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(54) **VIBRATING TOOTHBRUSH ATTACHMENT**

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(76) Inventor: **Cynthia L. Gaboury**, Tallahassee, FL
(US)

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Correspondence Address:

John Wiley Horton, Attorney
Pennington, Moore, Wilkinson, Bell & Dunbar,
P.A.

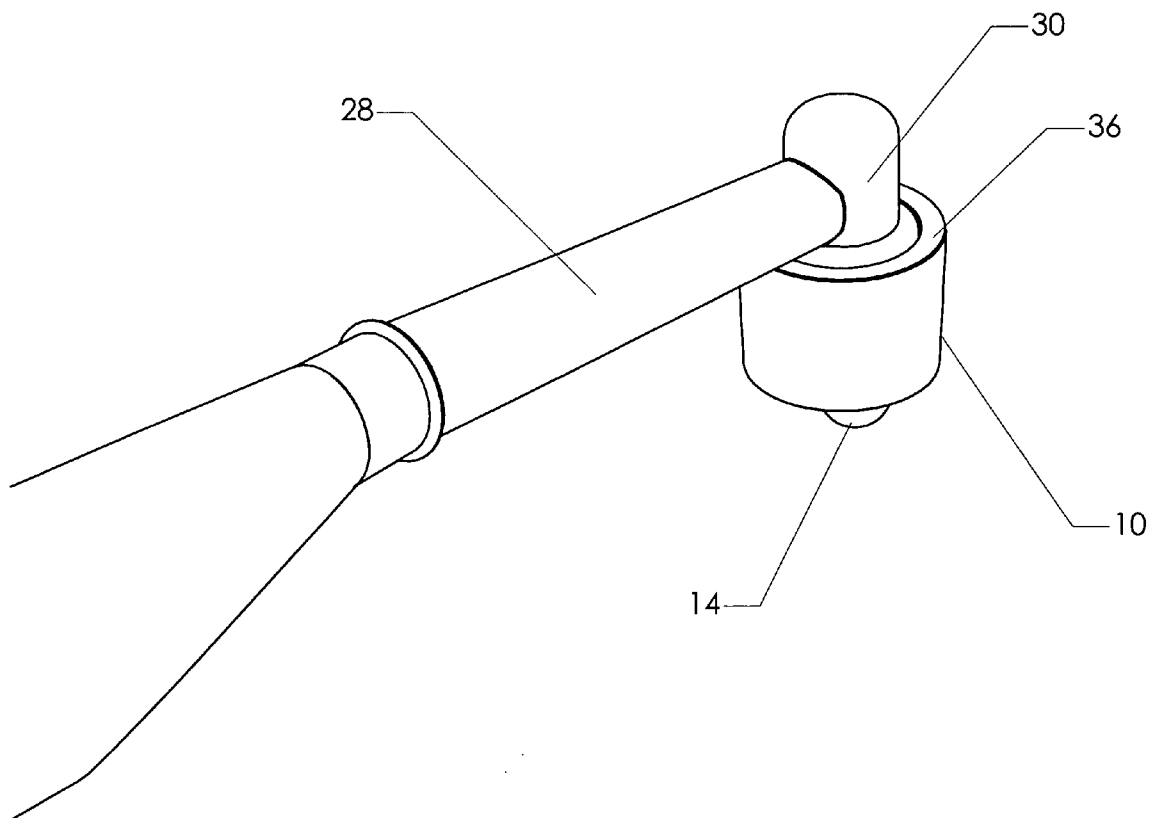
P. O. Box 10095
Tallahassee, FL 32302-2095 (US)

(57) **ABSTRACT**

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A vibrating cap attachment for an electric toothbrush for use as a sexual aid. The preferred embodiment of the cap includes knob-like protrusions on the top for enhanced sexual stimulation and a bore on the bottom for receiving the brush head and bristles of a standard electric toothbrush.

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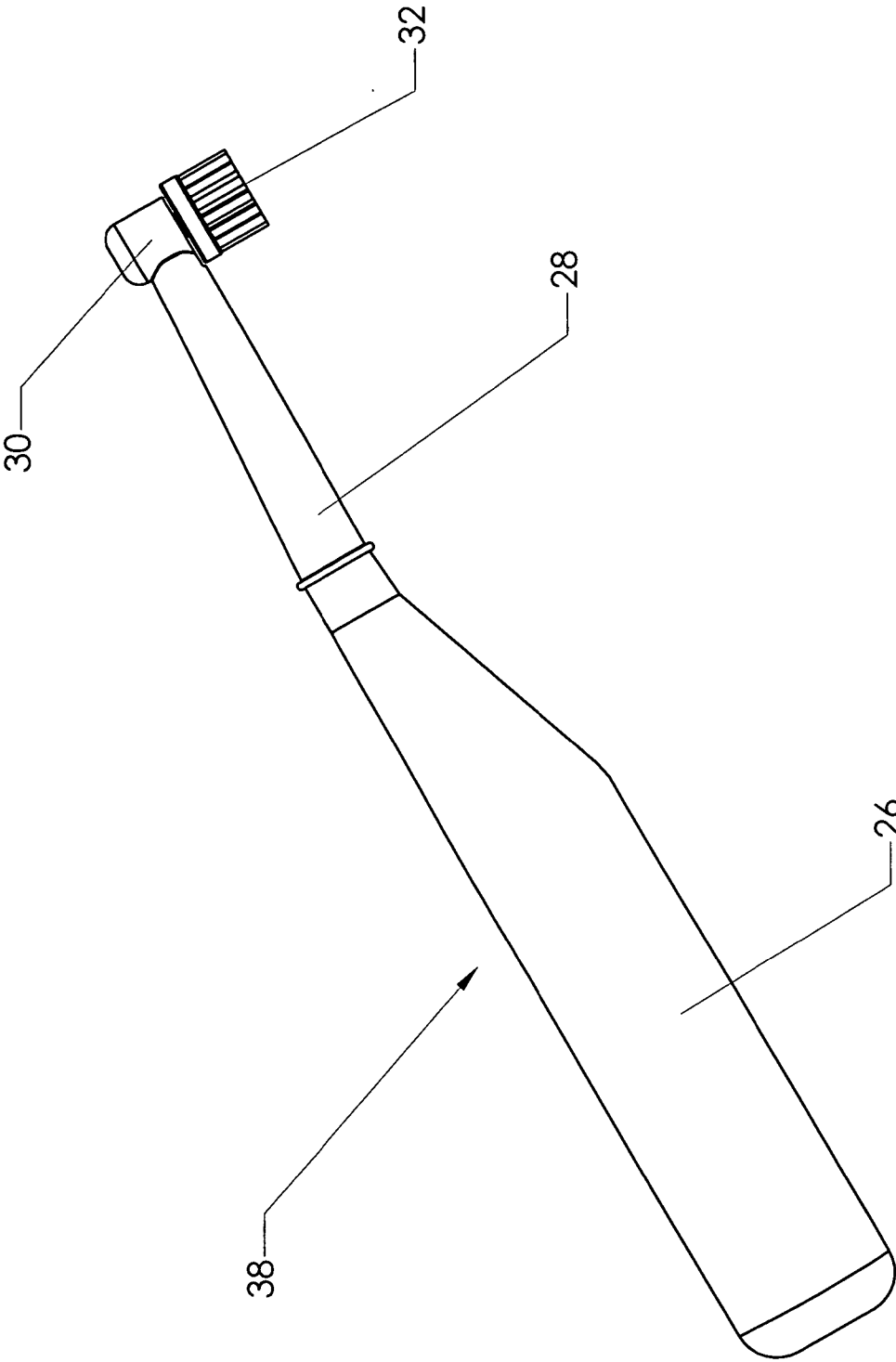


FIG. 1

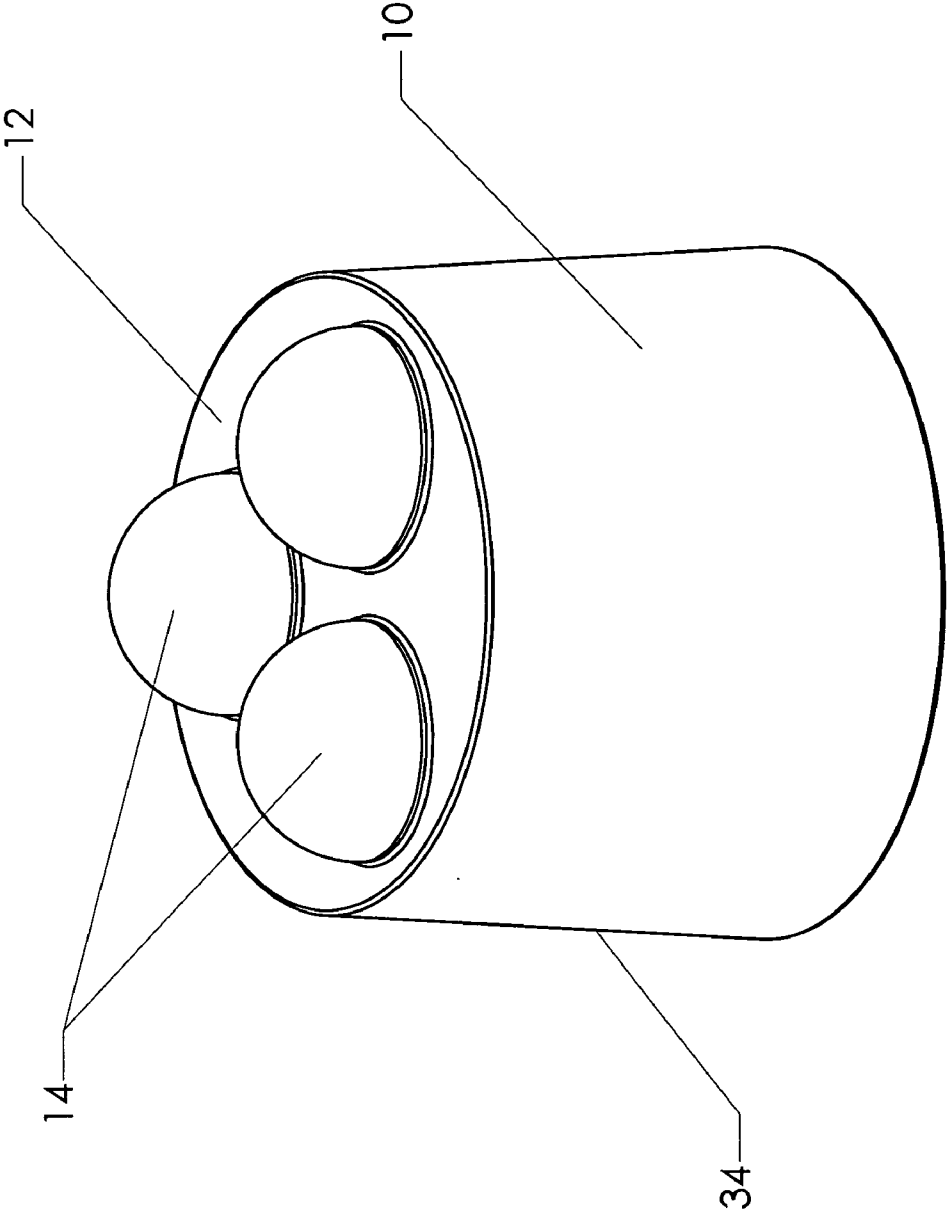


FIG. 2

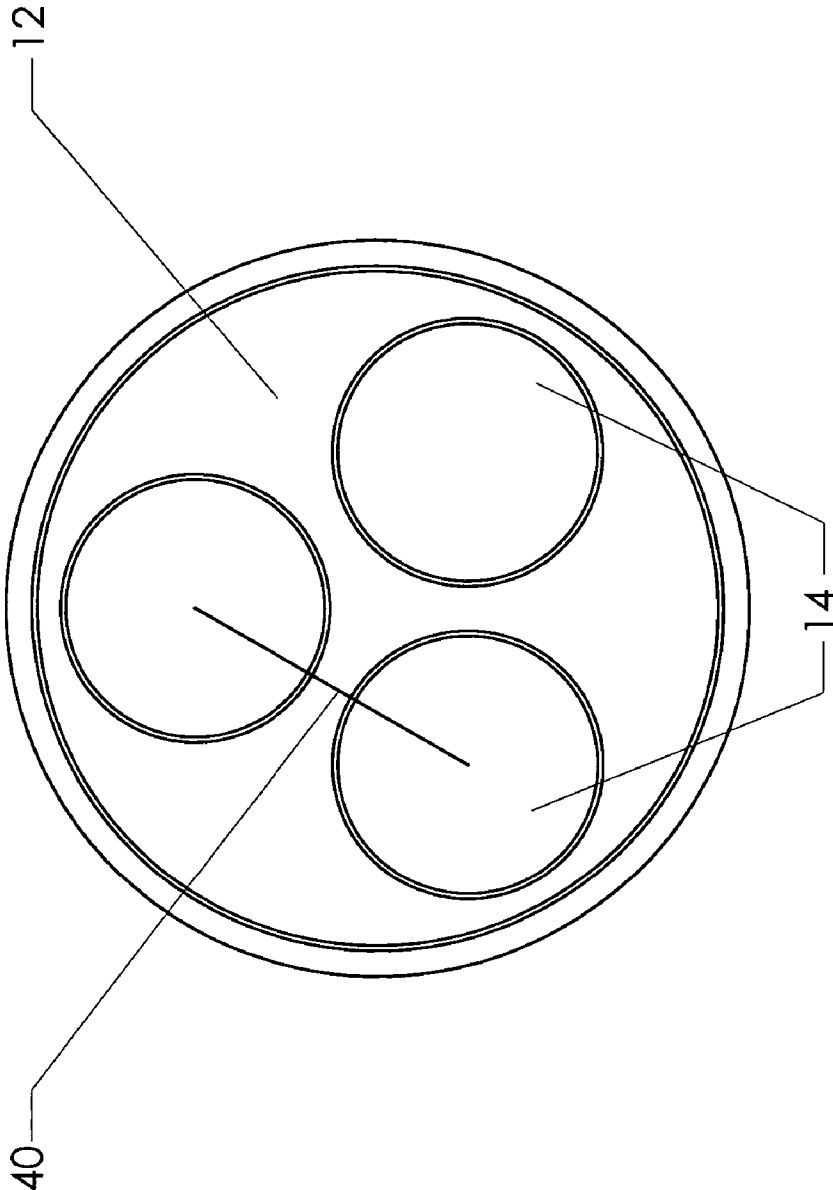


FIG. 3

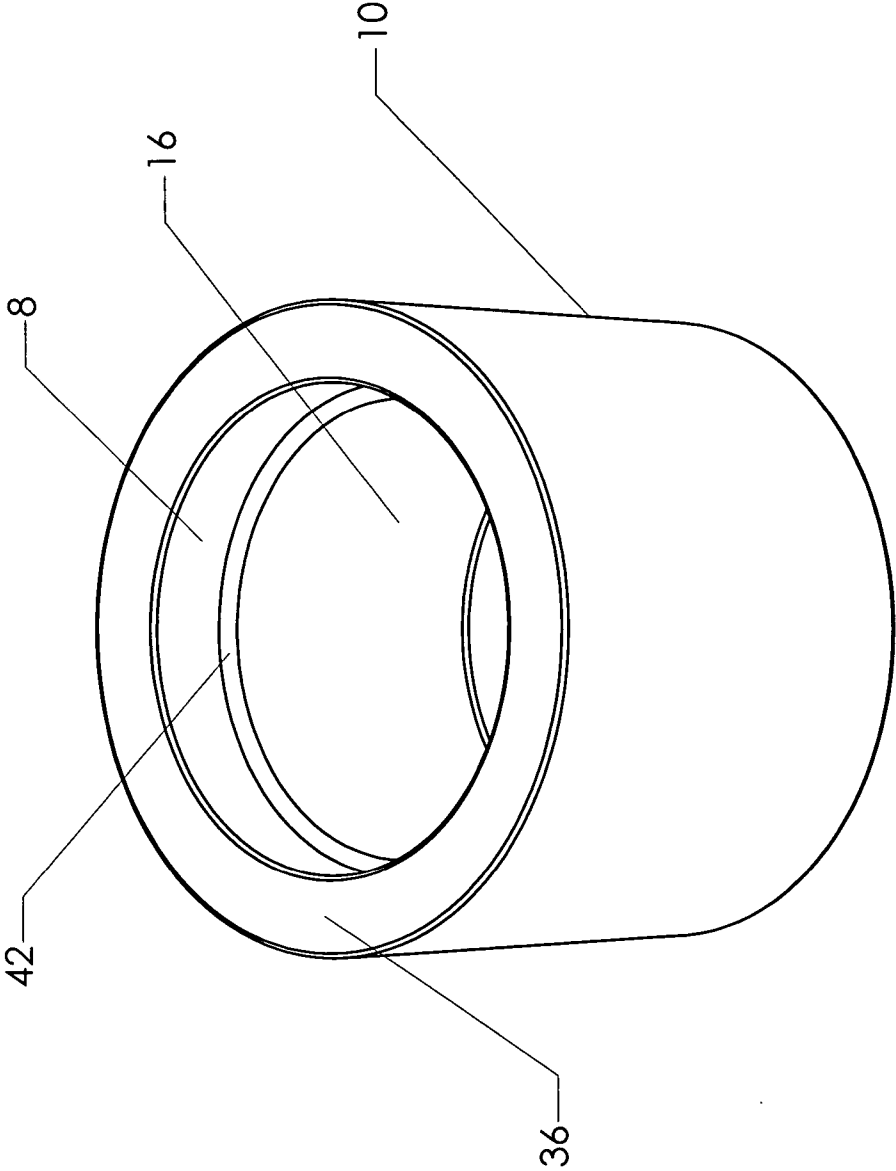


FIG. 4

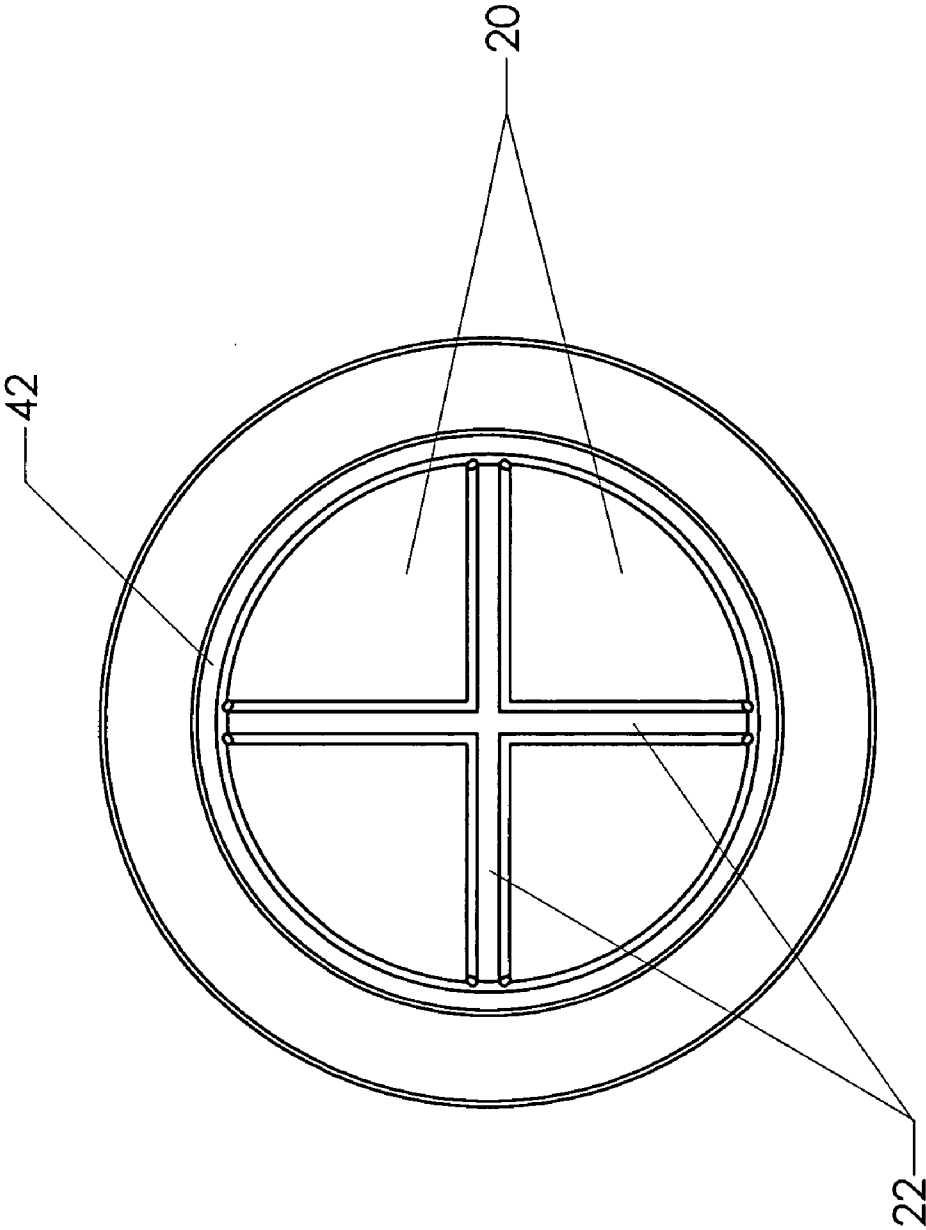


FIG. 5

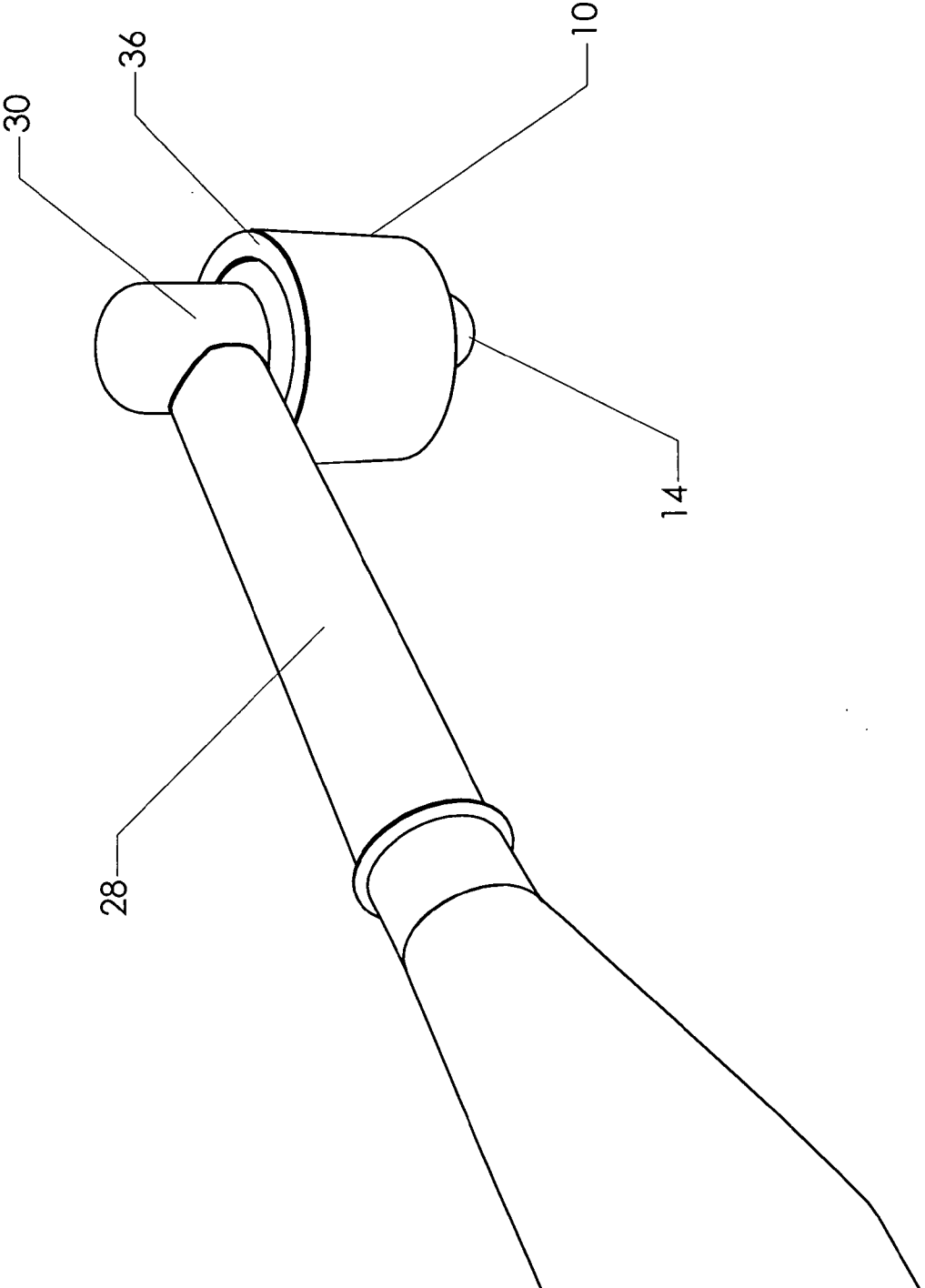


FIG. 6

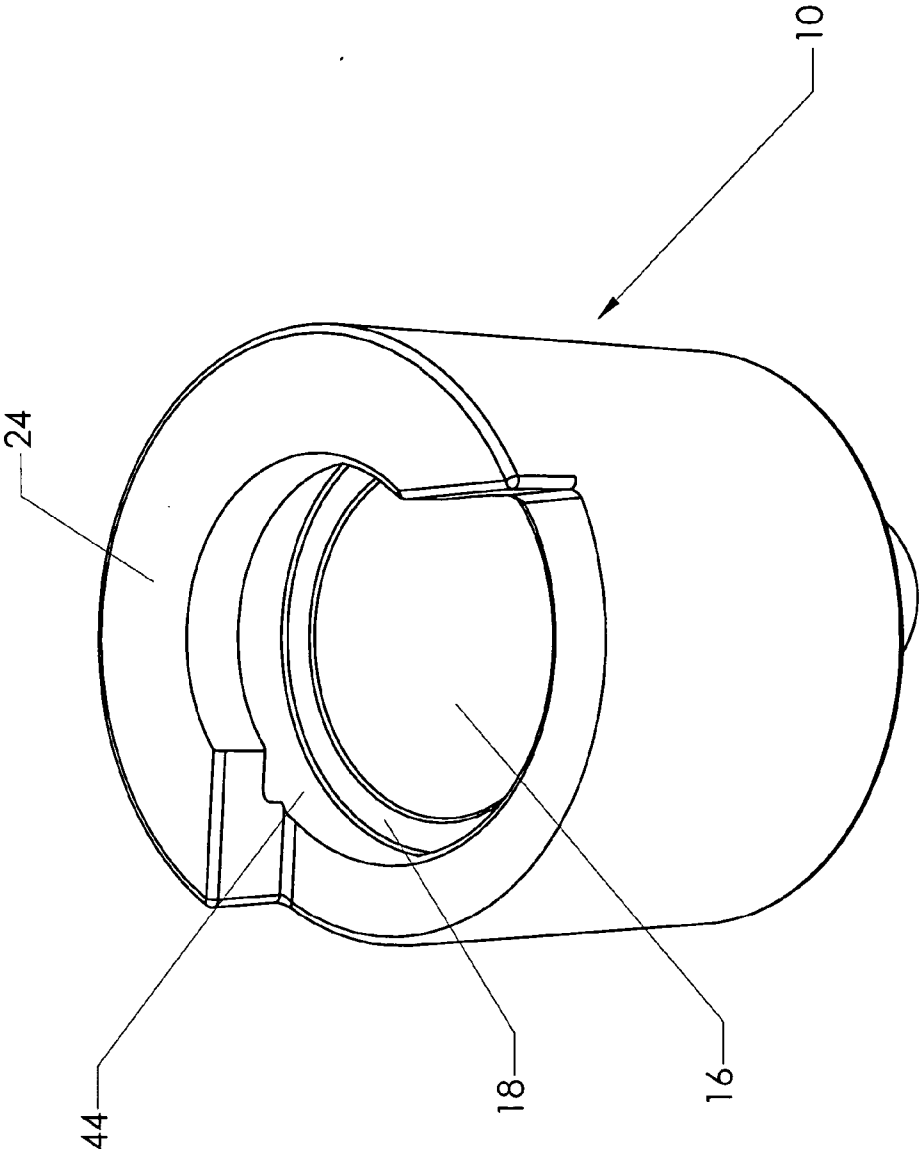


FIG. 7

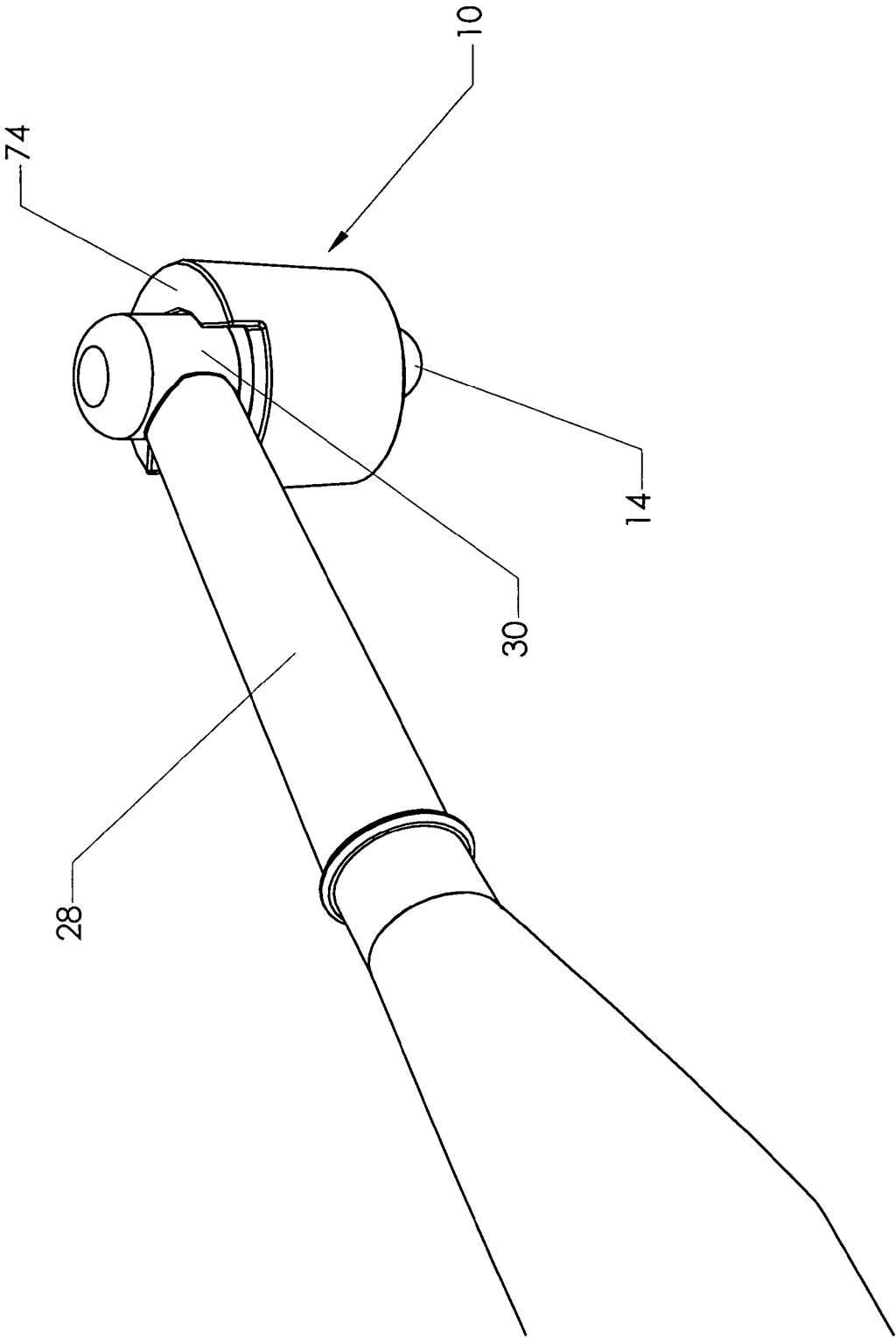


FIG. 8

VIBRATING TOOTHBRUSH ATTACHMENT

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] This invention relates to the field of vibrating devices used for sexual stimulation. More specifically, the invention comprises a molded cap which can be attached over the bristles of an electric toothbrush.

[0003] 2. Description of the Related Art

[0004] The use of sexual aids such as vibrators of various designs and configurations is known in the prior art. These devices are typically phallic in shape (although unconventional shapes are also employed in the prior art) and are commonly used to stimulate the erogenous zones of the body including the external and internal genitalia. Some sexual aids employ a vibrating mechanism to increase the sexual stimulation provided by the device. These sexual aids are often referred to as vibrators.

[0005] It is often desirable for a vibrator to be transportable so that the user can bring the device with them when they travel. Since conventional vibrators employ internal batteries and a motor to create the vibrating motion of the device, the devices can be discovered during luggage screening at airports and in other places where luggage screening is employed. The discovery of a vibrator in these circumstances can create an uncomfortable and embarrassing situation for people who prefer to keep their use of sexual aids private.

BRIEF SUMMARY OF THE INVENTION

[0006] The present invention overcomes the problems of the prior art by providing a vibrating device which is discreet and transportable. The invention comprises a molded plastic cap which is adapted to fit over the bristles of the head of an electric toothbrush. The cap features knob-like protrusions for enhanced stimulation.

[0007] In one embodiment, the cap features a groove for secured attachment of the cap to the toothbrush.

[0008] Another embodiment provides for the use of an adhesive for permanent attachment of the cap to the toothbrush.

[0009] The invention provides all of these features, advantages, and objects along with others that will become apparent with reference to the following description and accompanying

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0010] FIG. 1 is a perspective view, showing an electric toothbrush.

[0011] FIG. 2 is a perspective view, showing the present invention.

[0012] FIG. 3 is a top view, showing the present invention.

[0013] FIG. 4 is a perspective view, showing the present invention.

[0014] FIG. 5 is a bottom view, showing an alternate embodiment of the present invention.

[0015] FIG. 6 is a perspective view, showing the present invention attached to an electric toothbrush.

[0016] FIG. 7 is a perspective view, showing an alternate embodiment of the present invention.

[0017] FIG. 8 is a perspective view, showing an alternate embodiment of the present invention attached to an electric toothbrush.

REFERENCE NUMERALS IN THE DRAWINGS

[0018]

| | | | |
|----|---------------------|----|-----------------------|
| 10 | cap | 12 | top |
| 14 | knobs | 16 | bore |
| 18 | counterbore | 20 | compartments |
| 22 | ridges | 24 | lip |
| 26 | grip | 28 | wand |
| 30 | brush head | 32 | bristles |
| 34 | sidewall | 36 | bottom |
| 38 | electric toothbrush | 40 | knob-to-knob distance |
| 42 | brush-head seat | 44 | groove |

DESCRIPTION OF THE INVENTION

[0019] A conventional electric toothbrush is shown in FIG. 1. Electric toothbrush 38 is generally composed of grip 26 and wand 28. Aside from serving as means for holding the toothbrush while a user brushes their teeth, grip 26 also serves as a housing for an internal motor and power supply. Most electric toothbrushes are powered by replaceable batteries, but some have an internal rechargeable power source. Grip 26 also generally features an on/off switch which allows the user to actuate the internal motor.

[0020] Wand 28 is attached to grip 26. Wand 28 includes brush head 30 and bristles 32. In most electric toothbrushes, wand 28 and grip 26 are detachable, so that the user can replace wand 28 when bristles 32 become worn. Wand 28 also houses a transfer (not shown) that converts the motion created by the internal motor of electric toothbrush 38 into an oscillating motion in brush head 30. In most electric toothbrushes, the head does not spin only in one direction. Instead most brush heads of electric toothbrushes oscillate having alternating positive and negative angles of rotation. Conventional electric toothbrushes typically have a range of angular rotation from $\pm 20^\circ$ to $\pm 100^\circ$.

[0021] A vibrating cap for attachment to an electric toothbrush is shown in FIG. 2. Cap 10 has sidewall 34 and top 12. Cap 10 can be made of rubber, latex, plastic or other nonallergenic varieties of polymers by the process of injection molding. Sidewall 34 is substantially cylindrical in shape having circular cross section, however other shapes could also be used. Top 12 features three knobs 14 which serve to enhance sexual stimulation by concentrating the pressure and motion of cap 10 to several discrete points on the user. Although any number and configuration of knobs can be used, three knobs placed in an equilateral triangle formation is believed to be particularly effective for the desired stimulation.

[0022] FIG. 3 shows the topographical layout of a preferred embodiment. Top 12 is shown with three knobs 14.

Although cap **10** can be any size, the preferred range for the diameter is 1.5 cm to 3.0 cm. Knobs **14** are illustrated in **FIG. 3** as half spheres although other shapes can also be used for knobs **14** such as cylinders, rounded cylinders, rectangular prisms, pyramids, and cones. Although knobs **14** can be any size, the preferred range for the diameter is 0.5 cm to 1.5 cm. An equilateral triangular formation with knob-to-knob distances **40** in the range of 0.5 cm to 1.5 cm is also preferred.

[0023] **FIG. 4** shows the molded cap from the bottom. Bottom **36** of cap **10** has bore **16**. In the preferred embodiment, bore **16** terminates near the top of cap **10**. Bore **16** is preferably sized to receive bristles **32** of electric toothbrush **38** which is typically in the range of 1 cm to 1.5 cm. Counterbore **18** is also provided in bottom **36** of cap **10**. The difference in diameter of counterbore **18** and bore **16** forms brush-head seat **42** which mates with brush head **30** of electric toothbrush **38** when bristles **32** are inserted into bore **16**.

[0024] A bottom view of an alternate embodiment of the present invention is shown in **FIG. 5**. Cap **10** has two perpendicularly-situated ridges **22** in the bottom of bore **16**. Ridges **22** create four compartments **20** in the bottom of bore **16**. When bristles **32** are inserted into bore **16** and brush head **30** is mated with brush-head seat **42**, bristles **32** separate into the four compartments **20**. Ridges **22** provide a surface for bristles **32** to engage when electric toothbrush **30** is switched on, thereby transferring the motion of brush head **30** and bristles **32** to cap **10**.

[0025] Motion of brush head **30** and bristles **32** can also be transferred to cap **10** by the use of an adhesive applied to bristles **32**, brush head **30**, bore **16**, and/or counterbore **18**. The adhesive works to permanently affix the components of cap **10** to brush head **30**, thereby insuring transfer of motion between the two parts. Any adhesive known in the art can be used to attach the components including glues, epoxies, silicone-based adhesives, and acrylic resins.

[0026] **FIG. 6** shows the cap attached to the electric toothbrush. Cap **10** and electric toothbrush **38** are attached by the insertion of bristles **32** into bore **16** of cap **10**. As illustrated in **FIG. 6**, knobs **14** face away from brush head **30**. Cap **10** has counterbore **18** (not shown here) so that brush head **30** also fits inside of cap **10**, and the back side of brush head **30** is relatively flush with bottom **36** of cap **10**.

[0027] **FIG. 7** shows an alternate embodiment of the cap. Cap **10** features counterbore **18** and partial-annular lip **24**. The addition of lip **24** creates groove **44** in the counterbored region beneath lip **24**. Groove **44** helps prevent the accidental detachment of cap **10** from electric toothbrush **38** when the two are attached.

[0028] **FIG. 8** shows the alternate embodiment of the cap attached to an electric toothbrush. Knobs **14** again face away from brush head **30**. Bottom **36** is generally flush with the back side of brush head **30** except for lip **24** which overlaps brush head **30** thereby securing cap **10** to the brush.

[0029] The preceding description contains significant detail regarding the novel aspects of the present invention. It should not be construed, however, as limiting the scope of the invention but rather as providing illustrations of the preferred embodiments of the invention. As an example, variations in the number, shape, or configuration of the

knob-like protrusions can be employed without altering the function of the invention. Thus, the scope of the invention should be fixed by the following claims, rather than by the examples given.

Having described my invention, I claim:

1. An attachment for an electric toothbrush, said electric toothbrush having an oscillating brush head and a plurality of bristles attached to said brush head, said attachment comprising:

- a. a molded cap, said molded cap having a top portion, a sidewall, and a bottom portion;
- b. wherein said bottom portion has a bore, said bore terminating at a terminal end proximal to said top portion;
- c. wherein said bore is sized to receive said plurality of bristles of said electric toothbrush; and
- d. wherein said top portion has at least one knob-like protrusions distal to said bore.

2. The attachment of claim 1 wherein said bottom portion further comprises a counterbore, said counterbore sized to receive said brush head of said electric toothbrush.

3. The attachment of claim 1, wherein said terminal end of said bore further comprises a ridge, said ridge having a height tall enough to engage said plurality of bristles of said electric toothbrush when said molded cap is attached to said brush head of said electric toothbrush.

4. The attachment of claim 2, wherein said terminal end of said bore further comprises a ridge, said ridge having a height tall enough to engage said plurality of bristles of said electric toothbrush when said molded cap is attached to said brush head of said electric toothbrush.

5. The attachment of claim 1, wherein said molded cap further comprises an adhesive, said adhesive applied inside said bore of said molded cap.

6. The attachment of claim 2, wherein said molded cap further comprises an adhesive, said adhesive applied inside said bore of said molded cap.

7. The attachment of claim 3, wherein said molded cap further comprises an adhesive, said adhesive applied inside said bore of said molded cap.

8. The attachment of claim 4, wherein said molded cap further comprises an adhesive, said adhesive applied inside said bore of said molded cap.

9. The attachment of claim 1, wherein said bottom portion of said molded cap further comprises a partial annular lip adapted to overlap at least a portion of said brush head of said electric toothbrush when said plurality of bristles of said electric toothbrush are inserted into said bore of said cap.

10. The attachment of claim 2, wherein said bottom portion of said molded cap further comprises a partial annular lip adapted to overlap at least a portion of said brush head of said electric toothbrush when said plurality of bristles of said electric toothbrush are inserted into said bore of said cap.

11. The attachment of claim 3, wherein said bottom portion of said molded cap further comprises a partial annular lip adapted to overlap at least a portion of said brush head of said electric toothbrush when said plurality of bristles of said electric toothbrush are inserted into said bore of said cap.

12. The attachment of claim 4, wherein said bottom portion of said molded cap further comprises a partial

annular lip adapted to overlap at least a portion of said brush head of said electric toothbrush when said plurality of bristles of said electric toothbrush are inserted into said bore of said cap.

13. The attachment of claim 5, wherein said bottom portion of said molded cap further comprises a partial annular lip adapted to overlap at least a portion of said brush head of said electric toothbrush when said plurality of bristles of said electric toothbrush are inserted into said bore of said cap.

14. The attachment of claim 6, wherein said bottom portion of said molded cap further comprises a partial annular lip adapted to overlap at least a portion of said brush head of said electric toothbrush when said plurality of bristles of said electric toothbrush are inserted into said bore of said cap.

15. The attachment of claim 7, wherein said bottom portion of said molded cap further comprises a partial annular lip adapted to overlap at least a portion of said brush

head of said electric toothbrush when said plurality of bristles of said electric toothbrush are inserted into said bore of said cap.

16. The attachment of claim 8, wherein said bottom portion of said molded cap further comprises a partial annular lip adapted to overlap at least a portion of said brush head of said electric toothbrush when said plurality of bristles of said electric toothbrush are inserted into said bore of said cap.

17. The attachment of claim 6, wherein said top portion of said molded cap has three knob-like protrusions.

18. The attachment of claim 12, wherein said top portion of said molded cap has three knob-like protrusions.

19. The attachment of claim 1, wherein said molded cap is attached to said brush head of said electric toothbrush.

20. The attachment of claim 2, wherein said molded cap is attached to said brush head of said electric toothbrush.

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