for a sexual stimulation device according to another embodiment of the invention;

[0025] FIG. 19 is a view of the end cap shown in FIG. 18;

[0026] FIG. 20 is a back view of the end cap shown in FIG. 19;

[0027] FIG. 21 is a view of a vibrator including an end cap having an audio system according to another embodiment of the present invention;

[0028] FIG. 22 is an exploded perspective view illustrating the end cap shown in FIG. 21 aligned for engagement with a battery holder also shown in FIG. 21;

[0029] FIG. 23 is a end elevation view of the end cap shown in FIG. 21; and

[0030] FIG. 24 is a side elevation view of the end cap shown in FIG. 21.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

[0031] The following description of various embodiments is merely exemplary in nature and is in no way intended to limit the invention, its applications, or uses. In addition, the teachings of the present invention can be applied in a wide range of devices, including non-vibrating devices and vibrating devices outside of the sex industry. For example, aspects of the invention can be applied to vibrators, vibrating dildos, static or non-vibrating dildos, replica vaginas, replica butts/bottoms, inflatable or blow-up female dolls, inflatable or blow-up male dolls, sexual devices that are not anatomically correct (e.g., pencil-type vibrator, bullet-type vibrator, rabbit-type vibrator, over-sized vibrators, double or triple headed vibrators, etc.) among other sexual stimulation devices, sex toys, etc. In addition, aspects of the invention can also be applied to devices and vibrating products that are not typically considered sex toys or sexual stimulation devices, but may nevertheless be used for sexual stimulation, such as back massagers, vibrating wands, etc. Accordingly, the specific references herein to sexual devices, such as vibrators, should not be construed as limiting the scope of the present invention to any specific form/type of sexual toy or device.

[0032] According to one aspect of the invention, a sexual stimulation device (e.g., phallic-shaped vibrator, etc.) generally includes a housing and at least one end cap attached to the housing. The end cap includes a data access device or means for accessing audio data from a data device. The end cap also includes a sound emitter or means for emitting audio. During operation, the sound emitter produces audio (e.g., voice messages, music, instructions, natural sounds, artificial sounds, etc.) corresponding to the audio data accessed by the data access device. This audio played by the sexual stimulation device can generally enhance the sexual experience while using the device. For example, the vibrator could play the user's favorite music, mood-enhancing music, sexually explicit audio, other audio programs, combinations thereof, etc. In some embodiments, the end cap is configured to resemble a figurine of a famous person, and the audio data includes voice messages with at least one predetermined speech characteristic (e.g., inflections, accents, a foreign language, etc.) coordinated or associated with the famous person.

[0033] Another aspect of the present invention provides an end cap for a sexual stimulation device or toy, such as a phallic-shaped vibrator. In one embodiment, the end cap is configured to be retrofit (e.g., threadably engaged, etc.) onto an existing sexual stimulation device to thereby provide the device with audio capabilities. For example, an existing end cap of a phallic-shaped vibrator (or other sexual stimulation device or toy) can be removed and replaced with an end cap having a data access device and a sound emitter.

[0034] In another aspect of the invention, the invention provides a plurality of interchangeable data devices each having audio data. By selecting from amongst the interchangeable data devices, the user can thus select the audio that is played by the sexual stimulation device (e.g., phallic-shaped vibrator, phallic-shaped dildo, among other sexual stimulation devices and toys).

[0035] In yet another aspect, the invention provides a plurality of interchangeable end caps. Each end cap includes a data device having audio data, and a data access device or means for accessing the audio data. Each end cap also includes a sound emitter or means for emitting audio that corresponds to the audio data. Accordingly, the user can thus select which audio is played by selecting an end cap and then attaching the selected end cap to the sexual stimulation device (e.g., phallic-shaped vibrator, phallic-shaped dildo, among other sexual stimulation devices and toys).

[0036] Further aspects include methods of using such sexual stimulation devices and toys, end caps, and audio features thereof. For example, various methods include customizing the audio data for playback by a phallic-shaped vibrator, dildo, or other sex toy as described herein.

[0037] Any of the aspects and embodiments of the present invention can be used individually or in combination with any one or more of the other aspects and embodiments of the present invention. In addition, further aspects and features of the present invention will become apparent from the description herein. It should be understood that the description and specific examples herein, while indicating exemplary embodiments of the invention, are intended for purposes of illustration only and are not intended to limit the scope of the invention.

[0038] Referring now to FIGS. 1 through 3, there is shown a generally phallic-shaped or phallic device, generally indicated by reference number 100 according to one embodiment of the present invention. As shown, the phallic device 100 includes a housing 102 and an end cap 104.

[0039] In the particular illustrated embodiment, the outside of the housing 102 is generally phallic-shaped so as to resemble the form (if not the size) of a human penis. The housing 102 can be provided in various sizes and colors, some which are anatomically correct and others that are not anatomically correct. In addition, a wide range of materials can be used for the housing 102, including rubber, gel foams, plastics, silicone, and other suitable materials. In various embodiments, the housing 102 is configured (e.g., sized, shaped, colored, formed of a material, etc.) in a manner similar to existing commercially available dildos and vibrators. As described herein, various embodiments include an end cap that is retrofit onto an existing sexual stimulation device, such as a vibrator. Again, however, aspects and teachings of the present invention are not limited to phallic-shaped vibrators and dildos.

[0040] As shown in FIGS. 2 and 3, the housing 102 defines a generally hollow cavity 106 in which is positioned a motor 108 and batteries 110 for providing electrical power for operating the motor 108. When electrically connected to the batteries 110, the motor 108 causes the housing 102 to vibrate. Accordingly, the phallic device 100 of this embodiment is a portable handheld "vibrator". Alternatively, other embodiments do not include a vibration-causing motor, such as the static or non-vibrating phallic device or dildo 400 (FIGS. 8 and 9) that includes an end cap 404 having an audio system. As shown in FIGS. 8 and 9, the dildo end cap 404 includes a push-button switch 427 for turning on/off the audio system, and a volume control switch 428 in the form of a rotatable annular ring.

[0041] FIG. 2 illustrates two AA batteries 110 positioned with the housing 102. Alternatively, other suitable power sources can be used for providing electrical power to the motor 108, including other battery types, battery sizes, renewable batteries, rechargeable batteries, disposable batteries, etc. In some embodiments, the motor 108 can receive electrical power from a power source external to the housing 102. For example, the

housing 102 may include an AC adapter port into which an electrical cord is plugged such that the motor 108 receives electrical power through the electrical cord from a standard wall outlet. Or, for example, the motor 208 within the housing 202 can receive electrical power via connectors 218 from one or more batteries 210 within the end cap 204, as shown in the phallic device 200 of FIG. 6.

[0042] With further reference to FIGS. 1 through 5, the phallic device 100 includes at least one switch for controlling operation of the motor 108. As shown in FIGS. 4 and 5, the phallic device 100 includes the switch 114 for switchably connecting the motor 108 to the batteries 110. The switch 114 may also allow the user to adjust the rate of speed and/or manner of vibration. Alternatively, the phallic device may include a first "ON/OFF" switch for activating and deactivating the vibration-generating motor, and a second "variable speed switch" switch for controlling the rate and/or type of vibration. In other embodiments, the vibration may be constant such that the switch 114 is only used to turn on or turn off the vibration features.

[0043] In addition, various embodiments include the switch 114 being used to control the operation of the audio features as well. That is, the manner in which the operation of the vibration feature is controlled may also be used for controlling operation of the audio system. Alternatively, and as shown in figures and described herein, there may be separate (or at least partially separate) systems for controlling the operation of the audio features and the vibration feature. Various embodiments includes means (e.g., switch 114, etc.) for controlling operation of the vibration feature that is entirely independent and distinct from the means (e.g., on/off push-button switch 127, volume control switch 128, etc.) for controlling operation of the audio features. As shown in FIG. 3, the switch 114 can be used to control the operation of the motor 108, and the push-button switch 127 can be used to control the audio features.

[0044] By allowing a user to control the operation of the vibration independent of the audio, various embodiments advantageously allow the user to independently adjust the audio and the vibration (and noise created thereby) so that the user can still hear the audio while using the vibrating device, for example, to achieve sexual gratification. For example, the user can

increase the volume of the audio and/or decrease the intensity of the vibration so that the noise created by the vibration does not drown out the audio.

[0045] As shown in FIGS. 1 through 4, the end cap 102 includes switch 114 for controlling operation of the motor 108. In the illustrated embodiment, the switch 114 is a rotationally adjustable annular ring that is provided on the end cap 104. By rotating the ring relative to a longitudinal centerline axis of the device 100, the user can control the operation of the motor 108. For example, the user can rotate the ring to turn on/off the motor 108, and/or adjust the vibration speed (increase or decrease) depending on the direction and amount of rotation of the ring 114. Alternatively, the rotationally adjustable ring 114 can be disposed around a portion of the housing 102. In addition, other suitable switches can be implemented for controlling operation of the motor 108, including push-button switches, electrical terminals (e.g., externally disposed on the end cap 104 or housing 102) for switchably connecting the motor 108 to the batteries 110 when the electrical terminals are placed in contact with the user's body, motion-responsive switches, light-sensitive switches, temperature-sensitive switches, compression switches, voice activated switches, etc. For example, a push-button switch may be provided on the end cap and/or the housing that allow the user to turn on/off the vibration feature and/or cycle through various vibration modes by successively pressing the push-button switch.

[0046] Further embodiments include a remote control device that can be used to control the operation of the vibration-generating motor and/or audio system. For example, FIG. 13 illustrates a phallic-shaped device 800 which is remotely controllable with an external transmitter or remote control device 814. The phallic device 800 includes a controller 816 within the end cap 804 (although the controller 816 can also be positioned within the housing 802 or at other suitable locations). The controller 816 is capable of receiving signals 818 from the remote control 814. In some embodiments, the controller 816 receives signals 818 (wirelessly) from the remote control device 814 (e.g., wireless signals communicated between antennae, electromagnetic wave energy, cellular phone, RF energy or radio transmissions, etc.). Other embodiments include the remote control device 814 being wired to the phallic device 800 such that the controller 816 receives signals 818 from the remote

control device 814 through one or more wire(s) connecting the remote control device 814 to the phallic device 800. In such embodiments, the remote control device 814 can also include batteries (or other suitable power source) that provide electrical power to the device 800 through the wire(s).

[0047] Signals 818 received by the controller 816 provide information to the controller 816 for causing the controller 816 to select a particular vibration mode (e.g., on/off, fast vibrations, slow vibrations, pulsating, wave, randomly changed rhythms, etc.). Accordingly, the vibration mode can thus be remotely controlled by a user via the external remote control 814. As described herein, various embodiments also or alternatively include the remote control device being used to remotely control the audio features as well. In FIG. 13, the remote control 814 includes a first button 815 for controlling operation of the vibration-generating motor, and a second button 817 for controlling operation of the audio system within the end cap. The remote control 814 can also include an audio system (e.g., one or more computer chips 819) for playing audio, such as prerecorded messages or music (e.g., mood-enhancing music, etc.).

[0048] Referring back to FIGS. 1 through 5, the end cap 104 and the audio system will now be described for this particular illustrated embodiment. As shown, the end cap 104 is threadably engaged to the housing 102. Accordingly, the end cap 104 can be readily removed from the housing 102 if the user wants to access the cavity 106 within the housing 102, for example, to replace the batteries 110. Alternatively, other suitable fastening methods can be employed for removably engaging the end cap 104 to the housing 102, such as interference or friction fits, resilient ribs, combinations thereof, etc. In yet other embodiments, the end cap 104 is fixedly attached to or integral with the housing 102. In various embodiments, a waterproof seal is formed generally between the end cap 104 and housing 102 when the end cap 104 is engaged to the housing 102.

[0049] The end cap 104 includes an audio system. The end cap 104 also includes connectors 118 for switchably connecting the audio system to the batteries 110 when the end cap 104 is threadably engaged to the housing 102. As shown in FIG. 2, two AA batteries 110 are positioned with the housing 102. Alternatively, other suitable power sources can be used for providing

electrical power to the audio system, including other battery types, battery sizes (e.g., watch batteries, etc.), renewable batteries, rechargeable batteries, disposable batteries, etc. In some embodiments, the motor 108 and audio system each receive electrical power from a different power source. For example, FIG. 6 illustrates an embodiment in which the end cap 204 includes batteries 210 for providing electrical power for operating the audio system and the vibration-generating motor 208. Or, for example, FIG. 7 illustrates an embodiment in which the end cap 304 includes batteries 310 for providing electrical power for operating the audio system, but the vibration-generating motor 308 receives electrical power from a separate set of batteries 311 within the housing 302. In other embodiments, the audio system and/or vibration-generating motor can receive electrical power from a power source external to the phallic device. As yet another example, the end cap may include an AC adapter port into which an electrical cord is plugged such that the audio system and/or vibration-generator motor receives electrical power through the electrical cord from a standard wall outlet.

[0050] The audio system includes means for accessing audio data from a data device. The audio system also includes means for producing audio (e.g., voice messages, music, instructions, other sounds, etc.) corresponding to the audio data. As shown in FIG. 5, the means for accessing audio data comprises data access device 123, and the means for emitting sound comprises speaker 124.

[0051] The speaker 124 is encapsulated within the end cap 104, although this is not required for all embodiments. The speaker 124 is connected to an amplifier 126. In one particular embodiment, the speaker 124 is generally circular and has a diameter of about thirty-six millimeters. Alternatively, other shapes, sizes, and types of speakers can be used, depending, for example, on the particular shape and size of the end cap 104.

[0052] In various embodiments, the level of sound emitted by the speaker 124 can be adjustably controlled by a volume control, e.g., rheostat. In the illustrated embodiment, the volume control is a rotationally adjustable annular ring 128 (FIGS. 1 and 5) provided on the end cap 104. By rotating the ring 128 relative to a longitudinal centerline axis of the phallic device 100, the user can increase or decrease the volume depending on the direction of

rotation of the ring 128. Alternatively, other suitable switching mechanisms can be used for controlling the sound volume of the speaker. For example, a wired and/or wireless remote control device can be provided that is used to control the volume of the speaker.

[0053] The phallic device 100 further includes at least one switch 127 for switchably connecting the audio system to the batteries 110. As shown in FIGS. 1 and 3, the phallic device 100 includes three switches, namely, the vibration control switch 114, the audio system on/off switch 127, and the volume control switch 128. In this particular illustrated embodiment, the switches 114 and 128 are annular rotational rings, and the switch 127 is a push-button switch. Alternatively, other switching mechanisms and arrangements can be implemented.

[0054] For example, another embodiment includes a rotationally adjustable annular ring provided on the end cap (or the housing) that is rotatable relative to a longitudinal centerline axis of the phallic device. By rotating this ring, the user can turn the audio system on/off and increase/decrease the volume depending on the rotational direction of the ring. In other embodiments, this ring additionally or alternatively allows the user to select the audio data to be played. By way of example, the user may be able to rotate the ring to cycle through different computer chips or different data devices within the end cap, to select from different data transmissions from an external source (e.g., radio transmissions or communications (e.g., citizens band (CB), wireless signals or transmissions communicated between antennae, electromagnetic wave energy, RF energy, satellite transmissions, television transmissions, walkie-talkie transmissions, combinations thereof, etc.), and/or to select from different audio data stored at an external source (e.g., Internet website, Intranet, server, etc.).

[0055] Further embodiments include other suitable switches for controlling operation of the audio system, such as push-button switches, electrical terminals (e.g., externally disposed on the end cap 104 and/or housing 102) for switchably connecting the audio system to the batteries 110 when the electrical terminals are placed in contact with the user's body, motion-responsive switches, light-sensitive switches, temperature-sensitive switches, compression switches, voice activated switches, etc. One

exemplary embodiment includes a push-button switch provided on the end cap and/or the housing that allows the user to turn on/off the audio system and to also cycle through different audio (e.g., cycle through different computer chips, different data devices within the end cap, etc.) by successively pressing the push-button switch.

[0056] Further embodiments include a remote control device that can be used to control the operation of the vibration-generating motor and/or audio features. For example, FIG. 13 illustrates a phallic device 800 which is remotely controllable with an external transmitter or remote control device 814. The phallic device 800 includes a controller 816 within the end cap 804, although the controller 816 can also be positioned within the housing 802 or at other suitable locations. The controller 816 is capable of receiving signals 818 from the remote control 814. In some embodiments, the controller 816 receives signals 818 (wirelessly) from the remote control device 814 (e.g., wireless signals communicated between antennae, electromagnetic wave energy, cellular phone, RF energy or radio transmissions, etc.). Other embodiments include the remote control device 814 being wired to the phallic device 800 such that the controller 816 receives signals 818 from the remote control device 814 through one or more wire(s) connecting the remote control device 814 to the phallic device 800. In such embodiments, the remote control device 814 can also include batteries (or other suitable power source) that provide electrical power to the device 800 through the wire(s).

[0057] Signals 818 received by the controller 816 provide information to the controller 816 for causing the controller 816 to turn on/off the audio system and/or to select the particular audio to be played by the audio system. Accordingly, the operating mode for the audio system can thus be remotely controlled by a user via the external source 814. As described herein, various embodiments also or alternatively include a remote control device that allows the user to remotely control the vibration features, if any, of the sexual stimulation. In FIG. 13, the remote control 814 includes a first button 815 for controlling operation of the vibration-generating motor, and a second button 817 for controlling operation of the audio system within the end cap. The remote control 814 can also include an audio system (e.g., one or

more computer chips 819) for playing audio, such as prerecorded messages or music.

[0058] With reference back to FIGS. 2, 4, and 5, the data device in this particular embodiment comprises a MASK ROM (Read Only Memory) or ISD (Information Storage Device) cartridge 120 sized to be received within a cartridge insert slot or opening 122. As shown in FIG. 4, an edge connector 125 is positioned within the slot 122. Accordingly, when the cartridge 120 is positioned within the slot 122, audio data on the cartridge 120 is accessible to a data access device 123 within the end cap 104 such that the data access device 123 can then interpret and/or translate the audio data on the cartridge 120. Optionally, the cartridge 120 can be provided with a key ring 121 (or other suitable device) for assisting the user in handling the cartridge 120, such as when removing the cartridge 120 from the slot 122.

[0059] As shown in FIG. 11, a plurality of interchangeable MASK ROM cartridges 620 (or other data devices) may be provided in order to enable a user to select which audio is played by the end cap 604 of the sexual stimulation device 600. Each cartridge 620 has different audio data thereon such that the particular audio played will be determined by which cartridge 620 is positioned in the slot 622. Accordingly, the user can change the audio by removing an existing cartridge 620 from the slot 622, if there is one, and then inserting another cartridge 620 into the slot 622.

[0060] Alternatively, other data devices can be used with a sexual stimulation device or toy of the present invention. Exemplary data devices include flash memory cards, memory sticks, other ROM storage devices, other computer readable media for storing audio, random access memory (RAM), read/writable data devices, MP3 players, etc. In various exemplary embodiments, a sexual stimulation device includes an MP3 player. MP3 generally refers to the Moving Picture Experts Group (MPEG) Layer-3 Audio (audio file format/extension) standard used especially for digitally transmitting music over the Internet.

[0061] The particular type/form of data device used can depend, for example, on the particular type/form data access device within the end cap. Conversely, the particular type/form of data access device within the end cap can depend, for example, on the particular type/form data device(s) to be

used. In various embodiments, the data device and data access device are relatively small so that the sexual stimulation device or toy remains a portable hand-held device.

[0062] Various embodiments include writable data devices such that a user can modify (e.g., add, delete, update, re-record, etc.) audio data on the writable data device. In some embodiments, a user can create personal, individualized, customized personal messages that are written to the data device, wherein the personal messages can be then be played while using the sexual stimulation device. For example, personalized messages can be played one after another without interruption even though the messages were created or recorded at different times. The user can also delete or update messages, for example, by recording new or more current messages. In various embodiments, the personalized messages can be played simultaneously with prerecorded audio. For example, recorded voice messages may be played with background prerecorded music or sounds.

[0063] Various embodiments allow a user to customize audio data by selectively downloading audio data from a remote source, such as Internet website, an Intranet website, a computer, combinations thereof, etc., to a data device for later playback by the sexual stimulation device. For example, and as shown in FIG. 15, a user can first remove a read/write data device 1020 from the end cap 1004 (or use a blank data device 1020), and insert the data device 1020 into a data device slot of a network device 1036 (e.g., personal desktop, notebook computer, laptop computer, etc.). The user can then operate the network device 1036 to access an Internet website 1040 (or other data sources accessible to the network device, etc.), and select audio data therefrom that is downloaded to the data device 1020. Or, for example, a user may download data stored directly on the network device 1036 to the data device. In either case, after downloading, the user can position the data device 1020 into the slot of the end cap 1004 such that the audio data downloaded to the data device 1020 can be accessed and played by the sexual stimulation device 1000.

[0064] Also shown in FIG. 15, the data device 1020 can be used with a remote device 1044, wherein the remote device 1044 records a user's voice and then writes audio data corresponding to the recorded voice to the

data device 1020. In one particular embodiment, the remote device 1044 comprises a cradle or voice recorder (which may be relatively small such as three inches by four inches, etc.) to allow the user to customize the audio on the chip, cartridge, or other data device 1020. In such embodiments, a user can remove an existing data device 1020 from the end cap 1004 or use a blank data device 1020. The user can then insert the data device 1020 into a data device slot of the remote device 1044. The remote device 1044 can record the user's voice message(s) and write corresponding audio data to the data device 1020. The user can remove the data device 1020 from the remote device 1044, and position the data device 1020 into the slot of the end cap 1004 such that the recorded voice messages can be accessed and played. In further embodiments, the end cap can include a microphone that records the user's voice, and means for writing audio data corresponding to the recorded voice to the data device.

[0065] Accordingly, the cradle or other remote device 1044 provides users with the opportunity to customize their own recordings in addition, or as an alternative, to relying on the Internet (or other remote source) for making custom recordings. But when custom recordings are made "offsite" (given from one person to another from a remote location), the Internet (or other remote source) can be used for making the custom recordings used in conjunction with the "cradle" and a hot wire or fire wire. Additionally, or alternatively, various embodiments can permit the user to coordinate a telephone recording with an Internet website (or other network site) as a means of making the customized voice modules and recordings.

[0066] By way of example only, various embodiments include sexual stimulation devices in combination with one or more of the systems for producing audio or voice messages described in U.S. Patent No. 5,570,414 entitled "Voice Message Keepsake System"; U.S. Patent No. 5,490,206 entitled "Voice Message Keepsake System"; U.S. Patent No. 5,425,078 entitled "Voice Message Keepsake System"; and/or U.S. Patent No. 6,356,626 entitled "Point to Point Voice Message Processor, Method and Recording/Playback Device", the contents of which are incorporated herein by reference. In one such embodiment, a sexual stimulation device is used in combination with a system for producing voice messages that can be played

back by the sexual stimulation device. Generally, the system includes a message processor which may be accessed over a plurality of communication links, such as telephone lines. The processor may be so accessed by means of a customer's communication set, such as a conventional telephone set, or by means of a subscriber set, and it is capable of distinguishing the two. When accessed by a customer's set, the processor permits the caller to create a temporary mailbox associated in which he may then record a voice message. When called by a subscriber set, the processor permits previously created mailboxes to be accessed and will transfer a message recorded therein to the subscriber set. The subscriber set includes a receptacle for receiving a voice message, and it will record thereon stored messages provided from the message processor, under control of the message processor.

[0067] As just described, various embodiments (as shown in FIG. 15) allow audio data to be downloaded directly from an Internet website 1040 (or other network site, such as an Intranet website, etc.) to the audio system. In such embodiments, the person downloading the audio can be charged before, after, or while downloading the audio. For example, the person may be unable to download audio until authorization is provided to charge a valid/verified credit card for the fee associated with the audio. Or, for example, the person may have to login to a password-protected user account to download audio data. In which case, a bill for the audio may then being sent to the physical address associated with the user account, or the credit card associated with user account may be charged.

[0068] The ability to record personal messages can be advantageous. For example, an individual may record personal messages, and then give the sexual stimulation device with the personally recorded messages as a gift to a lover. Various embodiments also provide users with the opportunity to re-record messages over existing personal messages, thus enabling users to keep messages fresh and up-to-date by updating the messages periodically. The ability to leave customized messages which are later played while using a sexual stimulation device of the present invention can heighten the sexual response.

[0069] Because some people are uncomfortable with recording personalized messages, one or more templates can be provided. For example, one embodiment allows a person (e.g., a soldier stationed overseas) to speak his or her name and the name of a loved one (e.g., spouse, girlfriend, boyfriend, etc.). The spoken names are recorded and inserted into one or more predetermined locations of a prerecorded audio track. In this exemplary manner, audio data including the personalized recorded names may then be downloaded to a sexual stimulation device for playback.

[0070] Various embodiments include charging the person making the audio, for example, before or after the audio is produced. Alternatively, other embodiments can include charging or billing the person to whom the audio is distributed at the time of, before, or after the audio is distributed. In these alternative embodiments, a person may, for example, be unable to access the audio until authorization is provided to charge a valid/verified credit card for the fee associated with the audio to be distributed. Or, for example, the person may have to login to a password-protected user account to create or download audio data. In which case, a bill for the audio may then be sent to the physical address associated with the user account, or charged to the credit card associated with the user account.

[0071] Other embodiments include a service or system (e.g., 1-900 telephone number or sex line, etc.) that a user can dial to speak to another live person. With such a service, the user can be given the option of recording the telephone call and downloading the recorded audio for playback by a sexual stimulation device (e.g., 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1500, 1600, etc.).

[0072] In the illustrated embodiment shown in FIGS. 1 through 5, the data device 120 is removable from the end cap 104. In other embodiments, however, the data device 120 may be integrated into or fixedly disposed within the end cap 104. In such embodiments, the audio data may not be stored on a removable data device, like a MASK ROM cartridge. Instead, the audio data may be integrated or hardwired into the end cap or other portion of the sexual stimulation device. By way of example only, alternative embodiments include playback circuitry (and record circuitry in

some embodiments) mounted on a printed circuit board, which is disposed within an end cap of a sexual stimulation device. In other exemplary embodiments, a sexual stimulation device includes an MP3 player, for example, disposed within an end cap of the sexual stimulation device.

[0073] One embodiment includes an integrated circuit which is a single chip voice message system. In this embodiment, this voice message system permits recordation and playback of messages under the power of a battery (e.g., disk-type battery, etc.) removably mounted on the same circuit board as the chip, and a miniature speaker included on the circuit board permits the voice message to be heard. The recorded message is retained in non-volatile electronic form, and the circuit board, circuitry and battery may be contained in a housing, which, in turn, may be disposed in an end cap or other suitable location of a sexual stimulation device. In various embodiments, one or more computer chip(s) (e.g., ISD chip(s), prerecorded solid state memory chip(s) including prerecorded digitally encoded audio, etc.) include audio data that is communicated to a sound emitter (e.g., one or more speakers), which may also be disposed on the computer's chips supporting structure (e.g., substrate, printed circuit board, etc.). In response, the sound emitter emits audio consistent with the audio data from the computer chip(s). That is, the sound emitter audibly reproduces or plays back the audio data stored on the computer chip in audible form.

[0074] In one particular embodiment, a sexual stimulation device includes a single chip voice messages system, such as an ISD 1020 chip or other suitable chip available from Information Storage Devices, Inc. of San Jose, California. This device is capable of direct storage of analog signals on the chip and playback under electronic control. Furthermore, the storage is non-volatile such that a stored message can be retained indefinitely by the ISD chip without the need for a power supply.

[0075] In another embodiment, an end cap of a sexual stimulation device includes a plurality of computer chips, and at least one controller (e.g., rotary switch, push button switch, etc.) for allowing the user to select from amongst the plurality of computer chips. By selecting a particular computer chip, the user is thus able to select which audio is played.

[0076] Additionally, or alternatively, a sexual stimulation device may include means (e.g., wireless communication links, wired communication links, combinations thereof, etc.) for communicating, connecting and/or linking to a communication device or network (e.g., the Internet, an Intranet, a server, data storage device, etc.) to download audio data therefrom for playback by the audio system within the end cap. In such embodiments, the user may be charged a fee for each download or combination of downloads from the communication device or network. In various embodiments, a sexual stimulation device includes one or more of the audio features described in U.S. Patent Nos. 5,570,414; 5,490,206; 5,425,078; and/or 6,356,626. Alternatively, other suitable audio features can be included for enabling customized recordings.

[0077] Other aspects of the invention provide an end cap that can be retrofit onto an existing dildo, vibrator, or other sexual stimulation device in order to provide audio features to the existing device, thereby increasing its functionality and commercial appeal. For example, an existing end cap of a vibrator can be removed and replaced with an end cap having an audio system. In one embodiment, an end cap having audio features includes a threaded portion that is compatible with the threads of an existing vibrator housing. In this exemplary manner, a standard vibrator can be converted into a talking or other sound-producing vibrator by simply removing (e.g., unscrewing, etc.) the original end cap from the vibrator and threadably engaging an end cap having audio features onto the vibrator. To accommodate the audio system, the retrofittable end cap may be slightly larger than the existing end cap. The end cap can include one or more computer chips for playing personalized voice messages, instructions, music, natural sounds, artificial sounds, etc. Some embodiments include prerecorded solid state memory chip(s) having digitally encoded audio (e.g., prerecorded voice messages, music, etc. Additionally, or alternatively, other embodiments include one or more computer chip(s) that also allow the user to create and/or recreate personalized audio, such as voice messages and instructions.

[0078] The retrofitted end cap can also include a switch for controlling operation of the vibration feature (e.g., turn on/off, increase/decrease vibration speed, change vibration rhythm or pulsations,

etc.). Accordingly, these embodiments allow the vibrator to retain its original functions while providing audio capabilities by way of the retrofitted end cap. Accordingly, these embodiments can convert an existing vibrator having a user-controllable vibration feature (e.g., activating, deactivating, adjusting the speed, rhythm, etc.) into a more desirable product by retrofitting an end cap that not only maintains that user control of the vibration feature, but which also provides an audio feature for playing personally recorded and/or prerecorded messages.

[0079] In various embodiments, audio can be coordinated with the external appearance of the sexual stimulation device. For example, the device's housing can be provided in a particular color so as to resemble the skin color of a person of a particular nationality. In such embodiments, the audio may include prerecorded messages with predetermined speech inflections, patterns, accents, foreign language, stereotypical grammar, etc. associated with the particular nationality. Or, for example, the device housing can be tiger-striped in color, and the audio can include prerecorded messaging of a tiger roaring. As yet another example, the sexual stimulation device can be sized, shaped, and colored consistent with an elephant's penis, and the audio can include prerecorded elephant sounds. Such features may further increase the commercial appeal of a sexual stimulation device, for example, as a gag gift.

[0080] In various embodiments, end caps can be configured (e.g., shaped, sized, colored, etc.) to resemble recognizable objects, such as a caricature or figurine of a famous person, of the recipient of the device as a gag-gift, or of end-user of the device. The audio may include prerecorded messages coordinated with the recognizable object. For example, FIG. 10 illustrates a sexual stimulation device 500 having an end cap 504 shaped as a figurine 505. The sexual stimulation device is configured to play voice messages with speech inflections, patterns, accents, foreign language, stereotypical grammar, etc. associated with the particular figurine that the end cap resembles. In one exemplary embodiment, the figurine can resemble a French chamber maid or a person wearing a French beret, and the audio can include prerecorded voice messages in the French language or in English but with a French accent. As yet another example, an end cap resembles former

U.S. President William Clinton, with the audio effectively mimicking former President Clinton's speech inflections. The functionality of the end cap intended to resemble President Clinton (or other person) could remain the same or be substantially identical to the end caps in the other embodiments described herein. In further examples, the end cap can be customized for a particular customer such that the end cap resembles the particular customer. In such embodiments, the audio can include messages personally created by the customer. In which cases, the audio emitted by the device substantially matches the voice of the person that the end cap is intended to resemble.

[0081] FIG. 12 illustrates a plurality of interchangeable end caps 704 that can be attached to the housing 702 of the sexual stimulation device 700. Each end cap 704 includes a data device having audio data and a data access device or other means for accessing the audio data. Each end cap 704 also includes a sound emitter or means for emitting audio that corresponds to the audio data. Accordingly, the user can thus select which audio is played by selecting an end cap 704' and then attaching the selected end cap 704' to the phallic device housing 702.

[0082] In various embodiments, a sexual stimulation device or sex toy (e.g., 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1500, 1600, etc.) can also include at least one light source, and at least one power source for powering the light source. By way of example, FIG. 14 illustrates a phallic device 900 having a plurality of light-emitting diodes (LEDs) 930 that when switchably connected to a power source produces light 932 for illuminating the sexual stimulation device (or portion thereof). Alternatively, other suitable light sources may be used depending, for example, on the particular application and/or on user preferences. In addition, one or more of the LEDs may produce light that has at least one attribute (e.g., color, intensity, blink speed, hue, saturation, brightness, etc.) different than the light produced by at least one other LED. A lighted sexual stimulation device of the present invention can be configured to produce a wide range of colored light depending, for example, at least in part on user preferences.

[0083] The LEDs 930 may be configured to produce thematic light that is coordinated to the audio emitted by the audio system within the end cap 904. For example, the end cap 904 may play music (e.g., stars and

stripes, mood-enhancing music, etc.), and the LEDs may produce light 932 that pulsates (e.g., strobe-light effect, etc.) to the beat of the music and/or that is color-coordinated (e.g., red, white and blue, etc.) to the music.

[0084] The LEDs 930 can be coupled to (e.g., positioned within or embedded within, etc.) the housing 902. The housing 902, in turn, can be translucent or transparent to allow light 932 from the LEDs 930 to be transmitted therethrough. Additionally, or alternatively, LEDs can be coupled to (e.g., positioned within or embedded within, etc.) the end cap. In such embodiments, the end cap may be translucent or transparent to allow light from the LEDs to be transmitted therethrough.

[0085] The LEDs 930 can receive electrical power from the same power source as does the audio system and/or vibration-generating motor. Alternatively, the LEDs 930 can receive electrical power from a different power source than the audio system and/or the vibration-generating motor.

[0086] The sexual stimulation device 900 can also include a controller (e.g., an integrated circuit/printed circuit assembly and at least one switch) for controlling operation of the LEDs 930. In one embodiment, the LEDs 930 are controlled by the same controller and switch as the audio system. Alternatively, the means for controlling operation of the LEDs 930 can be separate and independent from the means for controlling operation of the audio features.

[0087] FIGS. 16 and 17 illustrate another sexual stimulation device 1200 having a generally phallic-shaped housing 1202, an end cap 1204, and an audio system. As shown in FIG. 17, one or more speakers 1224 are encapsulated within the end cap 1204. Holes 1225 are provided for allowing sound produced by the speaker 1224 to be more readily heard by the user of the device 1200.

[0088] As shown in FIG. 16, the end cap 1204 includes five pushbutton-type switches 1262, 1264, 1266, 1268, and 1270. By way of example only, these switches can be used to control the various vibration and audio features as follows. The center button 1262 can be used to control the vibration (e.g., turn on/off the vibration-generating motor 1208, etc.).

[0089] The button 1264 can be pressed to turn on/off the audio. The button 1266 can be pressed to increase/decrease the volume of the audio.

The button 1268 can be pressed to control the vibration, such as selecting the rate of vibration and/or to turn on/off the vibrator. The button 1270 can be pressed to select between two or more modes of vibration, such as steady vibrations, pulsating vibrations, wave vibrations, randomly changed rhythmic vibrations, etc.

[0090] Alternatively, a sexual stimulation device of the present invention can include more or less switches and buttons, in any other suitable configuration, and/or any other suitable switch type. For example, other embodiments include a dual-action vibrator. In these embodiments, the button 1262 is generally split into an upper portion for turning on/off the main vibration-generating motor, and a lower portion for turning on/off a second vibration-generating motor (not shown), which when activated causes the device housing to generally twirl or rotate in circles (commonly referred to as rabbit-style vibration).

[0091] With continued reference to FIG. 16, the end cap 1204 includes five LEDs 1230. Alternative embodiments can include more or less than five LEDs, different types of light sources, and/or light sources arranged in different orientations.

[0092] In various embodiments, the LEDs 1230 are configured (e.g., controlled by a controller, etc.) to produce light that is coordinated to the vibration intensity and/or vibration mode. For example, one embodiment controls the LEDs 1230 such that the number of illuminated LEDs 1230 corresponds with the intensity level of the vibration. That is, more LEDs 1230 are illuminated for higher levels of vibration intensity than for lower levels. In one embodiment, only one LED 1230 is illuminated for the lowest vibration setting or intensity, but all LEDs 1230 are illuminated for the highest or maximum vibration setting for the device 1200.

[0093] In various embodiments, the LEDs 1230 may be consecutively numbered or labeled (e.g., 1, 2, 3, 4, 5, etc.) to assist the user in determining which particular vibration setting and/or audio has been selected. For example, one embodiment includes illuminating only the LED 1230 labeled with the number that corresponds to the selected vibration setting, such as only illuminating the LED labeled "2" when the second vibration setting is selected. Another embodiment includes illuminating only

the LED 1230 labeled with the number that corresponds to the selected audio data. For example, if there are five different audio tracks available, the LED labeled "3" may be illuminated when the third of the five audio tracks is selected.

[0094] Also by way of example, the LEDs 1230 may produce light that changes and/or is controlled as a function of the vibration (e.g., vibration intensity and/or vibration mode). In one such embodiment, the LEDs 1230 produce light having at least one attribute (e.g., color, intensity, blink speed, hue, saturation, brightness, etc.) for one vibration mode and/or intensity that is different than the light produced by the LEDs 1230 during a different vibration mode and/or intensity. For example, the LEDs 1230 may produce bright green light when the vibration intensity is set to the highest setting, but the LEDs 1230 may produce dimmer yellow light when the vibration intensity is at its lowest setting. Or, for example, the LEDs 1230 may blink faster for higher vibration intensities than for lower vibration intensities.

[0095] FIGS. 18 through 20 illustrate another embodiment of an end cap 1304 having five pushbutton-type switches 1362, 1364, 1366, 1368, and 1370. These switches can be used to control the various vibration and audio features as follows. The center button 1362 can be used to control the vibration of the device. In one particular embodiment, the button 1362 is generally split into an upper portion 1362' for turning on/off the main vibration-generating motor, and a lower portion 1362" for turning on/off a second vibration-generating motor (not shown). When activated, the second vibration-generating motor causes the device housing to generally twirl or rotate in circles (commonly referred to as rabbit-style vibration).

[0096] The button 1364 can be pressed to turn on/off the audio. The button 1366 can be pressed to increase/decrease the volume of the audio. The button 1368 can be pressed to control the vibration, such as selecting the rate of vibration and/or to turn on/off the vibrator. The button 1370 can be pressed to select between two or more multiple vibration modes, such as steady vibrations, pulsating vibrations, wave vibrations, randomly changed rhythmic vibrations, etc. Alternatively, a sexual stimulation device of the present invention can include more or less switches and buttons, in any other suitable configuration, and/or of any other suitable switch type.

[0097] FIGS. 21 through 24 illustrate another embodiment of a sexual stimulation device 1500 that includes an end cap 1504 and an audio system. As shown, a MASK ROM or ISD cartridge 1520 sized to be received within a cartridge insert slot or opening 1522. An edge connector may be positioned within the slot 1522 such that when the cartridge 1520 is positioned within the slot 1522, audio data on the cartridge 1520 is accessible to a data access device within the end cap 1504. The data access device can interpret and/or translate the audio data on the cartridge 1520 for playback by the speaker 1524. Alternatively, other suitable data devices can be employed besides MASK ROM cartridges, and other suitable data access devices can be employed. By way of example only, various exemplary embodiments include a sexual stimulation device having an MP3 player, for example, disposed within the end cap of the sexual stimulation device.

[0098] As shown in FIG. 22, the battery holder 1512 defines a generally hollow cavity 1513 for holding the batteries that provide electrical power to the vibration-generating means 1508, LEDs 1530, audio system components, combinations thereof, etc. The battery holder 1512 can be configured for holding any suitable number of (i.e., one or more) and type/size of batteries (e.g., AA batteries, D batteries, C batteries, etc.), depending, for example, on the particular electrical power requirements for the sexual stimulation device. In one particular embodiment, the battery holder 1512 is configured (e.g., sized and shaped) to hold three AA batteries.

[0099] The end cap 1504 can include terminals or connectors for electrically connecting the LEDs 1530 and/or audio system components to the batteries within the battery holder 1512. The battery holder 1512 can also include terminals or connectors for switchably connecting the batteries to the vibration-generating means or motor 1508.

[0100] The housing 1502, battery holder 1512, and end cap 1504 can be engaged to one another in various ways, such as threaded unions, interference or friction fits, resilient ribs, combinations thereof, etc. In FIG. 21, the battery holder 1512 is shown positioned generally within the housing 1502 and maintained therein by the engagement of the end cap 1504 to the housing 1502.

[0101] As shown in FIG. 24, the end cap 1504 also includes five LEDs 1530. Alternative embodiments can include more or less than five LEDs, different types of light sources, and/or light sources arranged in different orientations.

[0102] In various embodiments, the LEDs 1530 are configured (e.g., controlled by a controller, etc.) to produce light that is coordinated to the vibration intensity and/or vibration mode. For example, one embodiment controls the LEDs 1530 such that the number of illuminated LEDs 1530 corresponds with the intensity level of the vibration. That is, more LEDs 1530 are illuminated for higher levels of vibration intensity than for lower levels. In one embodiment, only one LED 1530 is illuminated for the lowest vibration setting or intensity, but all LEDs 1530 are illuminated when the vibration intensity is set at the highest or maximum setting.

[0103] In various embodiments, the LEDs 1530 may be consecutively numbered or labeled (e.g., 1 through 5, etc.) to help the user more easily determine which particular vibration setting and/or audio has been selected. For example, one embodiment includes illuminating only the LED 1530 labeled with the number that corresponds to the selected vibration setting, such as only illuminating the LED labeled "2" when the second vibration setting is selected. Another embodiment includes illuminating only the LED 1530 labeled with the number that corresponds to the selected audio data. For example, if there are five different audio tracks available, the LED labeled "3" may be illuminated when the third of the five audio tracks is selected.

[0104] Also by way of example, the LEDs 1530 may produce light that changes and/or is controlled as a function of the vibration (e.g., vibration intensity and/or vibration mode). In one such embodiment, the LEDs 1530 produce light having at least one attribute (e.g., color, intensity, blink speed, hue, saturation, brightness, etc.) for one vibration mode and/or intensity that is different than the light produced by the LEDs 1530 during a different vibration mode and/or intensity. For example, the LEDs 1530 may produce bright green light when the vibration intensity is set to the highest setting, but the LEDs 1530 may produce dimmer yellow light when the vibration intensity is at its

lowest setting. Or, for example, the LEDs 1530 may blink faster for higher vibration intensities than for lower vibration intensities.

[0105] With continued reference to FIG. 24, the end cap 1504 also includes four pushbutton-type switches 1562, 1564, 1566, and 1568. In this particular exemplary embodiment, pressing button 1562 turns on/off the device 1500. Pressing button 1564 changes one or more functions of the device 1500 (e.g., turns on/off the audio, turns on/off the vibration, cycles through different audio selections, etc.). Pressing button 1566 increases the vibration speed, while pressing button 1568 decreases the vibration speed. Alternatively, a sexual stimulation device of the present invention can include more or less switches and buttons, in any other suitable configuration, and/or any other suitable switch type.

[0106] By way of example only, dimensions will now be provided for one particular embodiment of the device 1500. These dimensions, however, are provided for illustrative purposes only, and not for purposes of limitation. In the illustrative embodiment shown in FIG. 21, the housing 1502 is sized dimensionally such that its length (L1) is about one hundred ninety millimeters, and its width (W1) is about forty-five millimeters. Continuing with this particular embodiment, the housing 1502 includes a generally circular transverse cross-section or profile along the length (L1) with a maximum diameter (D1) of about sixty-two millimeters at the housing end portion adjacent the end cap 1504, and a width (W2) of about fifty millimeters. The housing 1502 also has a diameter (D2) of about forty-five millimeters along the outer portion of the housing 1502 before tapering downwardly at the outer end of the housing 1502.

[0107] The end cap 1504 is sized dimensionally such that its length (L3) is about fifty-five millimeters and its overall width (W3) is about thirty-nine millimeters. In this particular embodiment, the end cap 1504 includes a generally circular transverse cross-section or profile (as shown in FIG. 23) with a diameter (D1) of about thirty-nine millimeters. In addition, the length (L2) from the housing 1502 to the back of the end cap 1504 is about fifty-seven millimeters.

[0108] Referring now to FIG. 22, the MASK ROM or ISD cartridge 1520 is sized to be received within the cartridge insert slot 1522. In this

particular embodiment, the cartridge 1520 is formed of plastic and sized dimensionally such that its length (L4) is about twenty-five millimeters, its width (W4) is about twenty-three and one-half millimeters, and its thickness (T4) is about six millimeters. Alternatively, other data device sizes, types, and materials can be employed.

[0109] With reference to FIG. 23, the speaker 1524 is encapsulated within the end cap 1504. Holes 1525 are provided for allowing sound produced by the speaker 1524 to be more readily heard by the user. In one particular embodiment, the speaker 1524 is generally circular and has a diameter of about thirty-six millimeters. Alternatively, other shapes, sizes, and types of speakers can be used depending, for example, on the particular shape and size of the end cap 1504 and desired decibel levels for the audio.

[0110] The dimensions set forth in the above paragraphs (as are all dimensions set forth herein) are mere examples and can be varied as understood by those skilled in the art. Plus, other embodiments include housings and end caps having non-circular (e.g., triangular, ovular, rectangular, etc.) transverse cross-sections and profiles.

[0111] In various embodiments, it is anticipated that sexual stimulation devices of the present invention will be sold in distribution systems related to sexual novelty devices, such as adult novelty stores or the Internet. Sexual stimulation devices of the present invention can be targeted at those customers in the market for sexual devices, such as vibrators, as embodiments of the invention can be a substitute or an enhancement to a vibrator. Additionally, or alternatively, embodiments of the invention may further be construed as an unusual gag gift, where features and aspects of the present invention can increase the commercial appeal thereof.

[0112] In various embodiments, a sexual stimulation having one or more of the audio features described herein also includes means (e.g., wireless communication links, wired communication links, combinations thereof, etc.) for communicating, connecting and/or linking to a communication device or network (e.g., the Internet, an Intranet, a server, data storage device, etc.). In one particular embodiment, the sexual stimulation device includes a controller (e.g., within the end cap and/or housing) capable of receiving signals from an Internet website (or other

network device). The signals received by the controller provide information to the controller for causing the controller to select a particular operating mode (e.g., on/off, fast vibrations, slow vibrations, pulsating vibrations, wave vibrations, randomly changed rhythms, etc.) for the vibration feature and to control what audio is played by the audio system. In various embodiments, the vibrations and audio can be controlled so as to coordinate with what is being visually displayed at the Internet website on the user's computer screen.

[0113] In various embodiments, a sexual stimulation device may include an audio system, LEDs, an end cap, and a housing all tailored or configured consistent with a particular theme. For example, one embodiment includes a sexual stimulation device configured consistent with a wedding theme such that the outer surface of the housing is configured to resemble a male torso in a tuxedo, the end cap is configured to resemble the male's head, the audio system plays a bridal march, and LEDs pulsate to the bridal march music. This particular wedding theme-oriented sexual stimulation device might then make an excellent gag-gift at a bachelorette party.

[0114] Or, for example, one embodiment includes a Halloween-oriented sexual stimulation device in which LEDs produce orange and black light display, the outer surface of the housing is configured to resemble a skeletal bone, the end cap is configured to resemble a jack-o-lantern, and the audio system plays spooky or scary music. This Halloween-oriented sexual stimulation device might then make an excellent gag-gift or attendance prize at a Halloween party.

[0115] In various embodiments, a sexual stimulation device can also include one or more ornaments or decorations coupled to the outer surface of the end cap and/or housing. For example, one particular embodiment of a sexual stimulation device includes an end cap having audio features and an outer surface decorated with costume jewelry (e.g., cubic zirconium, plastic replicas of rubies, emeralds, etc.) disposed on the end cap.

[0116] The teachings of the present invention can be applied in a wide range of devices, including non-vibrating devices and devices outside of the sex industry. For example, aspects of the invention can be applied to vibrators, vibrating dildos, static or non-vibrating dildos, artificial penises,

artificial vaginas, artificial butts/bottoms, inflatable or blow-up female dolls, inflatable or blow-up male dolls, sexual devices that are not anatomically correct (e.g., pencil-type vibrator, bullet-type vibrator, rabbit-type vibrator, over-sized vibrators, triple or double headed vibrators, etc.) among other sexual stimulation devices, sex toys, etc. In addition, aspects of the invention can also be applied to devices and vibrating products that are not typically considered sex toys or sexual stimulation devices, including devices that are not specially intended for, designed for, and/or marketed in the sex industry, such as body massagers, vibrating wands, vibrating chairs, etc. Accordingly, the specific references to sexual devices, such as phallic shaped vibrators and dildos, should not be construed as limiting the scope of the present invention to any specific form/type of sexual toy or device.

[0117] Certain terminology is used herein for purposes of reference only, and thus is not intended to be limiting. For example, terms such as “upper”, “lower”, “above”, and “below” refer to directions in the drawings to which reference is made. Terms such as “front”, “back”, “rear”, “bottom” and “side”, describe the orientation of portions of the component within a consistent but arbitrary frame of reference which is made clear by reference to the text and the associated drawings describing the component under discussion. Such terminology may include the words specifically mentioned above, derivatives thereof, and words of similar import. Similarly, the terms “first”, “second” and other such numerical terms referring to structures do not imply a sequence or order unless clearly indicated by the context.

[0118] When introducing elements or features of the present invention and the exemplary embodiments, the articles “a”, “an”, “the” and “said” are intended to mean that there are one or more of such elements or features. The terms “comprising”, “including” and “having” are intended to be inclusive and mean that there may be additional elements or features other than those specifically noted.

[0119] The description of the invention is merely exemplary in nature and, thus, variations that do not depart from the gist of the invention are intended to be within the scope of the invention. Such variations are not to be regarded as a departure from the spirit and scope of the invention.

CLAIMS

What is claimed is:

1. A sexual stimulation device comprising a housing, an end cap attached to the housing, the end cap including a data access device for accessing audio data from a data device, and a sound emitter for emitting audio corresponding to the audio data accessed by the data access device from the data device.

2. The sexual stimulation device of claim 1, further comprising a plurality of interchangeable end caps, each said interchangeable end cap having audio data, whereby a user can choose which audio is played by selectively attaching one of said interchangeable end caps to the housing.

3. The sexual stimulation device of claim 1, wherein the data device includes a removable data device.

4. The sexual stimulation device of claim 3, wherein the end cap includes an opening for receiving the removable data device, and wherein audio data on the removable data device is accessible to the data access device when the removable data device is within the opening.

5. The sexual stimulation device of claim 4, further comprising a plurality of interchangeable data devices, each said interchangeable data device having audio data that is accessible to the data access device when said interchangeable data device is within the opening, whereby a user can choose which audio is played by selectively positioning one of the plurality of interchangeable data devices within the opening.

6. The sexual stimulation device of claim 3, wherein the removable data device comprises a MASK ROM memory cartridge, and wherein the opening is a cartridge insert slot.

7. The sexual stimulation device of claim 3, wherein the removable data device comprises a rewritable data device.

8. The sexual stimulation device of claim 1, wherein the end cap comprises a control system for controlling the audio in accordance with user input.

9. The sexual stimulation device of claim 1, wherein the housing is colored to resemble a skin color of a person of a particular nationality, and wherein the audio data includes a voice message having one or more predetermined speech characteristics associated with the nationality.

10. The sexual stimulation device of claim 1, wherein an outer surface of the end cap is configured as a figurine.

11. The sexual stimulation device of claim 10, wherein the audio data comprises at least one voice message having at least one predetermined speech characteristic coordinated with the figurine.

12. The sexual stimulation device of claim 1, wherein the end cap includes a plurality of data devices each having different audio data, and wherein the sexual stimulation device includes a control system for allowing a user to select which one of the plurality of data devices is accessed by the data access device.

13. The sexual stimulation device of claim 1, further comprising a light source for producing thematic light coordinated with audio emitted by the sound emitter.

14. A system including the sexual stimulation device of claim 1 and a remote control device for controlling the audio in accordance with user input.

15. A system including the sexual stimulation device of claim 1 and a website for downloading audio data to the data device.

16. A system including the sexual stimulation device of claim 1, and further comprising a remote communication device and a communication link enabling the sexual stimulation device to receive audio data from the remote communication device.

17. A system including the sexual stimulation device of claim 1 and a remote device for recording audio data to the data device.

18. The sexual stimulation device of claim 1, wherein the data access device, data device, and the sound emitter are disposed entirely within the end cap.

19. The sexual stimulation device of claim 1, wherein the housing is generally phallic shaped.

20. The sexual stimulation device of claim 1, wherein the data device and the data access device comprises one or more integrated circuits of a printed circuit assembly disposed within the end cap.

21. The sexual stimulation device of claim 1, wherein the sexual stimulation device is a vibrator, and further comprising a control system for controlling the audio in accordance with user input independent of the vibration.

22. A method of using a sexual stimulation device having an end cap, the end cap including a data access device for accessing audio data from a data device, and a sound emitter for emitting audio corresponding to the audio data accessed by the data access device from the data device, the method comprising customizing the audio data.

23. The method of claim 22, wherein customizing the audio data comprises selecting from amongst a plurality of interchangeable data devices having audio data.

24. The method of claim 22, wherein customizing the audio data comprises removing a first data device from the end cap, and replacing the first data device with a second data device having audio data different than the first data device.

25. The method of claim 22, wherein customizing the audio data comprises removing an existing end cap from the sexual stimulation device and retrofitting the sexual stimulation device with the end cap having the data access device and the sound emitter.

26. The method of claim 22, wherein customizing the audio data comprises selecting from amongst a plurality of interchangeable end caps each having audio data, and attaching the selected end cap to the sexual stimulation device.

27. The method of claim 22, wherein customizing the audio data comprises selectively downloading audio data from a remote source to the data device.

28. The method of claim 27, wherein the remote source comprises a website, and wherein the method further includes charging a fee for the audio download.

29. The method of claim 22, wherein customizing the audio data comprises removing the data device from the end cap, inserting the data device into a data device slot of a network device, and selectively downloading audio data from the network device to the data device.

30. The method of claim 22, wherein customizing the audio data comprises recording a user's voice and writing audio data corresponding to the recorded voice to the data device.

31. An end cap for a sexual stimulation device having a housing, the end cap comprising a data access device for accessing audio data from a data

device, and a speaker for emitting audio corresponding to the audio data accessed by the data access device from the data device.

32. The end cap of claim 31, further comprising a control system for controlling the audio in accordance with user input.

33. The end cap of claim 31, wherein the data device comprises a removable data device, wherein the end cap includes an opening for receiving therein the removable data device, and wherein audio data on the removable data device is accessible to the data access device when the removable data device is within the opening.

34. A sexual stimulation device comprising a housing and an end cap engaged to the housing, the end cap including means for accessing audio data from a data device, and means for emitting audio corresponding to the audio data.

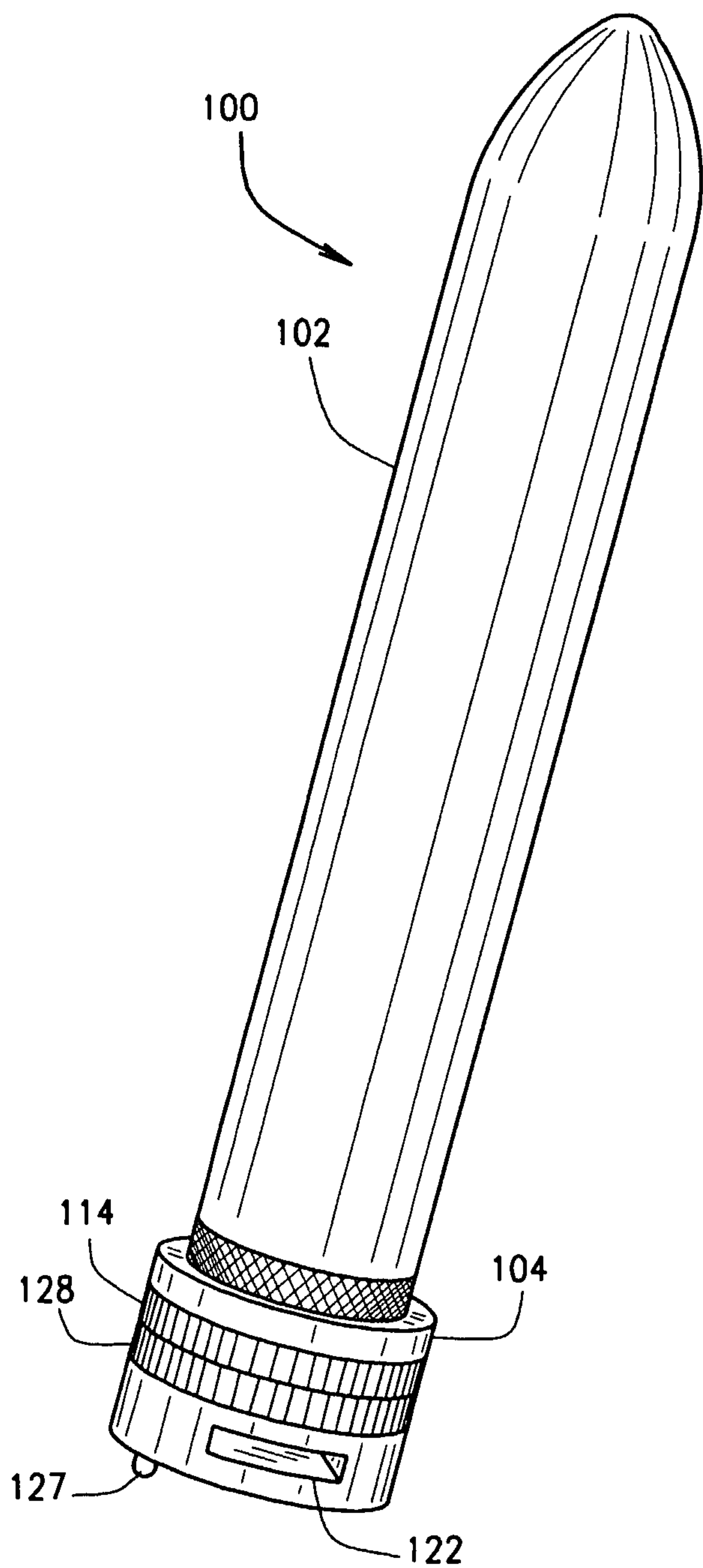


FIG. 1

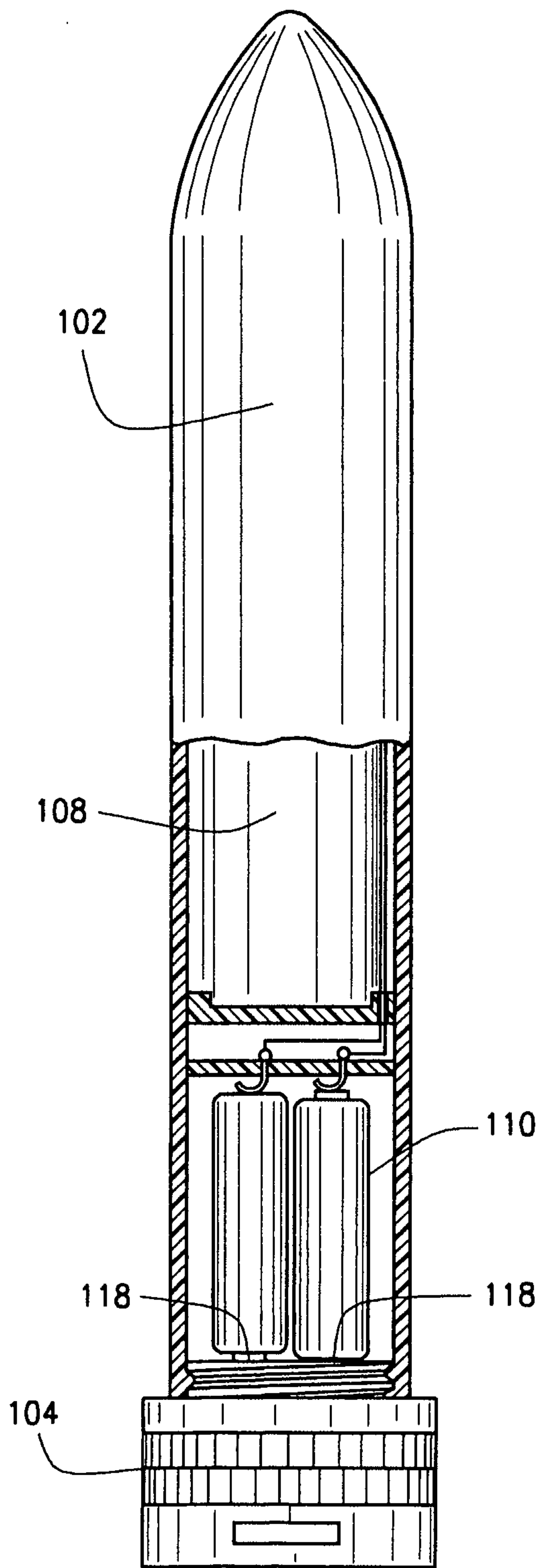


FIG. 2

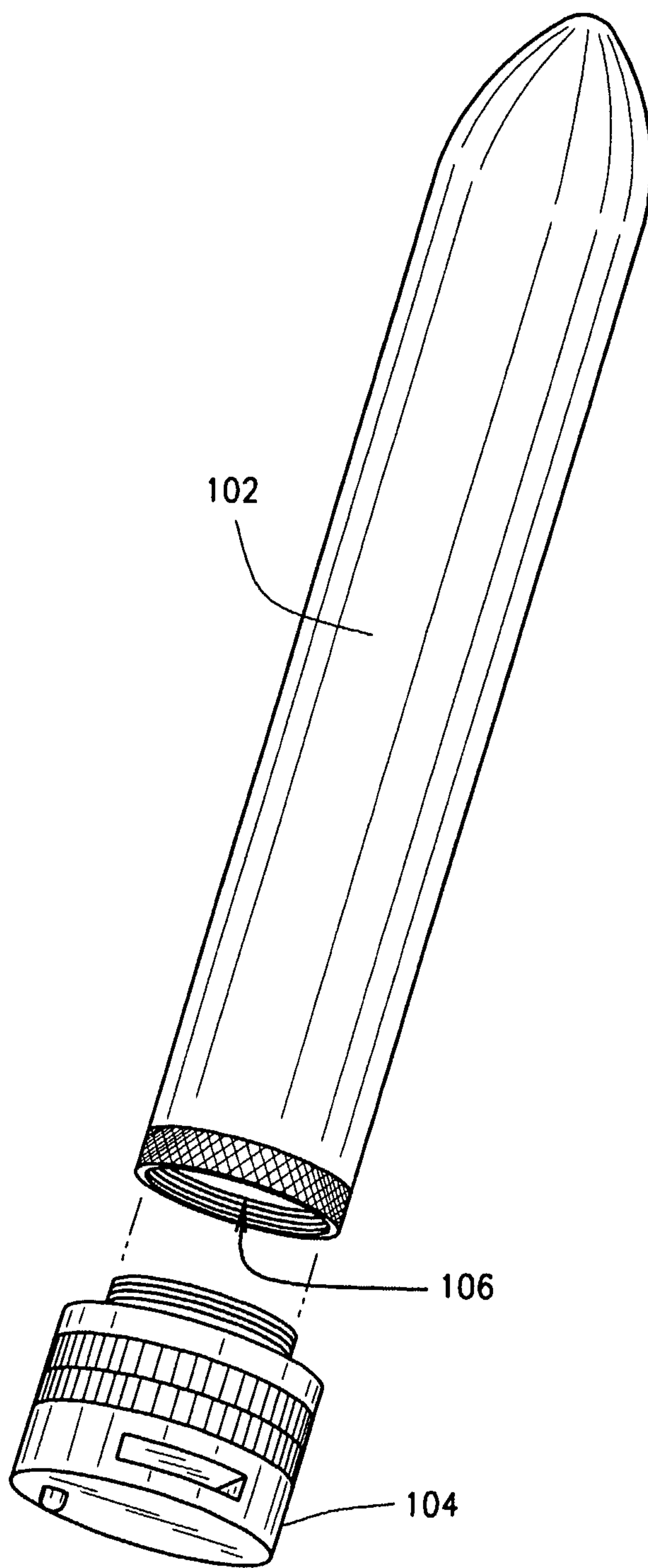


FIG. 3

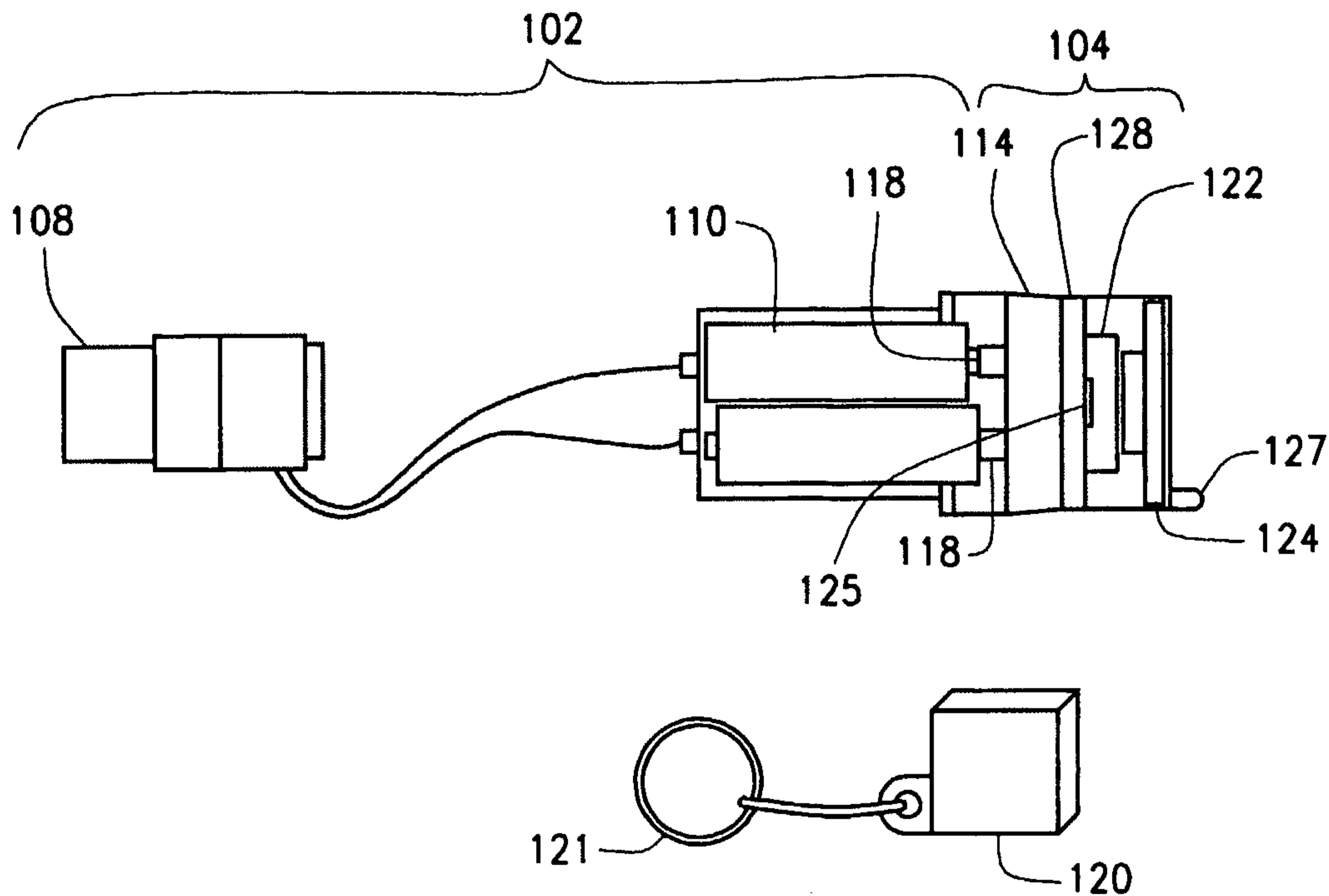


FIG. 4

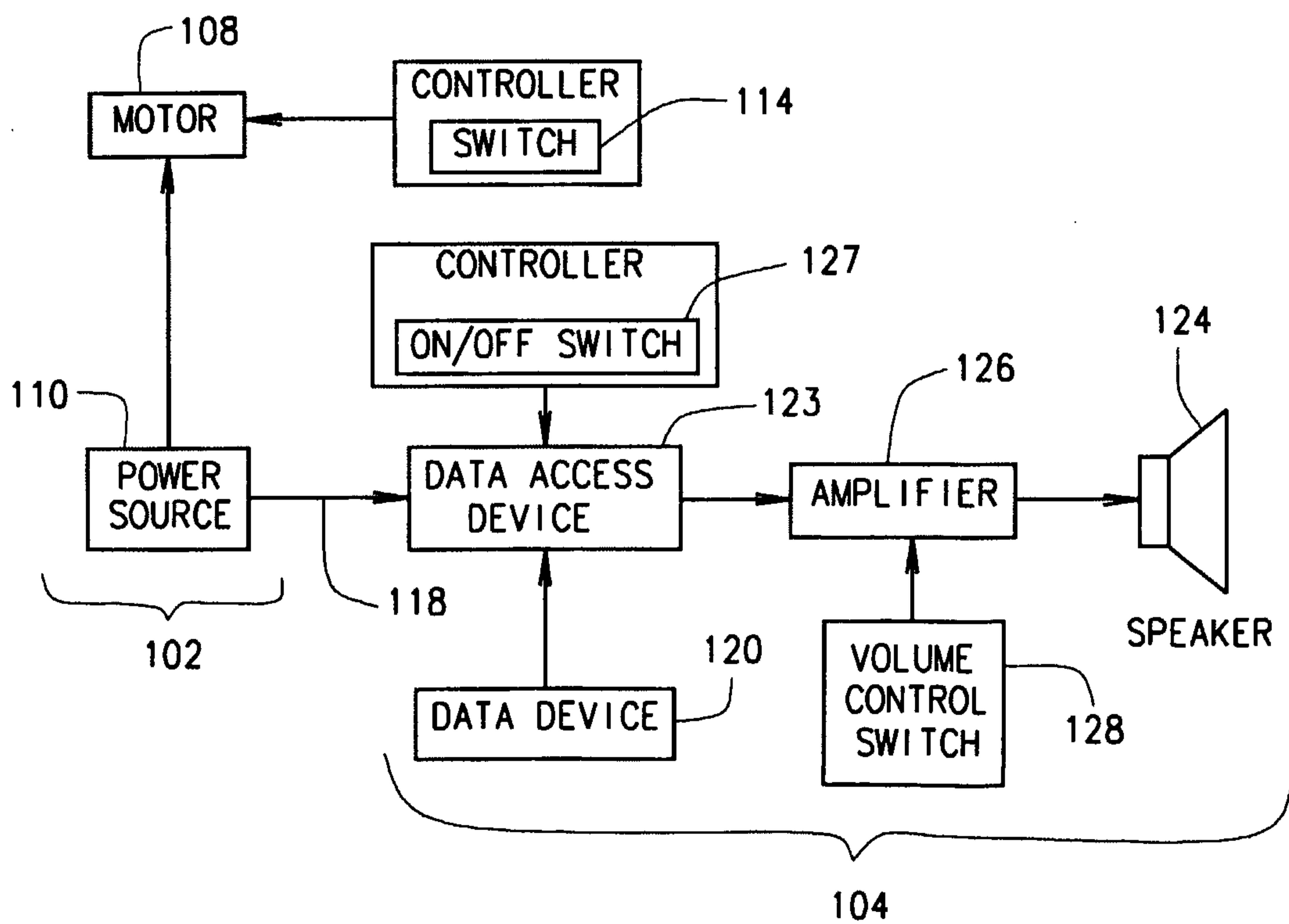


FIG. 5

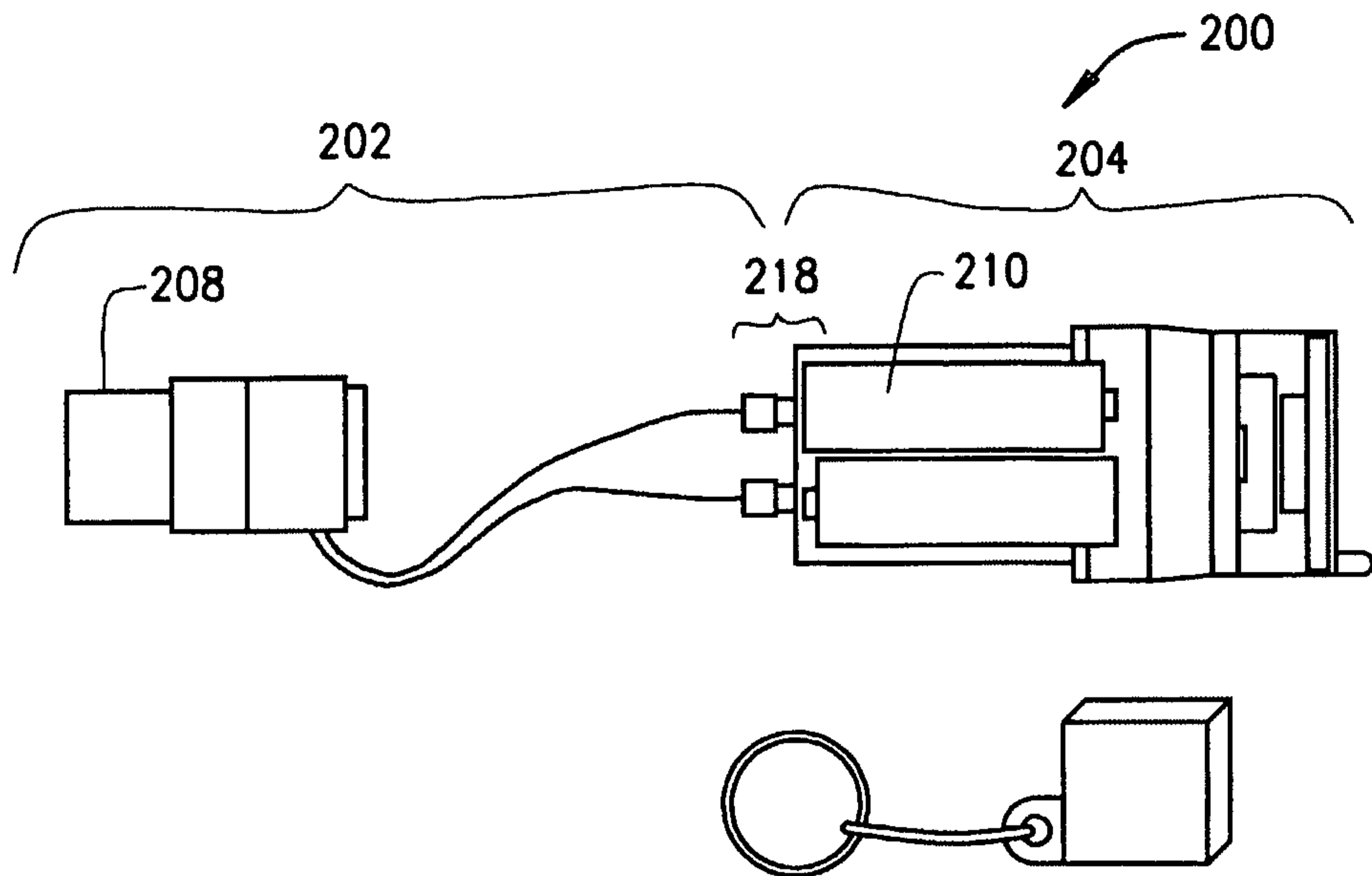


FIG. 6

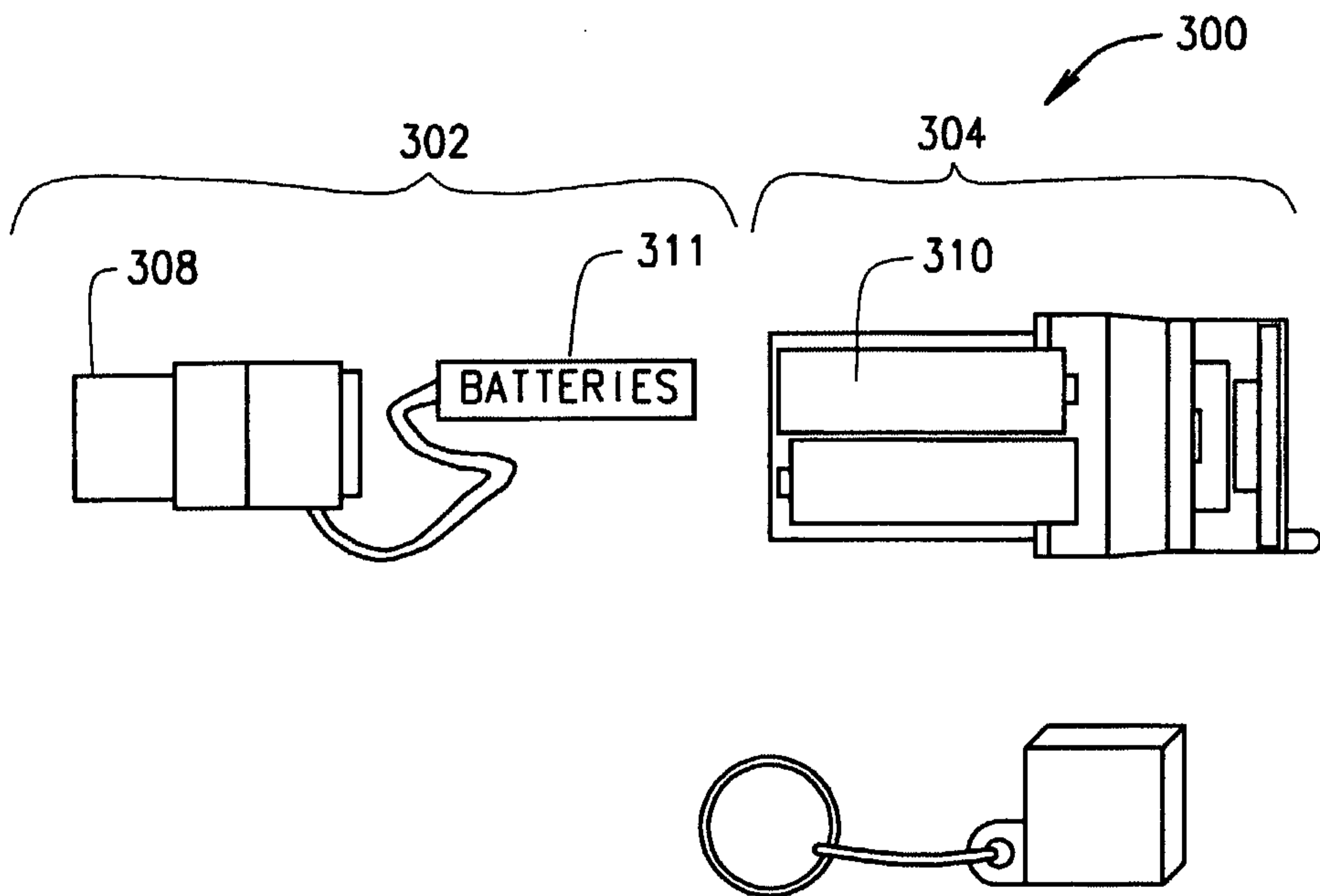


FIG. 7

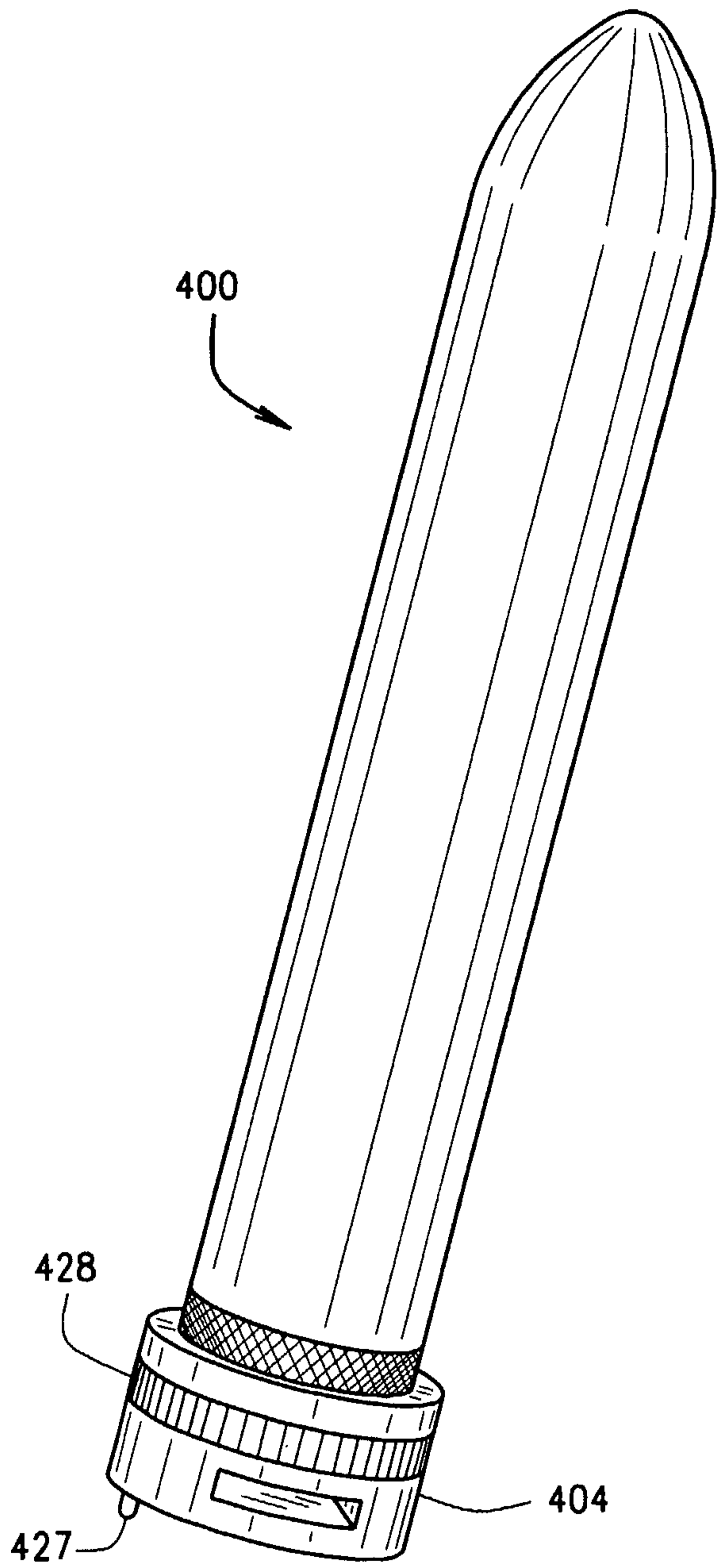


FIG. 8

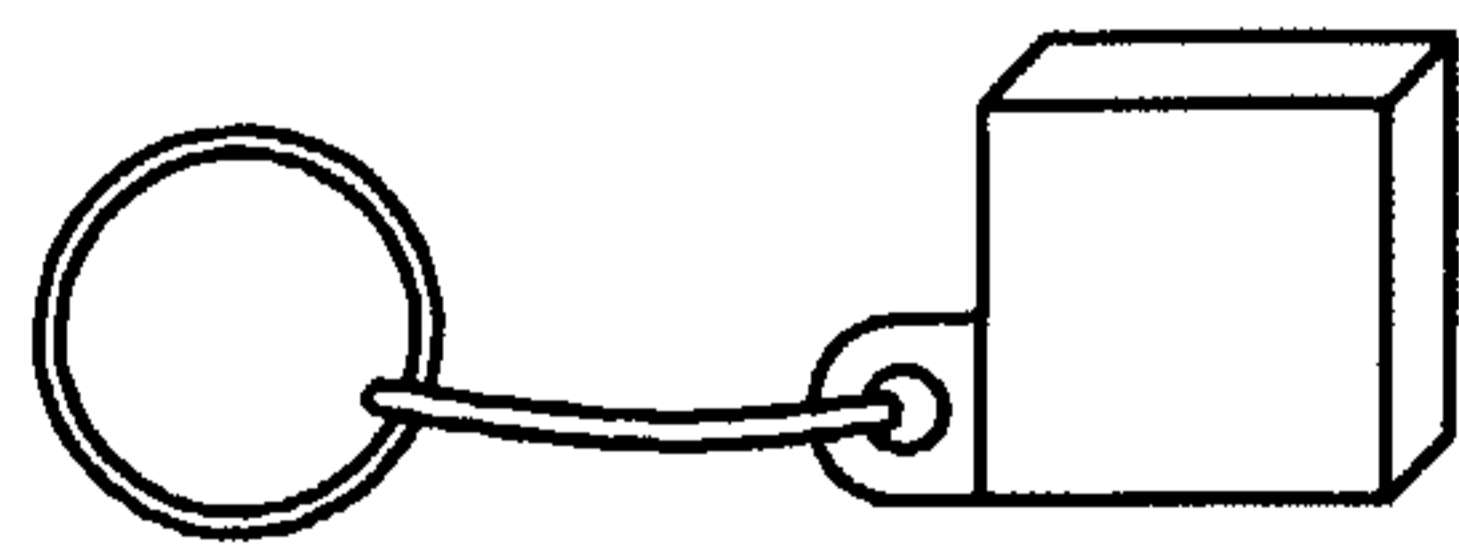
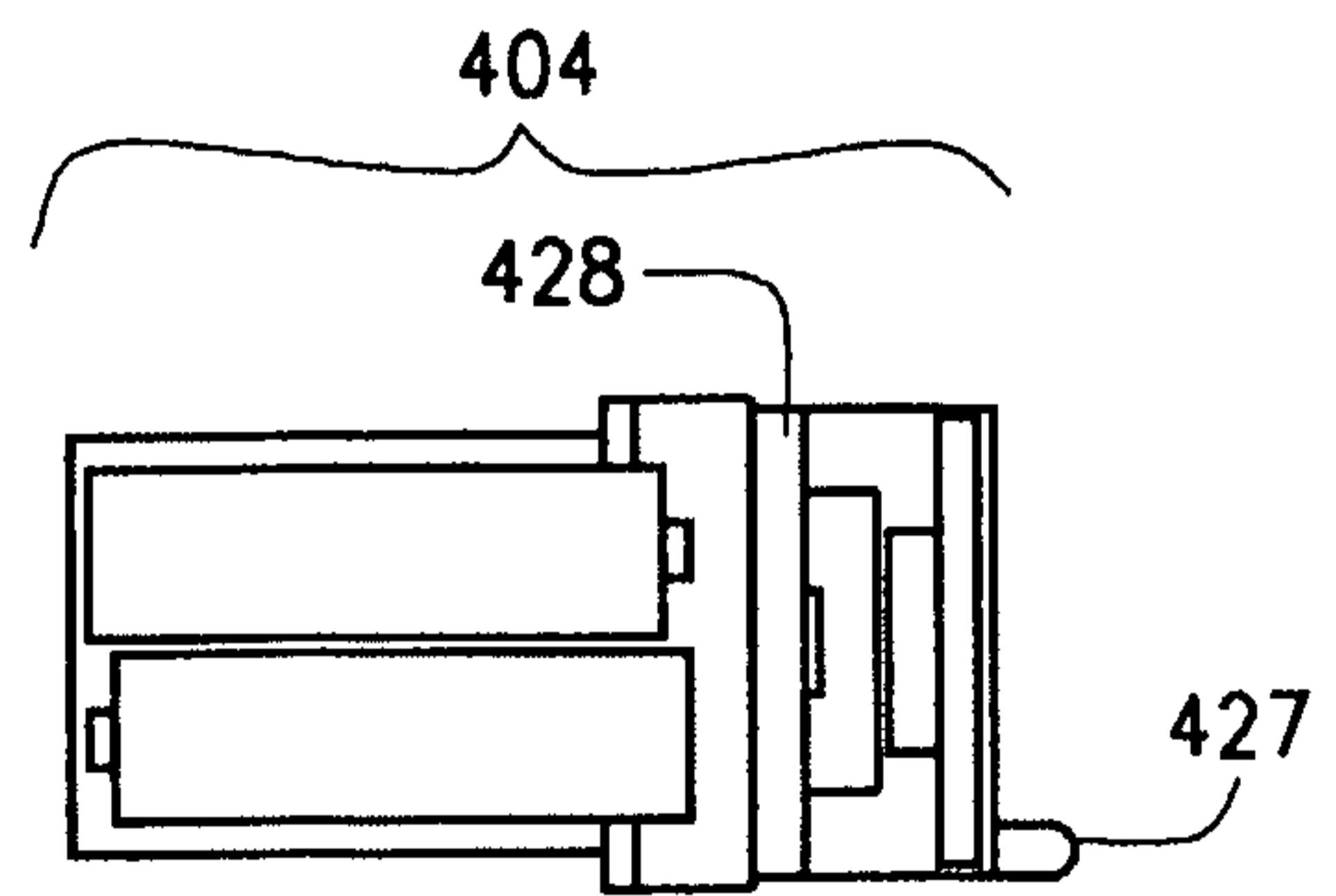


FIG. 9

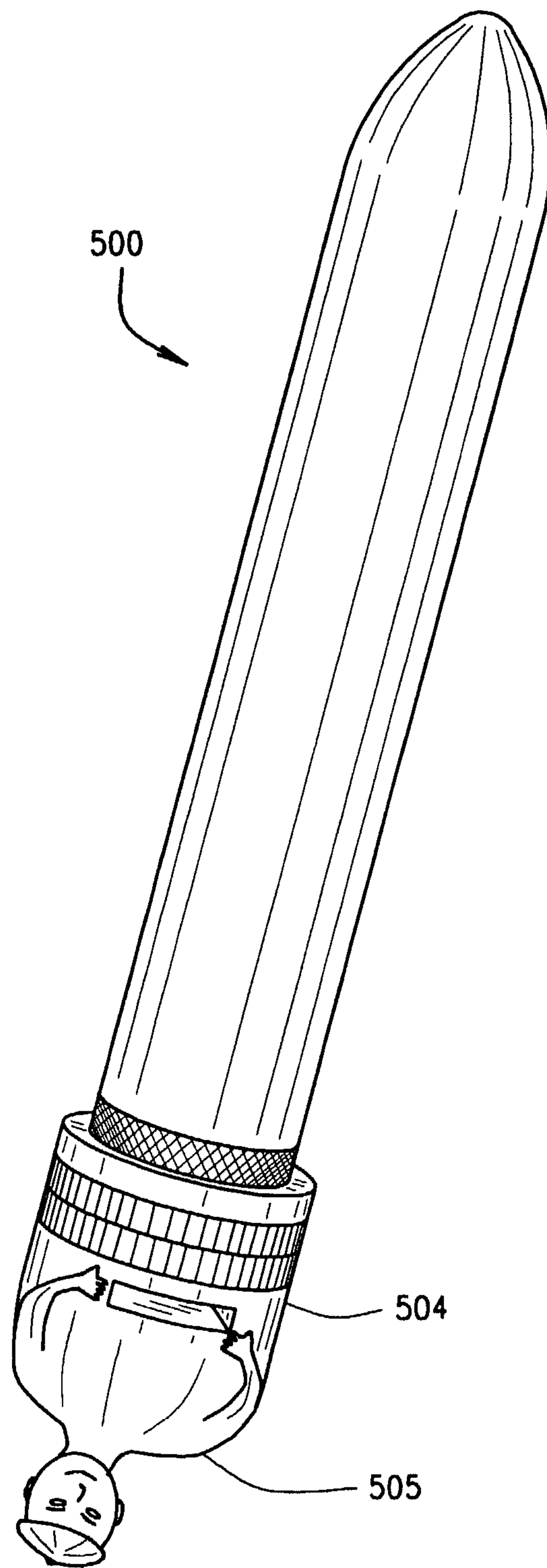


FIG. 10

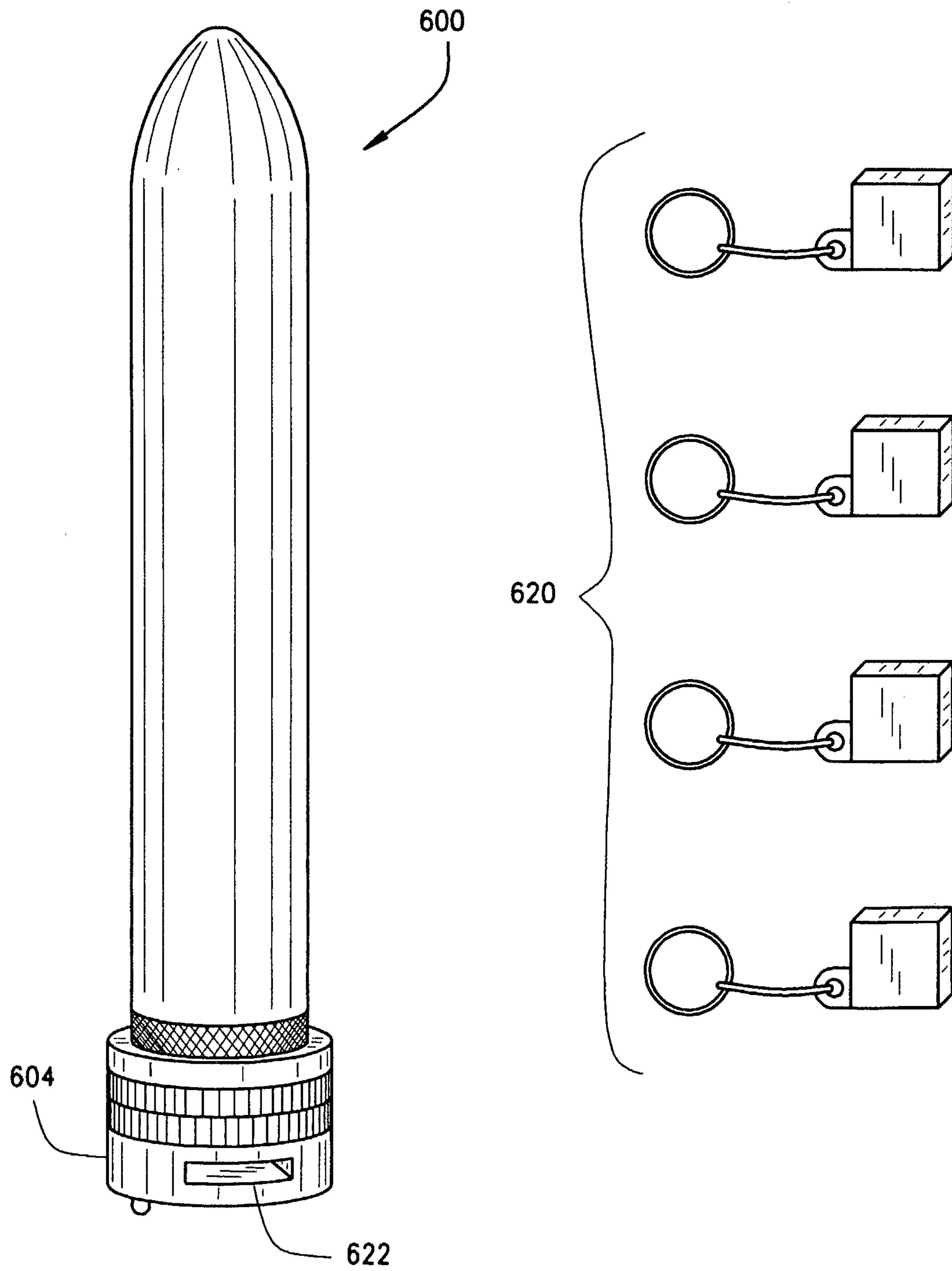


FIG. 11

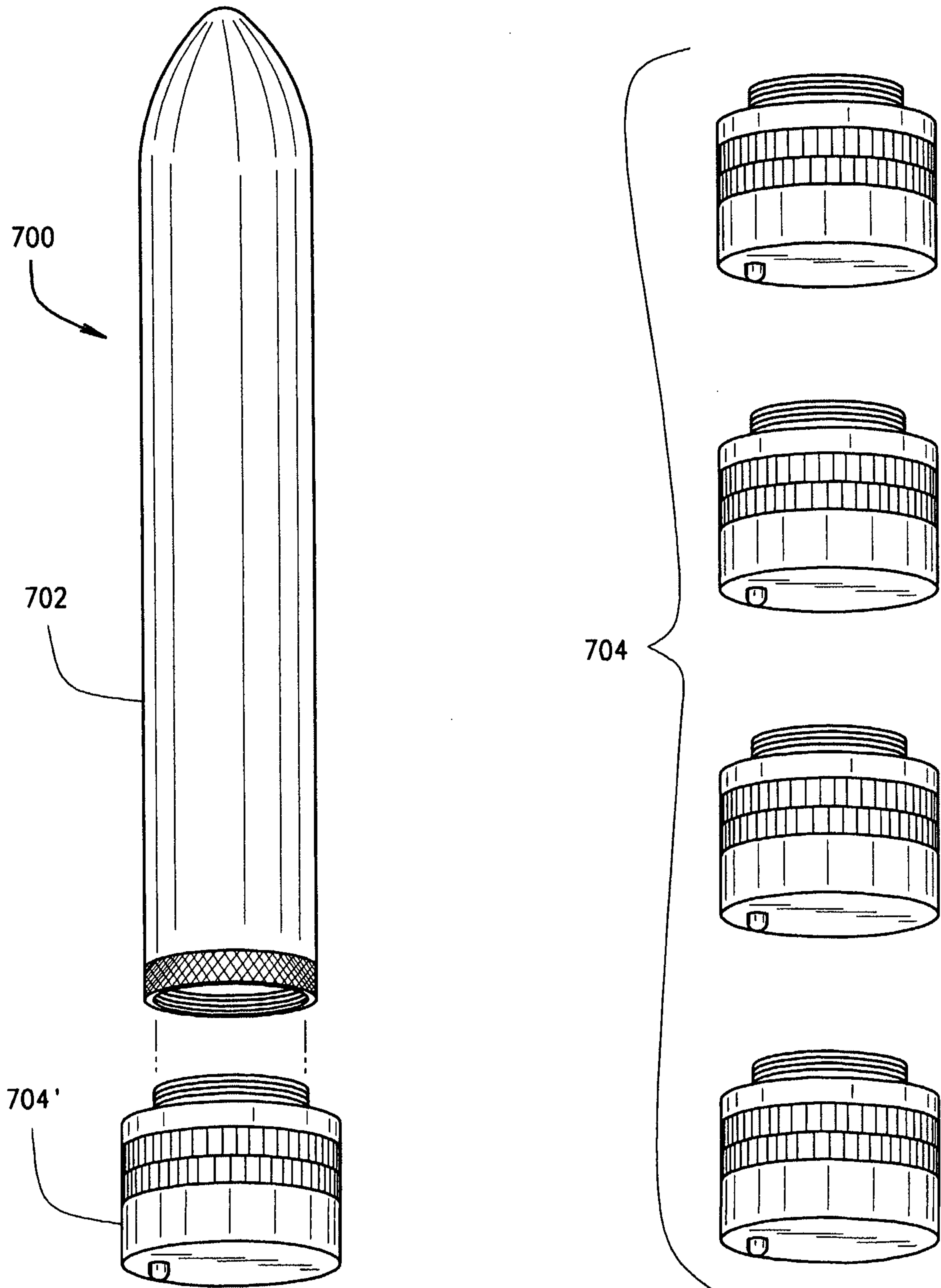


FIG. 12

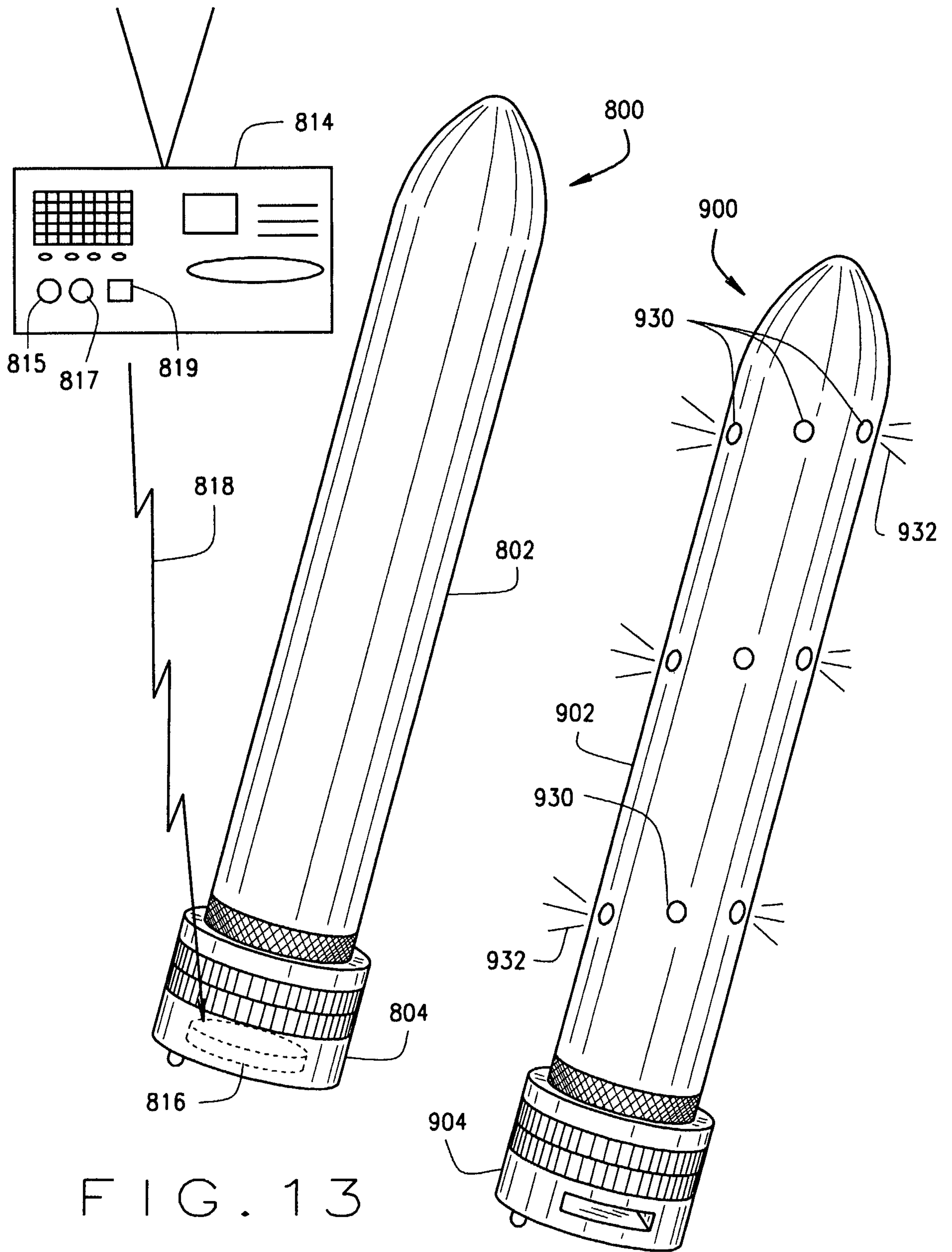


FIG. 13

FIG. 14

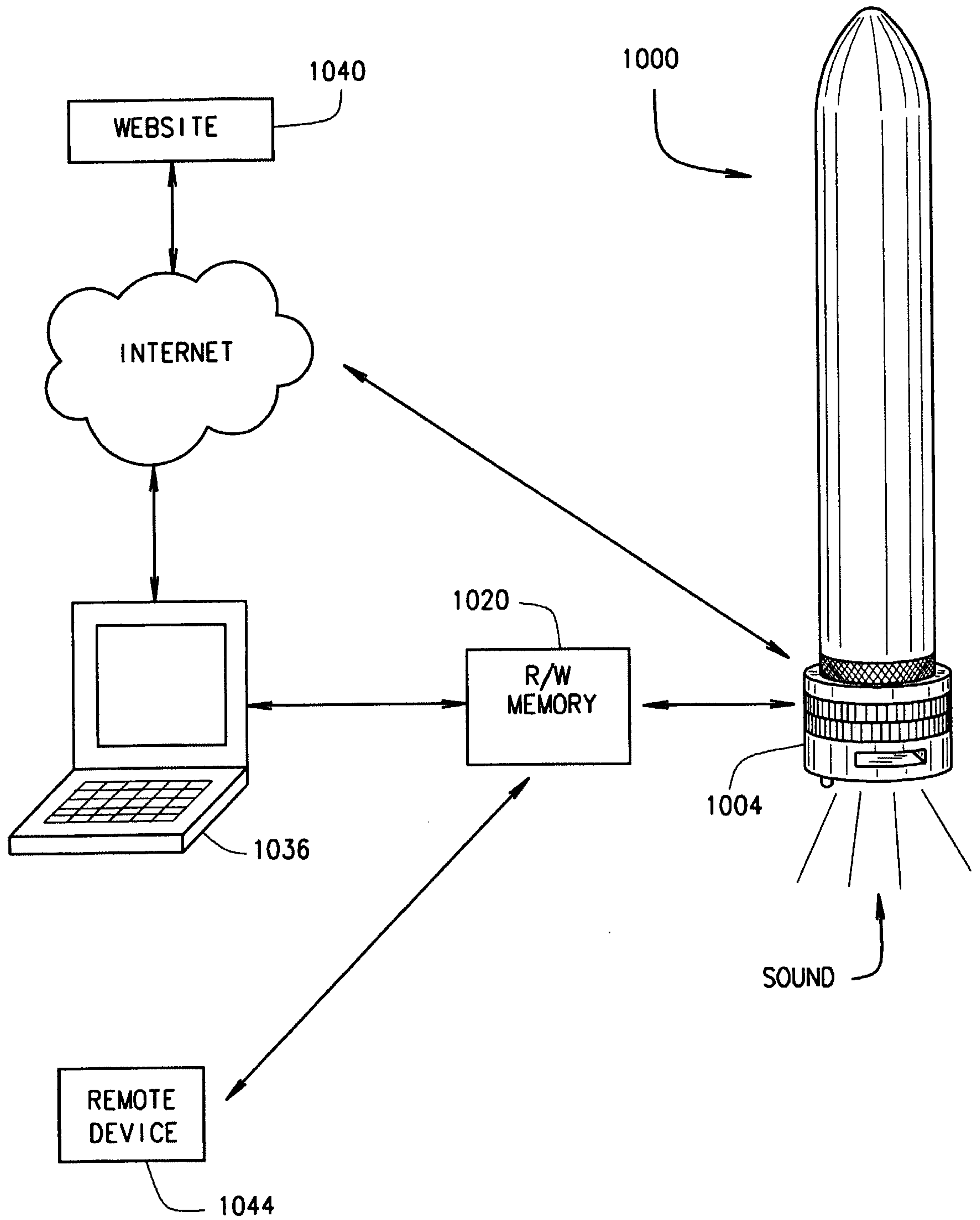


FIG. 15

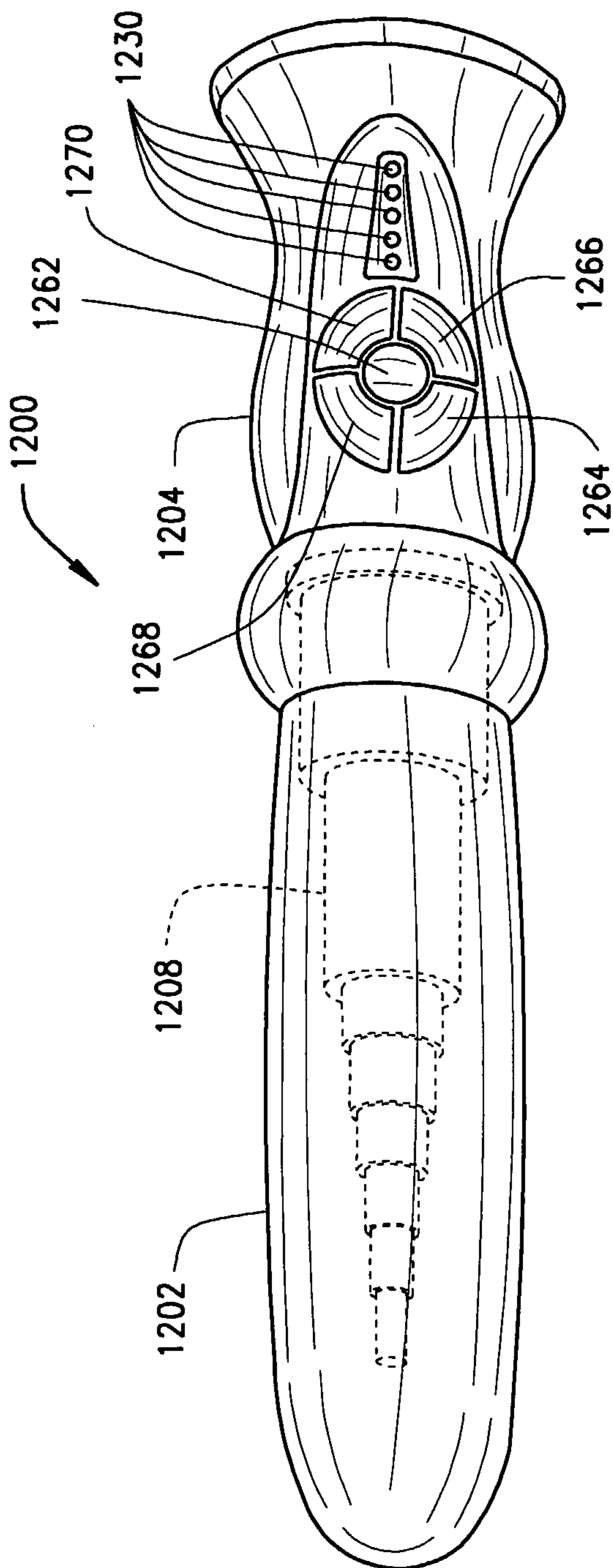


FIG. 16

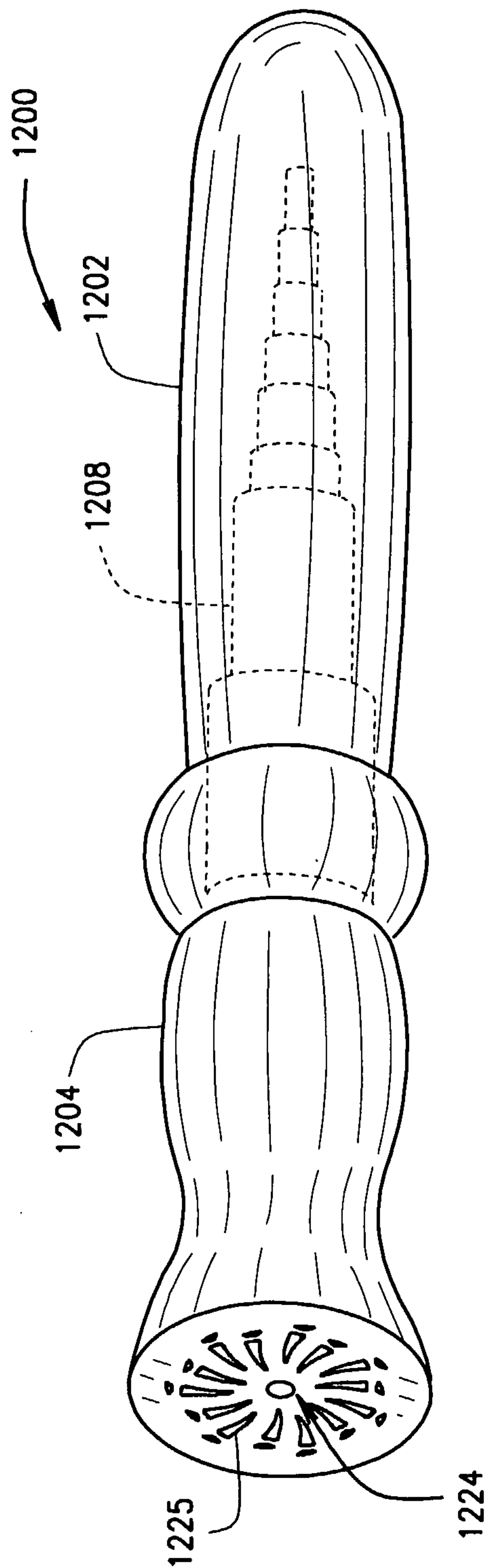


FIG. 17

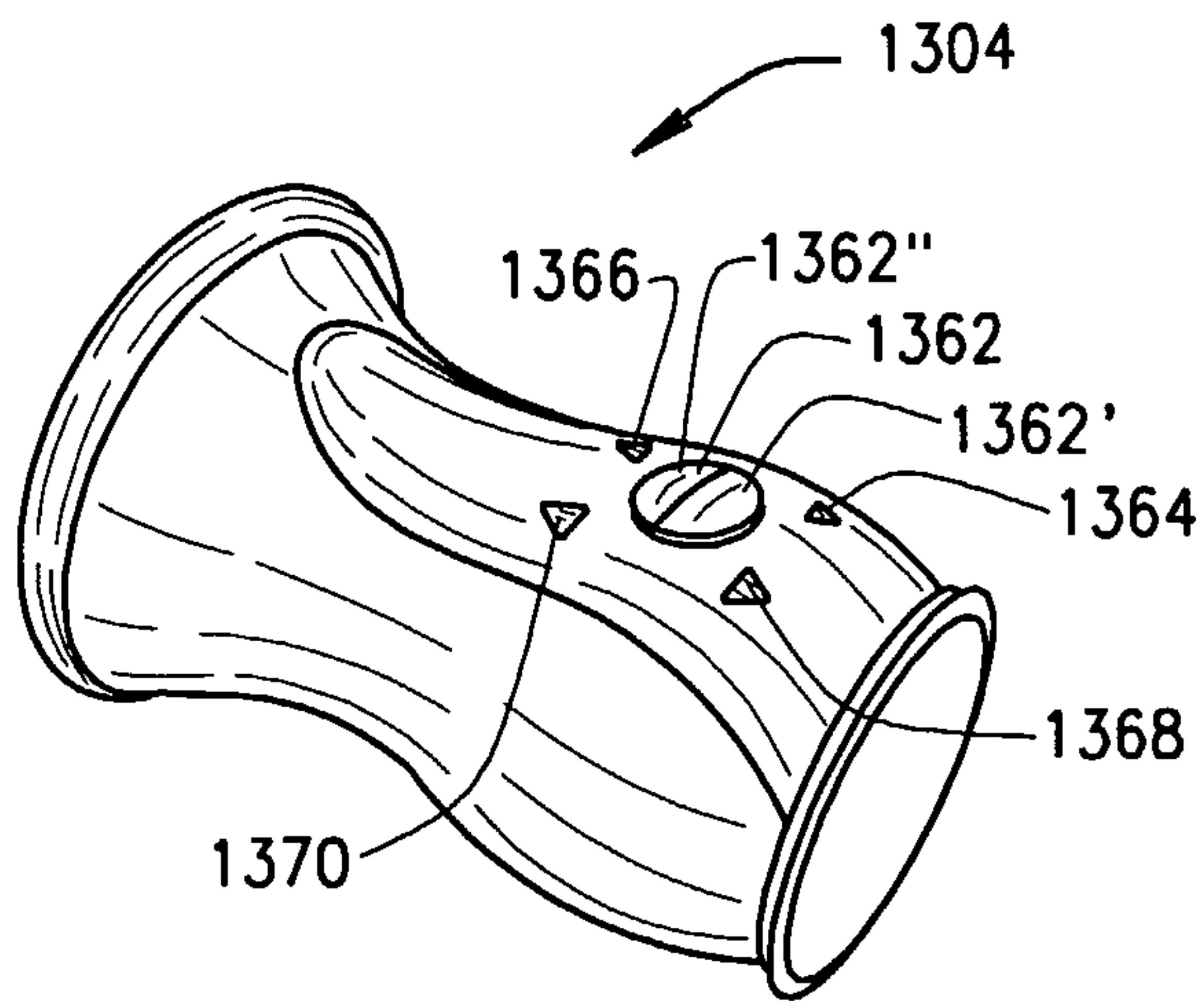


FIG. 18

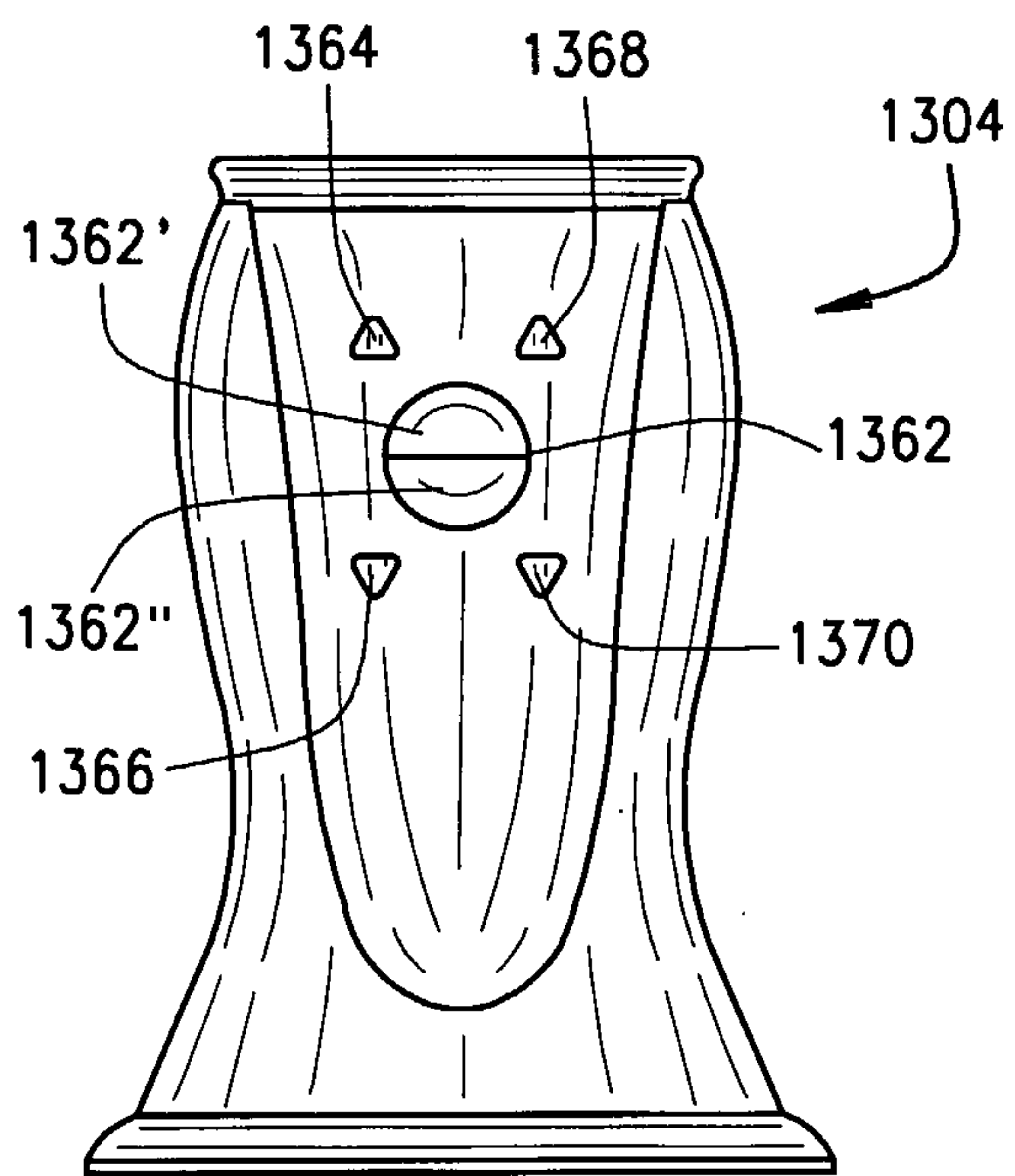


FIG. 19

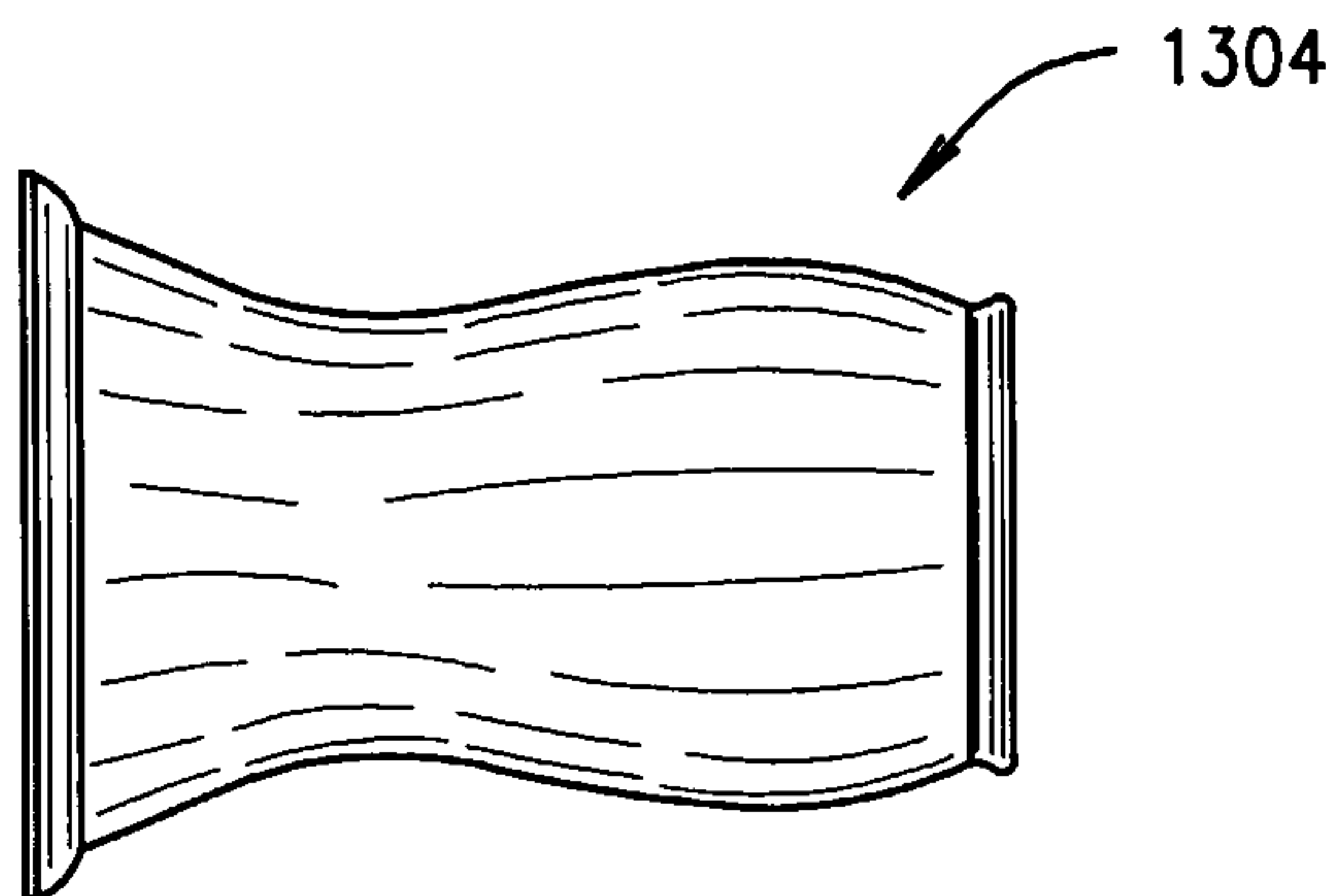


FIG. 20

