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(54) **MALE MASTURBATION DEVICE AND AN INSERTION OPENING REGULATION MODULE FOR A MALE MASTURBATION DEVICE**

(57) The invention relates to a male masturbation device comprising: a tube shaped housing for receiving a phallus; and a flexible tube member arranged within the tube shaped housing and defining an insertion opening for receiving the phallus, wherein the tube shaped housing is manipulable and a manipulation of the tube shaped

housing causes a deformation of the flexible tube member thereby adjusting the diameter of the insertion opening. Furthermore, the invention also relates to an insertion opening regulation module for a male masturbation device.

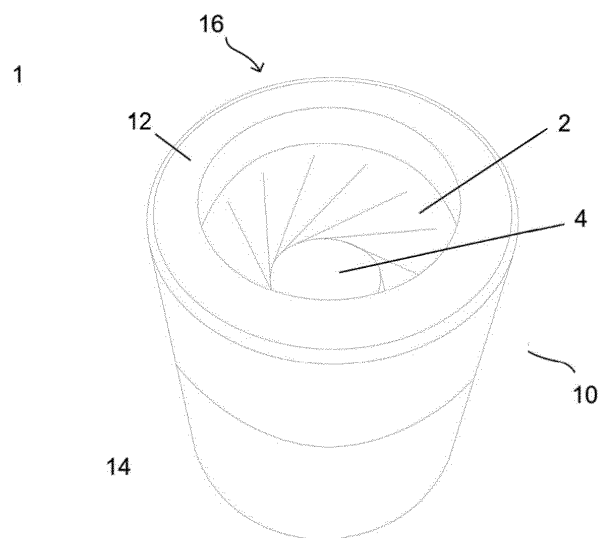


FIG. 3

Description

[0001] The present disclosure relates to a male masturbation device and an insertion opening regulation module for a male masturbation device.

[0002] The sex toy industry continues to develop a variety of masturbation aids and pleasure toys. In recent years, masturbation aids for men receive larger attention and the number of available products of male masturbation aids grow steadily. Male masturbation aids often simulate female genitals and some provide further sensations such as vibration or suction.

[0003] However, phalluses and/or penises have different shapes, sizes and stiffness. Also, individual preferences of what kind and intensity of sensations are considered pleasing differs between users. Certain sensations, such as intensity and/or form of vibrations generated by a vibration motor, may be regulated by a control input by the user. However, sensations caused by structural factors of the male masturbation aid such as dimensions and material may not be regulated. Accordingly, in order to provide masturbation aids for a broad group of male users, a wide variety of male masturbation aids of different sizes and material properties are provided, which particularly increases costs for development, manufacturing and sale. Also, if preferences of a user change or if he desires to experience a different sensation, he is required to purchase a new masturbation aid.

[0004] It is therefore an object of the present invention to provide a male masturbation device and an insertion opening regulation module for a male masturbation device which may be adjusted to the user's needs. It is a particular object of the present invention to provide a male masturbation device and an insertion opening regulation module configured for pleasant stimulation of phalluses of different sizes and forms.

Summary of the Invention

[0005] The above object is solved according to the invention by the features of the independent claims. Particular embodiments of the invention are subject of the dependent claims.

[0006] One aspect of the present invention relates to a male masturbation device comprising: a tube shaped housing for receiving a phallus and/or a penis; and at least one flexible tube member arranged within or at the tube shaped housing and defining at least one insertion opening for receiving the phallus, wherein the tube shaped housing is manipulable and a manipulation of the tube shaped housing causes a deformation of the at least one flexible tube member thereby adjusting the diameter(s) of the insertion opening(s). The male masturbation device may be particularly configured to provide a stimulation to a phallus or non-erected penis of a user.

[0007] The tube shaped housing specifically comprises at least one opening for insertion of the phallus or a non-erected penis. The insertion opening defined by the

flexible tube member is particularly positioned in close proximity to the opening for insertion of the tube shaped housing so that the insertion opening may act on the penis over the majority of its length. For adjusting and/or regulating and/or varying the diameter of the insertion opening, at least a part of the tube shaped housing is manipulable, in particular displaceable and/or deformable.

[0008] According to a particular embodiment of the male masturbation device, the tube shaped housing comprises a first housing part and a second housing part, which are substantially concentrically aligned with respect to a central or longitudinal axis of the tube shaped housing and arranged to be rotatably or pivotably displaceable relative to one another around the central axis of the tube shaped housing; the flexible tube member has a first end and a second end; the first housing part spans the first end of the flexible tube member to form a first opening for receiving the phallus and the second housing part spans the second end of the flexible tube member to form a second opening for receiving the phallus; and the first opening and second opening being spaced apart from each other so that the insertion opening is arranged between the first opening and the second opening in a direction of the central axis of the tube shaped housing. The flexible tube member may be substantially tube shaped having a first open end on one side and a second open end on the opposite side.

[0009] Particularly, the first opening and/or the second opening are substantially ring shaped or substantially of the shape of a symmetric polygon, such as a hexagon or octagon. This way, substantially ring shaped insertion opening may be obtained, which provides a pleasant feeling to the user. Alternatively, in particular in order to obtain a different and/or irregular shape of the insertion opening, other shapes of the first opening and/or the second opening may be provided. The first housing part and the second housing part are advantageously positioned and/or supported so that a distance between the first opening and the second opening in the direction of the central axis of the tube shaped housing is substantially retained and/or kept constant. In particular, the first housing part and the second housing part are specifically configured to substantially prohibit a reduction of said distance. This way, a force in the axial direction exerted by deformation of the flexible tube member may be withstood.

[0010] The tube shaped housing preferably comprises and/or at least partly consists of a substantially rigid material, in particular a material configured to withstand forces acting on the tube shaped housing during its intended use. For example, at least a portion of the tube shaped housing may comprise or consist of material, such as plastic, polymer, bioplastic, metal, glass and/or carbon fiber-reinforced plastic, Acrylnitril-Butadien-Styrol-Copolymere (ABS) and/or polylactide (PLA) and/or material having similar properties.

[0011] Particularly, the tube shaped housing, in partic-

ular the first housing part and/or the second housing part, may have a diameter between approximately 40 mm and 100 mm, for example approximately 85 mm. The first opening and/or the second opening may have a diameter between approximately 90 mm and 35 mm, for example approximately 70 mm. Moreover, the tube shaped housing may have a length in the axial direction between approximately 50 mm to about 200 mm, for example approximately 100 mm. In particular, the first housing part and the second housing part - in an assembled state - may have a length in the axial direction between approximately 20 mm and 60 mm, for example approximately 45 mm.

[0012] Advantageously, the tube shaped housing is manipulable by rotation at least between the first housing part and the second housing part to a plurality of positions including a start position, an end position and at least one intermediate position between the start position and the end position. Rotation of the first housing part and/or the second housing part offers the possibility to regulate the diameter of the insertion opening.

[0013] Particularly, the first housing part may be rotated with respect to the second housing part or the second housing part may be rotated with respect to the first housing part or both of the first housing part and the second housing part may be rotated relative to one another. The more intermediate positions, the finer a regulation of the diameter of the insertion opening may be achieved. For example, there may be one intermediate position or 2 or more, e.g. 5, 7 or 10, between the start position and the end position.

[0014] In particular, the diameter of the insertion opening may be a first size when the first housing part and the second housing part are in the start position. Also, the diameter of the insertion opening may be a second size when the first housing part and second housing part are in the end position. Advantageously, the diameter of the insertion opening in the start position is larger than the diameter in the end position. Alternatively, the diameter of the insertion opening in the start position may be smaller than the diameter in the end position.

[0015] Particularly, the diameter of the insertion opening in the start position is smaller than a diameter of the first opening and/or second opening. This way, the insertion opening may more easily apply sensation to and/or envelop at least a part of a phallus, i.e. an erected penis, or a non-erected penis being inserted into the tube shaped housing in the start position.

[0016] The diameter of the insertion opening may be a third size when the first housing part and second housing part are in an intermediate position between the start position and the end position, wherein, particularly, the diameter is smaller than the diameter in the start position and larger than the diameter in the end position.

[0017] Advantageously, at least the part of the flexible tube member defining the insertion opening is deformed by relative rotation of the first housing part and the second housing part, wherein rotation in a direction from the start

position to the end position decreases the diameter of the insertion opening and wherein rotation in a direction from the end position to the start position increases the diameter of the insertion opening. Thus, the diameter of the insertion opening defined by the flexible tube member may be decreased by rotating towards the end position.

[0018] When rotating or pivoting towards the end position, at least the part of the flexible tube member defining the insertion opening is being (further) twisted and/or contorted and/or deformed out of the normal shape and/or brought into a (further) twisted and/or contorted and/or deformed state. In particular, a strand and/or section of the flexible tube member connecting a point of the first opening of the first housing part to a point of the second opening of the second housing part is stretched and/or lengthened by the rotation towards the end position. Also, said strand and/or section of the flexible tube member aims to connect the respective points by the direct and shortest line between said points. This way, said strand and/or section particularly is displaced to the center of the first opening and second opening the further the rotation towards the end position occurs. This applies for an infinite number of strands and/or sections of the flexible tube member so that the opening defined by the flexible tube member decreases due to the rotation towards the end position.

[0019] Particularly, at least a part of the flexible tube member between the first end and the second end - including the part defining the insertion opening - has a substantially hyperboloid shape when the first housing part and the second housing part are in the end position and in the at least one intermediate position and, advantageously, also in the start position. In particular, an area of the flexible tube member between the insertion opening and the first opening and an area of the flexible tube member between the insertion opening and the second opening comprise a substantially conically tapered shape so as to substantially form a hyperboloid in one sheet and/or a double cone with opposing tips connected through the insertion opening.

[0020] Advantageously, the insertion opening defined by the flexible tube member is displaceable, in particular in a radial and/or an axial direction. With increased stretching and/or lengthening of said strands and/or sections of the flexible tube member as described above, the resistance of the part of flexible tube member forming the insertion opening to a force exerted in a radial direction and/or a displacement of the insertion opening increases from the start position to the end position. This way, the sensation of the insertion opening is further changed because a different pressure is applied to a phallus or penis inserted into the insertion opening in the different rotated positions.

[0021] Particularly, a rotation angle of the first housing part relative to the second housing part and/or of the second housing part relative to the first housing part between the start position and the end position is lower than approximately 160°, preferably lower than approximately

100°, further preferably lower than approximately 60°, and preferably higher than approximately 20°, further preferably higher than approximately 45°. Further preferred is that the rotation of the first housing part relative to the second housing part is restricted to positions including the start position, the end position and the at least one intermediate position. This way, the diameter of the insertion opening may be regulated only to a predefined or predefinable range so that incorrect use and/or over-stress of parts of the device, in particular of the flexible tube member, may be prevented. Specifically, in the end position, the diameter of the insertion opening is greater than approximately 10 mm, more preferably greater than approximately 20 mm.

[0022] For example, the diameter of the insertion opening in the start position may be between approximately 40 mm and approximately 90 mm, for example approximately 80 mm, and in the end position between approximately 5 mm and approximately 40 mm, for example approximately 20 mm.

[0023] For an advantageous regulation of the diameter of the insertion opening, the positions are substantially continuous so that a particularly fine regulation may be obtained. Alternatively, the positions, e.g. two or more intermediate positions or the start position and an adjacent intermediate position, are spaced apart by a predefined or predefinable distance and/or angle e.g. of less than approximately 20°, preferably less than approximately 10°. The smaller the distance or angle, the finer the regulation of the diameter of the insertion opening may be achieved. Two or more intermediate positions may be distributed substantially uniform between the start position and end position or may be distributed non-uniform, e.g. with varying distances and/or angles therebetween. For example, the distances between intermediate positions may decrease from the start position to the end position in order to obtain a particularly preferable reduction of the insertion opening diameter.

[0024] The angle between the start position and the end position as well as the number of intermediate positions and the rotation angle between said intermediate positions may be set and/or chosen to particular needs. As an example, for illustration purposes only, the angle between the start position and the end position may be approximately 45° and the number of intermediate positions may be 8, which are uniformly distributed and spaced apart from each other by 5°.

[0025] Optionally, the first housing part and the second housing part may be lockable and/or snapped in in the start position and/or in the end position and/or in one or more of the intermediate positions in order to prevent or at least impede an unintentional rotation. It may be particularly advantageous to provide a locking feature to fix the relative position between the first housing part and the second housing part. At may also be advantageous to provide a snap in feature, which increases a rotational force required for rotation from one position to another.

[0026] For example, one or more displaceable ele-

ments may be provided, which are springloaded and configured to slide into a plurality of recesses so as to hold the relative position between the first housing part and the second housing part in place and prevent, or at least impede, a relative displacement between the first housing part and the second housing part. If a force sufficiently large is applied, the one or more displaceable elements slide into the next recess(es).

[0027] Particularly, the tube shaped housing is manipulable by displacement between the first housing part and the second housing part in an axial direction of the tube shaped housing to a plurality of distances, specifically, including a start distance, an end distance and at least one intermediate distance between the start distance and the end distance. By this manipulation of the tube shaped housing, either in addition or as an alternative to the relative rotation of the first housing part and the second housing part, a (further) advantageous way of deforming at least a part of the flexible tube member 2 is obtained. A respective deformation may in particular adjust a diameter of the insertion opening and/or an angle in a cross section formed between areas of the flexible tube member on different sides of the insertion opening in the axial direction of the tube shaped housing. A respective angle may be between approximately 15° and 120°, more preferably between approximately 40° and 70°. A larger angle provides a sensation in a larger area of the phallus or penis (either erected or non-erected) with less pressure, while a smaller angle provides a sensation in a smaller area of the phallus or penis with higher pressure.

[0028] Alternatively, the angle in a cross section formed between areas of the flexible tube member on different sides of the insertion opening in the axial direction of the tube shaped housing may be preset and/or predefined and not changeable by the user.

[0029] Advantageously, the first housing part may be decoupled from the tube shaped housing; and/or the second housing part may be decoupled from the tube shaped housing; and/or the flexible tube member may be decoupled from the first housing part and/or the second housing part. This way, said parts may be decoupled for repair, replacement and/or cleaning.

[0030] The flexible tube member may comprise and/or consist of one or more groups of thermoplastic elastomer and/or liquid silicone rubber such as silicone. Advantageously, the flexible tube member is produced by injection molding. Particularly, at least the surface of the flexible tube member comprises and/or consist of skin friendly material.

[0031] In particular, the flexible tube member may comprise and/or at least partly consist of material such as silicone, TPE (thermoplastic elastomer), TPR (thermoplastic rubber), latex, synthetic rubber, natural rubber, Polyurethane, synthetic Polyisoprene and/or synthetic elastomers. Different rigidity, displacement resistance, strength and/or shore level may be obtained by choice of material and dimensions of the flexible tube member.

At least a part of the flexible tube member may comprise a thickness between approximately 0.5 mm and approximately 3 mm, for example approximately 1 mm.

[0032] The flexible tube member may comprise and/or consist of a substantially tube of flexible material. Alternatively, the flexible tube member may be formed by a plurality of strands and/or strings arranged substantially in parallel and in an axial direction of the flexible tube member so as to define a substantially tube like body. At least some of the plurality of strands/strings may be arranged so to be in contact to one another or with a gap between one another. Each respective strand/string may be coupled to the first housing part with one end and to the second housing part with the other end. At least some of the plurality of strands/strings may be of the same material and/or dimension (thickness and/or width) or may be of different material and/or dimension. As a further alternative, the flexible tube member may comprise and/or consist of a mesh of flexible material.

[0033] Specifically, the male masturbation device may further comprise:

a vibration motor for applying haptic vibration to the male masturbation device, in particular to the flexible tube member; and/or

a suction device for applying suction to the tube shaped housing, in particular to the second housing part; and/or

a heating device for heating at least a part of the male masturbation device, in particular a sleeve and/or the flexible tube member; and/or

a cooling device for cooling at least a part of the male masturbation device, in particular a sleeve and/or the flexible tube member; and/or

a power supply for supplying electric energy to a vibration motor and/or a suction device; and/or

at least one control button for controlling vibration and/or suction; and/or

a sleeve provided inside the first opening and the insertion opening, and particularly inside the second opening, for receiving and contacting the phallus.

[0034] A vibration motor may produce vibration in order to provide an enhanced haptic sensation to the user.

[0035] The vibration motor and/or the suction device and/or the heating/cooling device and/or another device may be provided with electric energy by a power supply comprised by the male masturbation device. Alternatively or in addition, a cable and/or plug may be provided for receiving electric energy from an external power supply and/or a power grid.

[0036] The vibration motor and/or the suction device may be controlled by the user, e.g. by one or more control buttons and/or by being connected to a controlling device such as a smartphone or a remote control.

[0037] Optionally, a sleeve may be provided for receiving the phallus or penis. For example, the sleeve may be coupled to the first opening of the first housing part or to

another part of the tube shaped housing so that a phallus or penis inserted into the tube shaped housing is enclosed and/or surrounded by the sleeve. The sleeve may enhance and/or simplify cleaning of the male masturbation device. The sleeve may be replaceable and/or substantially shaped like a condom, i.e. being tube-shaped and having only one opening for insertion of the phallus or penis. The sleeve may comprise and/or consist of one or more groups of thermoplastic elastomer and/or liquid silicone rubber such as silicone. Advantageously, the sleeve may comprise a soft layer and/or cushion, which may give the user a realistic feeling and offers protection of the phallus or penis. The sleeve may comprise material having different hardness (shore levels). In particular, the sleeve may be configured to transmit a sensation caused by the insertion opening of the flexible tube member to the phallus or penis.

[0038] In particular, the sleeve may comprise and/or at least partly consist of a soft and flexible material, such as TPE (thermoplastic elastomer), latex, silicone and/or the same or similar material as the flexible tube member. The sleeve may have an outer diameter between approximately 70 mm and approximately 15 mm, for example approximately 40 mm, and an inner diameter between approximately 65 mm and approximately 10 mm, for example approximately 35 mm. The sleeve may comprise a texture, such as one or more dimples and/or one or more bumps and/or one or more grooves, on at least a part of its inner facing surface for particularly providing a haptic sensation to the user.

[0039] Advantageously, the male masturbation device further comprises a second flexible tube member defining a second insertion opening. Optionally, the tube shaped housing comprises a third housing part displaceably coupled to the first housing part and/or the second housing part wherein the second flexible tube member is coupled to one of the first housing part or the second housing part and the third housing part and may be deformed similarly to the other flexible member as described above.

[0040] A further aspect relates to an insertion opening regulation module for a male masturbation device comprising: a first body part; a second body part; and a flexible tube member having a first end coupled to the first body part so as to form a first opening for receiving a phallus and having a second end coupled to the second body part so as to form a second opening and an insertion opening defined by an area of the flexible tube member located between the first opening and the second opening for receiving the phallus; wherein the first opening, the second opening and the insertion opening are substantially axially aligned; and wherein the first body part and the second body part are configured to be manipulable by rotation relative to one another thereby causing a deformation of the flexible tube member and regulating the diameter of the insertion opening. The insertion opening regulation module may be particularly configured to provide a stimulation to a phallus or non-erected penis of a user

[0041] The insertion opening regulation module may be particularly coupled to and/or inserted with a male masturbation device, thereby offering an additional and/or alternative sensation and/or uses to the male masturbation device. The insertion opening regulation module may possess at least some of the features and/or functions of the first housing part and/or the second housing part and/or the flexible tube member as described with respect to the male masturbation device according to an aspect herein. The same applies to the male masturbation device, which may possess at least some of the features and/or functions of the first body part and/or the second body part and/or the flexible tube member as described with respect to the insertion opening regulation module according to an aspect herein.

[0042] A further aspect relates to a housing for a male masturbation device configured to be coupled with one or more opening regulation modules according to an aspect herein.

[0043] Yet a further aspect relates to a system comprising a housing according to an aspect one or more opening regulation modules according to an aspect herein.

[0044] The present invention is further explained in detail by the following detailed description and the appended drawings, in which particular embodiments are illustrated by way of example, wherein the present invention is in no way limited by these particular embodiments. It should be understood that even though embodiments are separately described, single features thereof may be combined to additional embodiments.

Brief description of the drawings

[0045]

- Fig. 1a shows an exemplary insertion opening regulation module in a first state and in a second state;
- Fig. 1b shows an exemplary insertion opening regulation module in a default state;
- Fig. 2 shows cross-sectional views of flexible tube members in two exemplary deformed states;
- Fig. 3 shows an exemplary male masturbation device;
- Fig. 4 shows another exemplary male masturbation device;
- Fig. 5 shows an exploded view of the exemplary male masturbation device of Fig. 4;
- Fig. 6 shows a further exemplary male masturbation device.

Description of particular embodiments

[0046] Fig. 1a shows an exemplary insertion opening regulation module 30 for a male masturbation device 1 in a first state and in a second state. Specifically, the insertion opening regulation module 30 comprises a substantially ring shaped first body part 32 and a substantially ring shaped second body part 34. The first body part 32 and the second body part 34 may be of substantially equal size or of different size. Also, the first body part 32 and/or the second body part 34 may be substantially tube shaped.

[0047] The insertion opening regulation module 30 includes a flexible tube member 2, which ends are respectively coupled to the first body part 32 and the second body part 34 so that a first opening 16 and a second opening 18 are formed. Each open end of the flexible tube member 2 is spanned by the first body part 32 or the second body part 34, respectively, to form the first opening 16 and the second opening 18. The first opening 16 and the second opening 18 are configured to receive a phallus or a non-erected penis.

[0048] The first body part 32 and the second body part 34 are arranged substantially in alignment to a common central or longitudinal axis 36 and spaced apart from each other in a direction of said central axis 36. Particularly, a retention body (not shown) is provided for keeping and/or maintaining a distance between the first body part 32 and the second body part 34. Alternatively or in addition, the first body part 32 and/or the second body part 34 are formed such that a predetermined distance between them in an axial direction substantially is maintained.

[0049] However, the insertion opening regulation module 30 may additionally and/or alternatively be configured so as to allow the distance in the axial direction between the first body part 32 and the second body part 34 to be varied and/or adjusted. Specifically, the distance may be set to a plurality of predefined and/or predefinable distances in order to deform the flexible tube member 2 as e.g. shown in Fig. 2 and described below.

[0050] Specifically, first body part 32 and the second body part 34 are arranged so as to be rotationally displaceable relative to one another substantially around the common central axis 36. The first body part 32 may be rotatable relative to the second body part 34 and/or the second body part 34 may be rotatable relative to the first body part 32.

[0051] Furthermore, the flexible tube member 2 is coupled to the first body part 32 and the second body part 34 in such a way that rotation of the first body part 32 and/or the second body part 34 causes a deformation of at least a part of the flexible tube member 2. Specifically, a central part of the flexible tube member 2 located between the first end and the second end at least partly is deformed by rotation of the first body part 32 and/or the second body part 34 so that the central part of the flexible tube member 2 is formed substantially in the shape of a hyperboloid with an insertion opening 4. The extent of

deformation and in particular the diameter of the insertion opening 4 defined by a part of the flexible tube member 2 varies depending on the extent of rotational displacement between the first body part 32 and the second body part 34 as illustrated in Fig. 1a.

[0052] In the first state (left side of Fig. 1a), the first body part 32 and the second body part 34 are in a first rotated position causing a deformation of the flexible tube member 2 such that the insertion opening 4 has a first diameter. In the second state (right side of Fig. 1a), the first body part 32 and the second body part 34 are in a second rotated position causing a deformation of the flexible tube member 2 such that the insertion opening 4 has a second diameter, which is smaller than the first diameter of the first state but larger than approximately 10 mm.

[0053] The first rotated position (first state) and the second rotated position (second state) correspond to states of the insertion opening regulation module 30 in which the flexible tube member 2 has been twisted and/or contorted and/or irregularly deformed compared to the default state as shown in Fig. 1b.

[0054] Fig. 1b shows the insertion opening regulation module 30 of Fig. 1a in a default state in which the flexible tube member 2 substantially is not deformed by a relative rotation or pivotal movement between the first body part 32 and the second body part 34. In the default state, the first body part 32, the second body part 34 and the flexible tube member 2 substantially form a hollow cylinder and/or a channel having a substantially uniform and/or substantially evenly tapering diameter over its length. In this state, however, no insertion opening 4 is defined by the central part of the flexible tube member 2 having a diameter smaller than the first opening and second opening.

[0055] In the first state (left side of Fig. 1a), one or both of the first body part 32 and the second part 34 have been rotationally displaced relative to one another by a first angle from the default state. In the second state (right side of Fig. 1a), one or both of the first body part 32 and the second body part 34 have been rotationally displaced relative to one another by a second angle from the default state, wherein the second angle is larger than the first angle of the first state. In other words, one or both of the first body part 32 and the second body part 34 has been rotated further from the first state in the same respective rotation direction.

[0056] Due to the larger extend of rotation from the default state, respectively the further rotation from the first state, the insertion opening 4 comprises a smaller diameter in the second state compared to the first state due to the further twisting of the flexible tube member 2.

[0057] Advantageously, the insertion opening regulation module 30 may be configured in that the first body part 32 and the second body part 34 may be arranged, particularly locked, in a plurality of distinct rotated positions so as to obtain a plurality of diameters of the insertion opening 30.

[0058] Specifically, the insertion opening regulation

module 30 may be set to a plurality of intermediate positions between a start position and an end position. Advantageously, the flexible tube member 2 is in a twisted and/or contorted state in the start position, in the plurality of intermediate positions and in the end position. The insertion opening regulation module 30 advantageously comprises restriction means which prevent relative rotation between the first body part 32 and the second body part 34 beyond the start position and the end position in order to e.g. prevent excessive stress to the flexible tube member 2.

[0059] For example, a start position of the insertion opening regulation module 30 may correspond to a relative rotation between the first body part 32 and the second body part 34 of approximately 60° to 160° from the default state. Alternatively or in addition, in the start position, the diameter of the insertion opening 4 may correspond to approximately 90% to 50% of the diameter of the first opening 14 of the first body part 32 and/or of the diameter of the second opening 16 of the second body part 34. Similarly, as an example, an end position of the insertion opening regulation module 30 may correspond to a relative rotation between the first body part 32 and the second body part 34 of approximately 100° to 160° from the default state. Alternatively or in addition, in the end position, the diameter of the insertion opening 4 may correspond to approximately 60% to 20% of the diameter of the first opening 14 of the first body part 32 and/or of the diameter of the second opening 16 of the second body part 34.

[0060] Fig. 2 shows cross-sectional views of flexible tube members 2 in a twisted and/or contorted state, which ends are stretched to different distances from one another in the axial direction. The cross sections of one flexible tube member 2 in two exemplary deformed states is shown in Fig. 2, wherein the diameter of the insertion opening 4 is substantially identical in the first state and in the second state. In the first state, the shown part of the flexible tube member 2 is stretched over a first distance d1 in the direction of the central axis 36. In the second state, the shown part of the flexible tube member 2 is stretched or elongated over a second distance d2 in the direction of the central axis 36, wherein the second distance d2 is larger than the first distance d1. As can be seen, by varying the stretching or elongation of the flexible tube member 2 in the axial direction, different shapes of hyperboloids may be obtained.

[0061] In the shown examples, the smaller distance d1 results in a more pointy or acute curvature of the flexible tube member 2 in the area of the insertion opening 4 while the larger distance d2 results in a flatter curvature. Moreover, an angle (α , β) between a part of the flexible tube member 2 at one side of the insertion opening 4 and a part of the flexible tube member 2 at the other side of the insertion opening 4 in the axial direction is directly proportional to the distance in the axial direction d1, d2 the flexible tube member 2 is stretched so that the angle α of the first state is smaller than the angle β of the second

state. An exemplary angle α/β may be between approximately 5° and 120° , more preferably between approximately 30° and approximately 70° , for example approximately 40° .

[0062] Accordingly, by modifying the curvature of the flexible tube member 2, in particular by varying the stretch or elongation of the flexible tube member 2 in an axial direction of the hyperboloid, a further modification of the sensation experienced by the user may be achieved: When a phallus and/or penis of a user is inserted into the insertion opening 4 so that the insertion opening 4 is widened, the part of the flexible tube member 2 defining the insertion opening 4 and a part of the flexible tube member 2 in close proximity surrounds and/or touches and/or envelops and/or acts on at least a part of the phallus or non-erected penis. Depending on the curvature of the flexible tube member 2, the diameter of the insertion opening 4 and the circumference of the phallus or non-erected penis, a different sensation on the phallus and/or penis is experienced by the user.

[0063] In the shown examples, with a substantially identical diameter of the insertion opening 4, the area of the flexible tube member 2 coming into contact and/or exerting pressure and/or acting on the phallus or non-erected penis is larger in the second state (distance d_2 , angle β) than in the first state (distance d_1 , angle α). This may cause sensation with less pressure but over a larger surface in the second state and a sensation with higher pressure but over a smaller surface in the first state to the phallus and/or penis.

[0064] A resistance force acting perpendicular to the axial direction against a deformation of the flexible tube member 2 may differ due to different stretch or elongation of the flexible tube member 2 in the axial direction. Also, the diameter of the insertion opening 4 may be changed for different distances and/or stretch or elongation.

[0065] The stretch or elongation of at least a part of the flexible tube member 2 in an axial direction may be predefined and/or preset for an insertion opening regulation module 30 and/or a male masturbation device and may not be changed by the user.

[0066] Alternatively, the stretch of at least part of the flexible tube member 2 in an axial direction may be changed and/or varied by the user. In particular, the insertion opening regulation module 30 may be configured so as to be manipulated so as to deform at least a part of the flexible tube member 2 in that the angle in the axial direction over the insertion opening 4 in addition or as alternative to the manipulation by rotation, e.g. as described with respect to Fig. 1a.

[0067] That said, it is particularly advantageous if the insertion opening regulation module 30 and/or the male masturbation device 1 of the present disclosure is/are configured to deform the flexible tube member 2 through manipulation in a way that a twisting or rotating around a central or longitudinal axis and a stretch or elongation in the axial direction of at least a part of the flexible tube member 2 can be set e.g. by a user. Accordingly, a ma-

nipulation of at least a part of the insertion opening regulation module 30 and/or the male masturbation device 1 may occur via rotation around the central axis 36, thereby twisting at least a part of the flexible tube member 2, and by translation in the axial direction, thereby stretching or elongating at least a part of the flexible tube member 2 in the axial direction.

[0068] For varying and/or setting the distance between the first body part 32 and the second body part 34, at least one of the first body part 32 and the second body part 34 may be arranged displaceably relative to one another in the axial direction.

[0069] Specifically, at least one securing mechanism is provided in order to at least temporarily fix and/or fasten and/or lock the position of the first body part 32 and the second body part 34 relative to one another in the axial direction. Particularly, as indicated above, a rotation around the central axis 36 may be possible in said locked position. The same applies vice versa so that if a rotation position is set, the first body part 32 and the second body part 34 may be displaced relative to one another in the axial direction.

[0070] Specifically, the distance is restricted to a predefined minimum and/or maximum distance in order to not overstress the flexible tube member 2. Advantageously, a securing mechanism may be provided for fixing the relative position between the first body part 32 and the second body part 34 in all directions.

[0071] The features, properties and functions described herein with respect to an insertion opening regulation module 30 also apply to the male masturbation device 1 of the present disclosure. Specifically, the flexible tube member 2 of male masturbation devices 1 described herein may be deformed in the same or a similar manner as described with respect to Figs. 1a, 1b and 2. Also, the first housing part 12 of a male masturbation device 1 may correspond to and/or comprise the first body part 32 and/or, accordingly, the second housing part 1 of a male masturbation device 1 may correspond to and/or comprise the second body part 34.

[0072] Fig. 3 shows an exemplary male masturbation device 1 with a flexible tube member 2 defining an insertion opening 4, which diameter may be regulated or defined by manipulation or operation of the tube shaped housing 10 of the male masturbation device 1. Specifically, the diameter of the insertion opening 4 may be regulated by rotational displacement of a first housing part 12 relative to a second housing part 14 of the tube shaped housing 10 around a central or longitudinal axis 36 of the tube shaped housing 10.

[0073] The exemplary male masturbation device 1 is configured to receive at least a part of a phallus or non-erected penis through an opening provided on one end of its tube shaped housing 10. Specifically, the flexible tube member 2 is arranged in proximity to said opening so that a large area of the phallus may be stimulated by the flexible tube member 2.

[0074] The flexible tube member 2 may be coupled -

either directly or indirectly - to the first housing part 12 and the second housing part 14 with respective ends. Similar as described with respect to the insertion opening regulation module 30 of Fig. 1a, the flexible tube member 2 may be deformed by relative rotation between the first housing part 12 and the second housing part 14. Rotation of the first housing part 12 relative to the second housing part 14 and/or rotation of the second housing part 14 relative to the first housing part 12 leads to a twisting and/or contortion of at least a part of the flexible tube member 2 so that an insertion opening 4 is formed. The diameter of said insertion opening 4 depends on the extent of relative rotation or displacement between the first housing part 12 and the second housing part 14 in the same rotation or displacement direction.

[0075] As an alternative or in addition, the first housing part 12 and the second housing part 14 may be displaced in the axial direction relative to one another as described with respect to Fig. 2.

[0076] The male masturbation device 1 may comprise one or more further flexible tube members 2, which may be deformed so as to define a respective insertion opening. The one or more further flexible tube members 2 may be coupled to one or both of the first housing part 12 and the second housing part 14 and/or to other parts of the tube shaped housing 10. Specifically, the one or more further flexible tube members 2 may comprise substantially the same properties as the flexible tube member 2 shown in Fig. 3 or different properties.

[0077] As one particular embodiment, two or more flexible tube members 2 may be provided which are spaced apart from one another in the axial direction. The two or more flexible tube members 2 are respectively coupled to the first housing part 12 and the second housing part 14 so that both flexible tube members 2 are deformed (particularly substantially equally) by relative rotation or displacement between the first housing part 12 and the second housing part 14. Alternatively, the plural flexible tube members 2 may be provided spaced apart from one another in the axial direction and may be singularly or groupwise deformed in order to set one substantially same diameter of the respective openings of the plural flexible tube members 2 or two or more different diameters of the respective openings of the plural flexible tube members 2.

[0078] In another embodiment, the tube shaped housing 10 may comprise a first housing part 12, a second housing part 14 and a third housing part arranged between the first housing part 12 and the second housing part 14. A flexible tube member 2 may be provided and coupled with the first housing part 12 at or near one end, with the second housing part 14 at or near the other end and with the third housing part at an intermediate portion between its end.

[0079] The first housing part 12 and the second housing part 14 may be rotatably displaced with respect to the third housing part independently from one another. Accordingly, a first insertion opening may be formed by

the flexible tube member 2 by rotation of the first housing part 12 relative to the third housing part and a second insertion opening may be formed by the flexible tube member 2 by rotation of the second housing part 14 relative to the third housing part. This way, two independently adjustable insertion openings are obtained with one flexible tube member 2.

[0080] For an enhanced stimulation, the male masturbation device 1 may further comprise at least one vibration motor for generating vibrations to at least a part of the male masturbation device 1, in particular to the flexible tube member 2. Alternatively or in addition, the male masturbation device 1 may further comprise at least one suction device for applying suction and/or underpressure to a volume of the male tube shaped housing 10, in particular to a volume of the tube shaped housing 10 substantially sectioned off by the flexible tube member 2 and opposite the opening of the tube shaped housing 10. Alternatively or in addition, at least one heating device may be provided for heating at least a part of the male masturbation device 1. Alternatively or in addition, at least one cooling device may be provided for cooling at least a part of the male masturbation device 1.

[0081] Fig. 4 shows an exemplary male masturbation device 1 including a flexible tube member 2 defining an insertion opening 4, which diameter may be regulated or varied. The exemplary male masturbation device 1 comprises a tube shaped housing 10 comprising a first housing part 12 and a second housing part 14, which are arranged so that they are rotatable or pivotable or displaceable relative to one another around a central or longitudinal axis 36 of the tube shaped housing 10. A flexible tube member 2 (not shown) is coupled to the first housing part 12 and the second housing part 14.

[0082] Furthermore, in this embodiment, the first housing part 12 may be rotated relative to the second housing part 14 and other parts of the tube shaped housing 10. By rotation or displacement of the first housing part 12 and the second housing part 14 relative to each other, the diameter of an insertion opening 4 defined by a part of the flexible tube member 2 is increased or decreased as described with respect to aspects and examples herein. Alternatively or in addition, the first housing part 12 and the second housing part 14 may be displaceable substantially in the axial direction in order to set and/or vary the curvature of the flexible membrane 2 in the area defining the insertion opening 4.

[0083] The male masturbation device 1 further includes a lid 24 for at least partly covering an opening of the tube shaped housing 10 for receiving a phallus or non-erected penis. The lid 24 may be coupled with the first housing part 12 or another part of the tube shaped housing.

[0084] The illustrated exemplary male masturbation device 1 further comprises a control unit 28 coupled to the second housing part 14 and a power supply 26 coupled to said control unit 28. The control unit 28 particularly comprises one or more control buttons 20 for controlling

a vibration motor and/or a suction device and/or other electronic devices of the male masturbation device 1. The power supply 26 provides an integral power source so that the male masturbation device 1 may be used without a power cable.

[0085] The male masturbation device 1 may optionally comprise at least one sleeve 22, which is shown and further described with respect to Fig. 5.

[0086] Fig. 5 shows an exploded view of the exemplary male masturbation device 1 of Fig. 4. As can be seen in Fig. 5, the male masturbation device 1 includes one or more vibration elements 29, which are configured to be excited or driven by a vibration motor (not shown). Also, it is illustrated that the flexible tube member 2 is provided in a default state. The flexible tube member 2 may be coupled with one end to the first housing part 12 and with the other end to the second housing part 14 so as to be deformable by rotation or displacement of the first housing part 12 relative to the second housing part 14 or vice-versa.

[0087] As indicated above, the exemplary male masturbation device 1 may comprise the at least one sleeve 22. The sleeve 22 may be positioned within the tube shaped housing 10 of the male masturbation device 1 and configured to receive the phallus and/or penis. Specifically, the sleeve 22 is of skin-friendly and flexible material, e.g. the same material as the flexible tube member 2. The sleeve 22 may be positioned within the tube shaped housing 10 so that it extends through the insertion opening 4 defined by the flexible tube member 2. Thus, a phallus or penis received by the male masturbation device 1 may receive stimulation by the insertion opening 4 without directly contacting the flexible tube member 2.

[0088] The sleeve 22 may e.g. be formed like a condom and/or configured to surround and/or envelop at least a part of the phallus or penis. In particular, the sleeve 22 offers the advantage that it may easily be removed and/or replaced so that cleaning of the male masturbation device 1 is simplified and/or enhanced. The sleeve 22 may further include one or more elements for receiving and/or transmitting vibrations from a vibration motor and/or from one or more vibration elements.

[0089] For example, the sleeve 22 may comprise and/or at least partly consist of a soft and flexible material, such as TPE (thermoplastic elastomer), latex and/or silicone. The sleeve 22 may have an outer diameter between approximately 70 mm and approximately 15 mm, for example approximately 40 mm, and an inner diameter between approximately 65 mm and approximately 10 mm, for example approximately 35 mm. Optionally, the sleeve 22 may comprise a texture, such as one or more dimples and/or one or more bumps and/or one or more grooves, on at least a part of its inner facing surface for particularly providing a haptic sensation to the user.

[0090] Moreover, as illustrated in Fig. 5, the exemplary male masturbation device 1 of Fig. 4 particularly includes an insertion opening regulation module 30 as e.g. shown in Figs. 1 and 2. In the shown example, the first housing

part 12 corresponds to the first body part 32 of the insertion opening regulation module 30 and the second housing part 14 corresponds to the second body part 34 of the insertion opening regulation module 30. Due to the modularity of the insertion opening regulation module 30, a customary male masturbation aid may be coupled with an insertion opening regulation module 30 as described herein. Alternatively, parts of a customary male masturbation aid may be replaced by an insertion opening regulation module 30 as described herein. This way, the user may upgrade his already purchased male masturbation aid to receive enhanced stimulation. Also, a male masturbation aid may be coupled with different insertion opening regulation modules 30 so that a user may choose from a plurality of available insertion opening regulation modules 30 according to his current desire.

[0091] Fig. 6 shows a further exemplary male masturbation device 1 in a conceptual view. The male masturbation device 1 includes a first housing part 12 and a second housing part 14, which are arranged so as to be rotationally and/or pivotably displaceable relative to one another. The male masturbation device 1 includes a sleeve 22, which is positioned so as to be surrounded and deformed by the flexible tube member 2.

[0092] The illustrated male masturbation device 1 further includes at least one vibration motor 38 for providing mechanical vibrations to at least a part of the male masturbation device 1. Furthermore, at least one heating/cooling device 42 may be provided for heating/cooling at least a part of the male masturbation device 1, in particular the sleeve 22. The male masturbation device 1 may include at least one suction device 40 for providing underpressure to at least at least a part of the male masturbation device 1, in particular a lower end of the sleeve 22.

[0093] In Fig. 6, a locking feature 44 is shown for locking the position of the first housing part 12 relative to the second housing part 14. The locking feature 44 may comprise a displace sliding element which couples with the first housing part 12 and the second housing part 14 to prevent a relative displacement of said parts of the male masturbation device 1.

List of Reference Numerals

[0094]

1	Male masturbation device
2	flexible tube member
4	insertion opening
10	tube shaped housing
12	first housing part
14	second housing part
16	first opening
18	second opening
20	control button
22	sleeve
24	lid

26 power supply
 28 control unit
 29 vibration element
 30 insertion opening regulation module
 32 first body part
 34 second body part
 36 central axis
 38 vibration motor
 40 suction device
 42 heating/cooling device
 44 locking feature

Claims

1. Male masturbation device (1) comprising:

a tube shaped housing (10) for receiving a phallus; and
 at least one flexible tube member (2) arranged within or at the tube shaped housing (10) and defining at least one insertion opening (4) for receiving the phallus,
 wherein the tube shaped housing (10) is manipulable and a manipulation of the tube shaped housing (10) causes a deformation of the at least one flexible tube member (2) thereby adjusting the diameter of the insertion opening (4).

2. Male masturbation device (1) of claim 1, wherein:

the tube shaped housing (10) comprises a first housing part (12) and a second housing part (14), which are concentrically aligned with respect to a central axis (36) of the tube shaped housing (10) and arranged to be rotatably displaceable relative to one another around the central axis (36) of the tube shaped housing (10);
 the flexible tube member (2) has a first end and a second end;
 the first housing part (12) spans the first end of the flexible tube member (2) to form a first opening (16) for receiving the phallus and the second housing part (14) spans the second end of the flexible tube member (2) to form a second opening (18) for receiving the phallus; and
 the first opening (16) and second opening (18) being spaced apart from each other so that the insertion opening (4) is arranged between the first opening (16) and the second opening (18) in a direction of the central axis (36) of the tube shaped housing (10).

3. Male masturbation device (1) of claim 2, wherein the tube shaped housing (10) is manipulable by rotation between the first housing part (12) and the second housing part (14) to a plurality of positions including

a start position, an end position and at least one intermediate position between the start position and the end position.

5 4. Male masturbation device (1) of claim 3, wherein the diameter of the insertion opening (4) is a first size when the first housing part (12) and the second housing part (14) are in the start position and the diameter of the insertion opening (4) is a second size when the first housing part (12) and second housing part (14) are in the end position, wherein the diameter in the start position is larger than the diameter in the end position.

15 5. Male masturbation device (1) of claim 3 or 4, wherein the diameter of the insertion opening (4) is a third size when the first housing part (12) and second housing part (14) are in an intermediate position between the start position and the end position, wherein the diameter is smaller than the diameter in the start position and larger than the diameter in the end position.

25 6. Male masturbation device (1) of any one of claims 3 to 5, wherein at least the part of the flexible tube member (2) defining the insertion opening (4) is deformed by rotation of the first housing part (12) relative to the second housing part (14), wherein rotation in a direction from the start position to the end position decreases the diameter of the insertion opening (4) and wherein rotation in a direction from the end position to the start position increases the diameter of the insertion opening (4).

35 7. Male masturbation device (1) of any one of claims 3 to 6, wherein at least a part of the flexible tube member (2) between the first end and the second end has a substantially hyperboloid shape when the first housing part (12) and the second housing part (14) are in the end position and in an intermediate position and, particularly, in the start position.

45 8. Male masturbation device (1) of any one of claims 3 to 7, wherein a rotation angle of the first housing part (12) relative to the second housing part (14) between the start position and the end position is lower than approximately 160°, preferably lower than approximately 100°, further preferably lower than approximately 60°.

50 9. Male masturbation device (1) of any one of claims 3 to 8, wherein rotation of the first housing part (12) relative to the second housing part (14) is restricted to positions including the start position, the end position and the at least one intermediate position.

55 10. Male masturbation device (1) of any one of claims 3 to 9, wherein the one or more intermediate positions

are substantially continuous or spaced apart by angles of less than approximately 20°, preferably less than approximately 10°.

11. Male masturbation device (1) of any one of claims 1 to 10, wherein the tube shaped housing (10) is manipulable by displacement between the first housing part (12) and the second housing part (14) in an axial direction of the tube shaped housing (10) to a plurality of distances. 5 10

12. Male masturbation device (1) of any one of claims 2 to 11, wherein:

the first housing part (12) may be decoupled from the tube shaped housing (10); and/or the second housing part (14) may be decoupled from the tube shaped housing (10); and/or the flexible tube member (2) may be decoupled from the first housing part (12) and/or the second housing part (14). 15 20

13. Male masturbation device (1) of any one of claims 1 to 12, wherein the flexible tube member (2) comprises a thermoplastic elastomer and/or a silicone rubber material. 25

14. Male masturbation device (1) of any one of claims 1 to 13, further comprising: 30

a vibration motor (38) for applying haptic vibration to the male masturbation device, in particular to the flexible tube member; and/or a suction device (40) for applying suction to the tube shaped housing (10); and/or a power supply (26); and/or at least one control button (20) for controlling vibration and/or suction; and/or a sleeve (22) provided inside the first opening (16), the second opening (18) and the insertion opening (4) for receiving and contacting the phallus. 35 40

15. Insertion opening regulation module (30) for a male masturbation device (1) comprising: 45

a first body part (32); a second body part (34); and a flexible tube member (2) having a first end coupled to the first body part (32) so as to form a first opening (16) for receiving a phallus and having a second end coupled to the second body part (34) so as to form a second opening (18) and an insertion opening (4) defined by an area of the flexible tube member (2) located between the first opening (16) and the second opening (18) for receiving the phallus; wherein the first opening (16), the second open- 50 55

ing (18) and the insertion opening (4) are substantially axially aligned; and wherein the first body part (32) and the second body part (34) are configured to be manipulable by rotation relative to one another thereby causing a deformation of the flexible tube member (2) and regulating the diameter of the insertion opening (4).

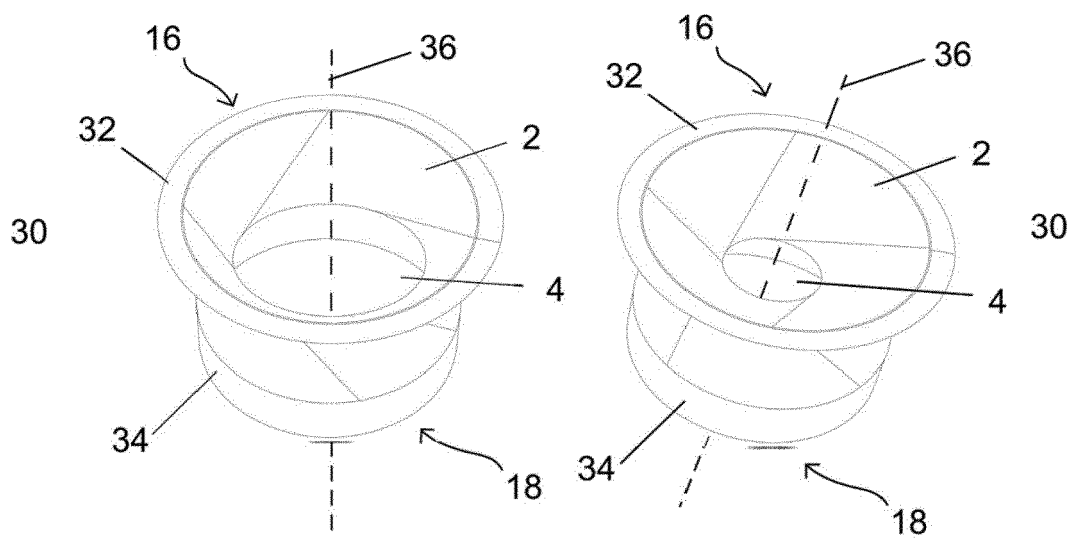


FIG. 1a

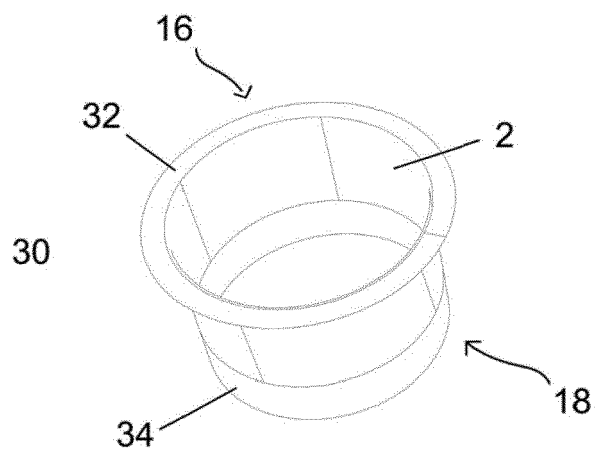


FIG. 1b

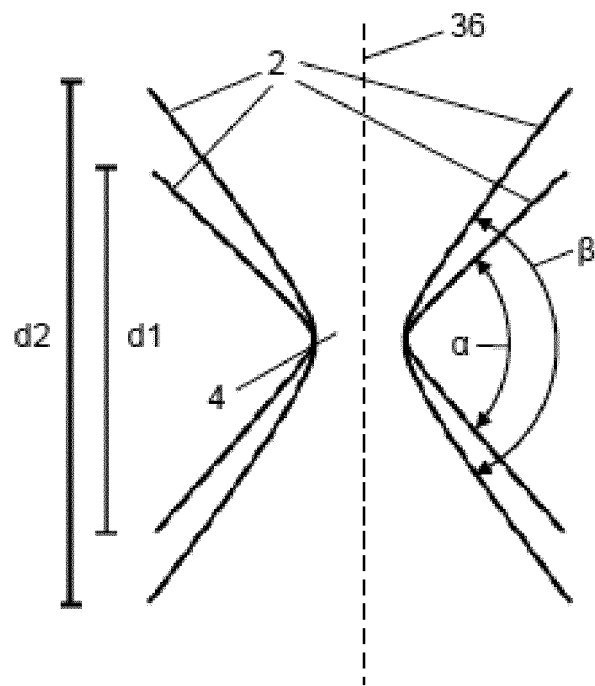


FIG. 2

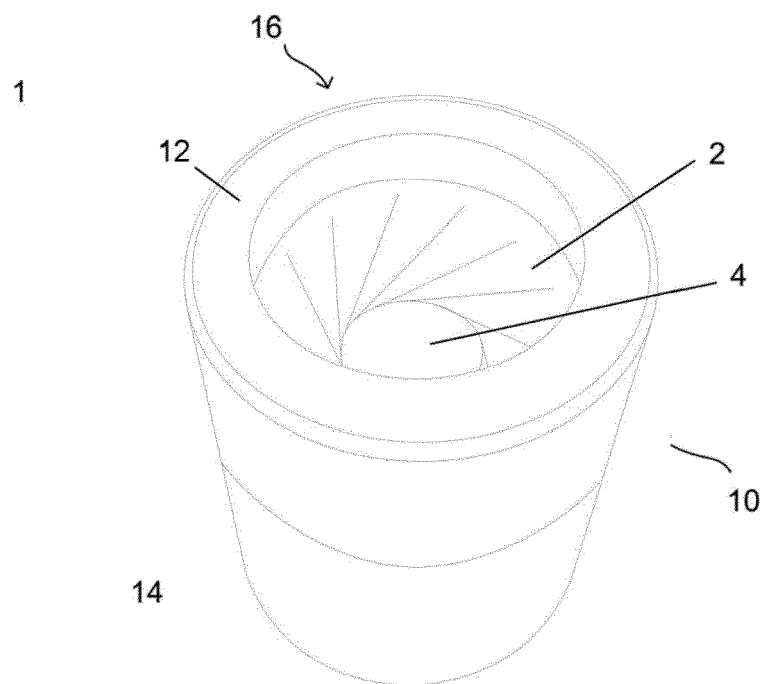


FIG. 3

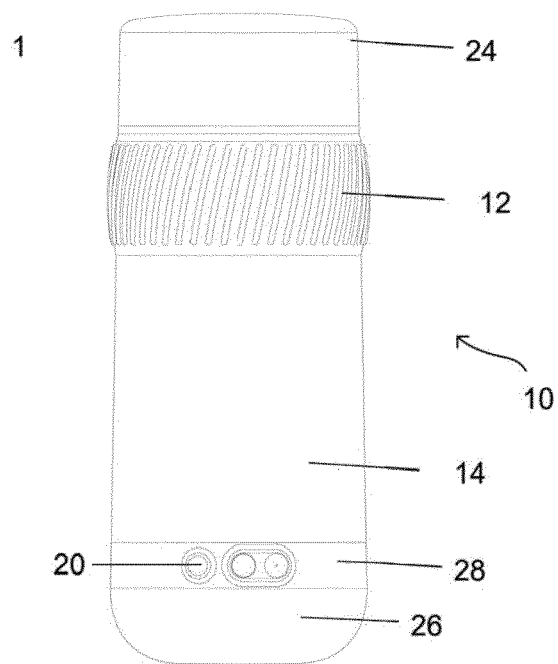


FIG. 4

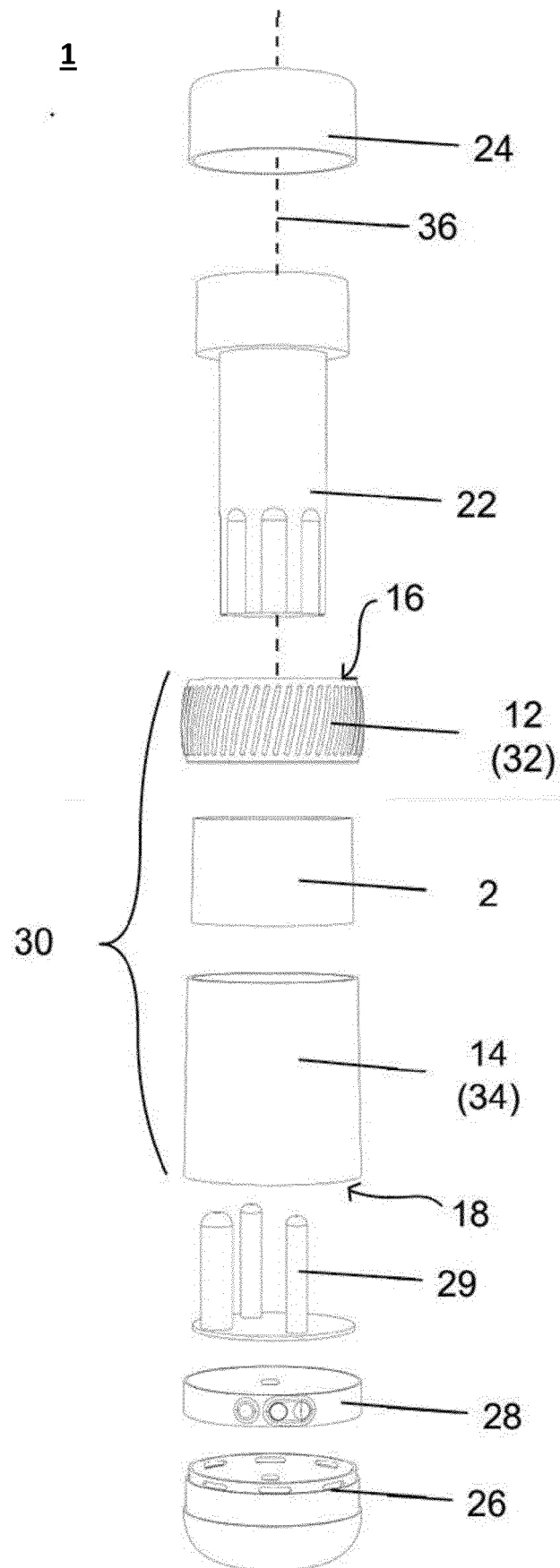


FIG. 5

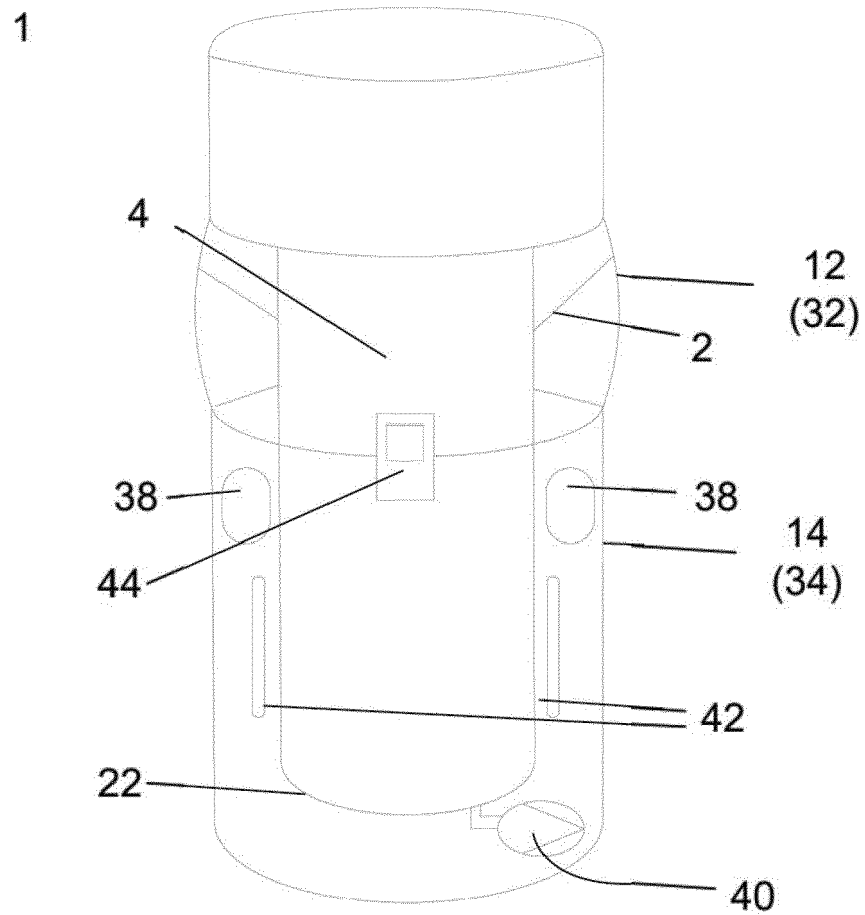


FIG. 6



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