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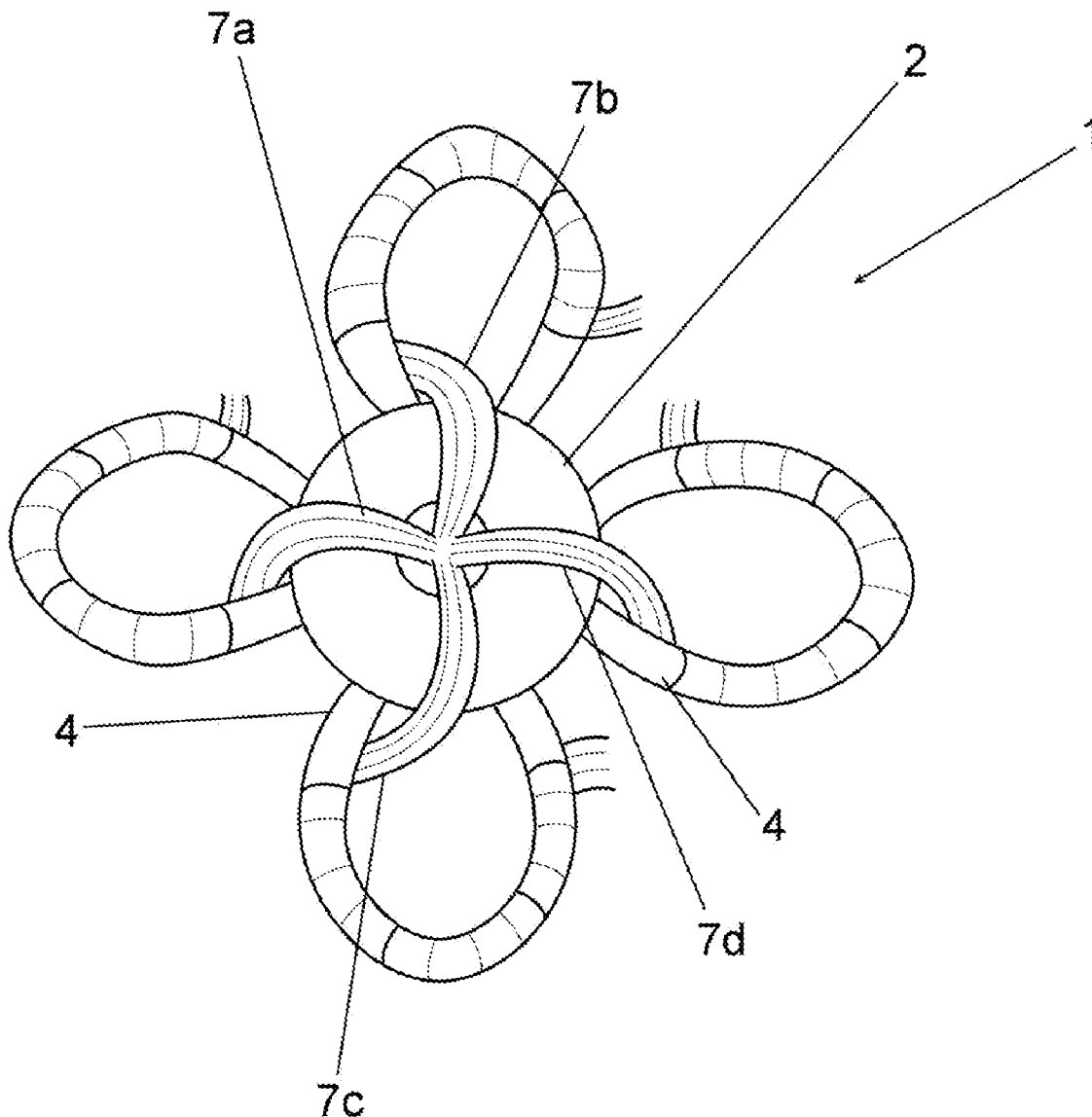
(19) **United States**(12) **Patent Application Publication**
Cordina(10) **Pub. No.: US 2020/0375332 A1**(43) **Pub. Date: Dec. 3, 2020**(54) **IMPROVEMENTS IN HAIR-CURLING
DEVICES****Publication Classification**(71) Applicant: **CORDINA LIMITED**, Poole, Dorset
(GB)(51) **Int. Cl.**
A45D 2/24 (2006.01)(72) Inventor: **Yanika Cordina**, Poole, Dorset (GB)(52) **U.S. Cl.**
CPC **A45D 2/2435** (2013.01); **A45D 8/36**
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A hair-curling device **1** comprises a substantially toroidal main ring **2**. At least one hair-curling loop **4** is attached to the main ring **2** by a respective attachment member **12** that holds the or each hair-curling loop **4** in a relatively fixed position around the perimeter of the main ring **2**. A length of hair to be curled is extended through an aperture in the main ring **2** and then wound around a hair-curling loop **4**.



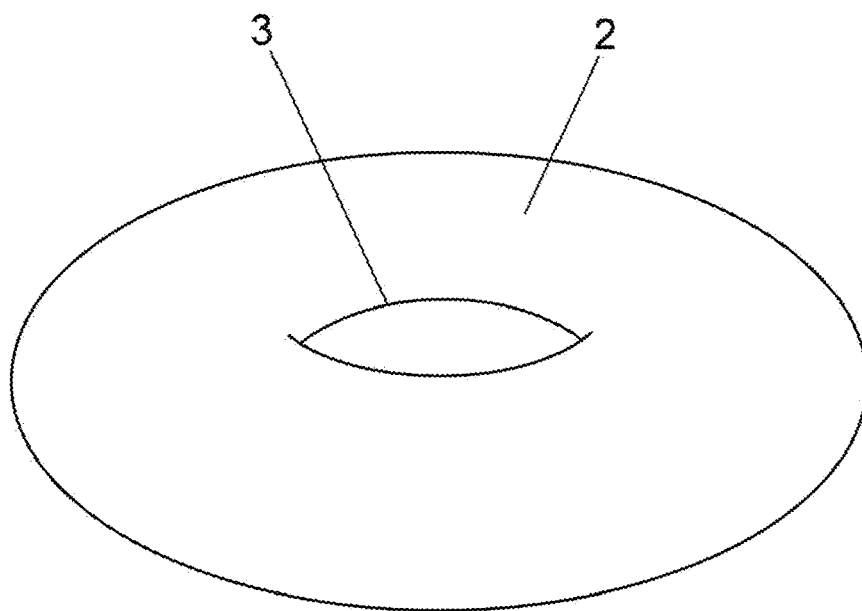


Figure 1

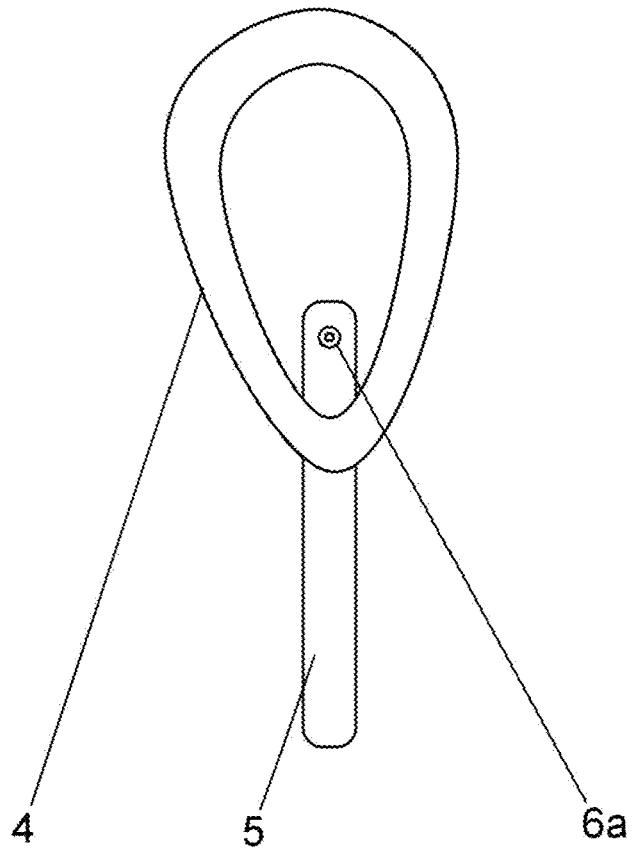
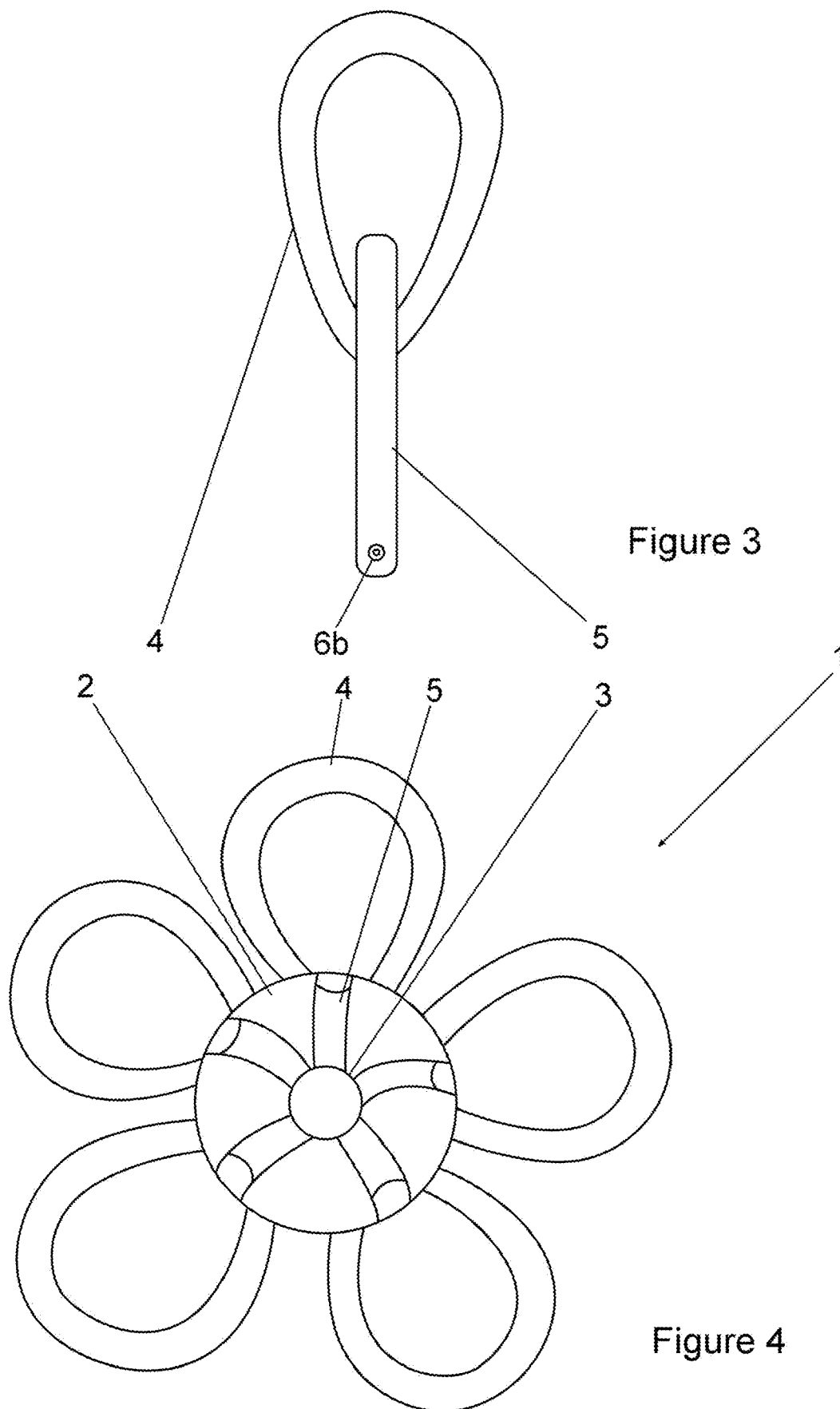


Figure 2



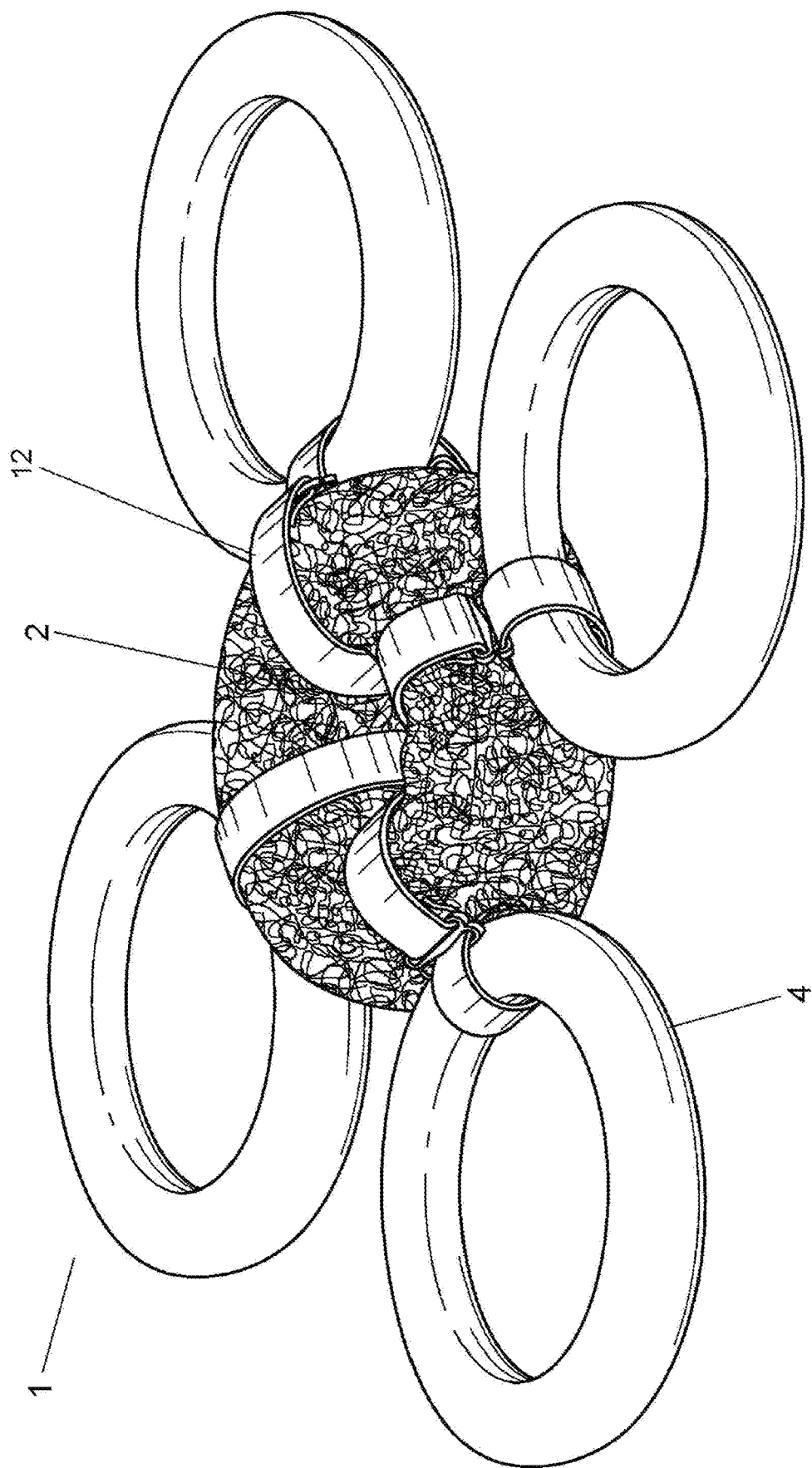


Figure 5

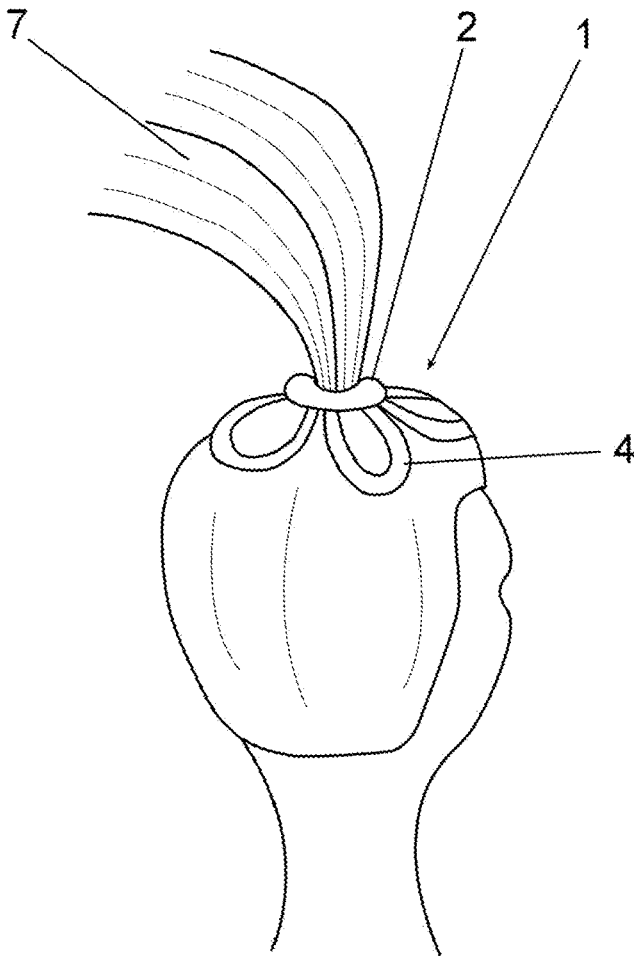


Figure 6

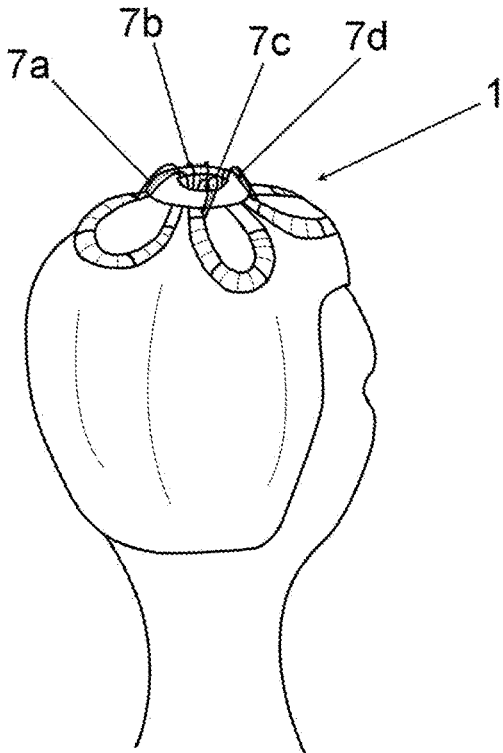


Figure 7

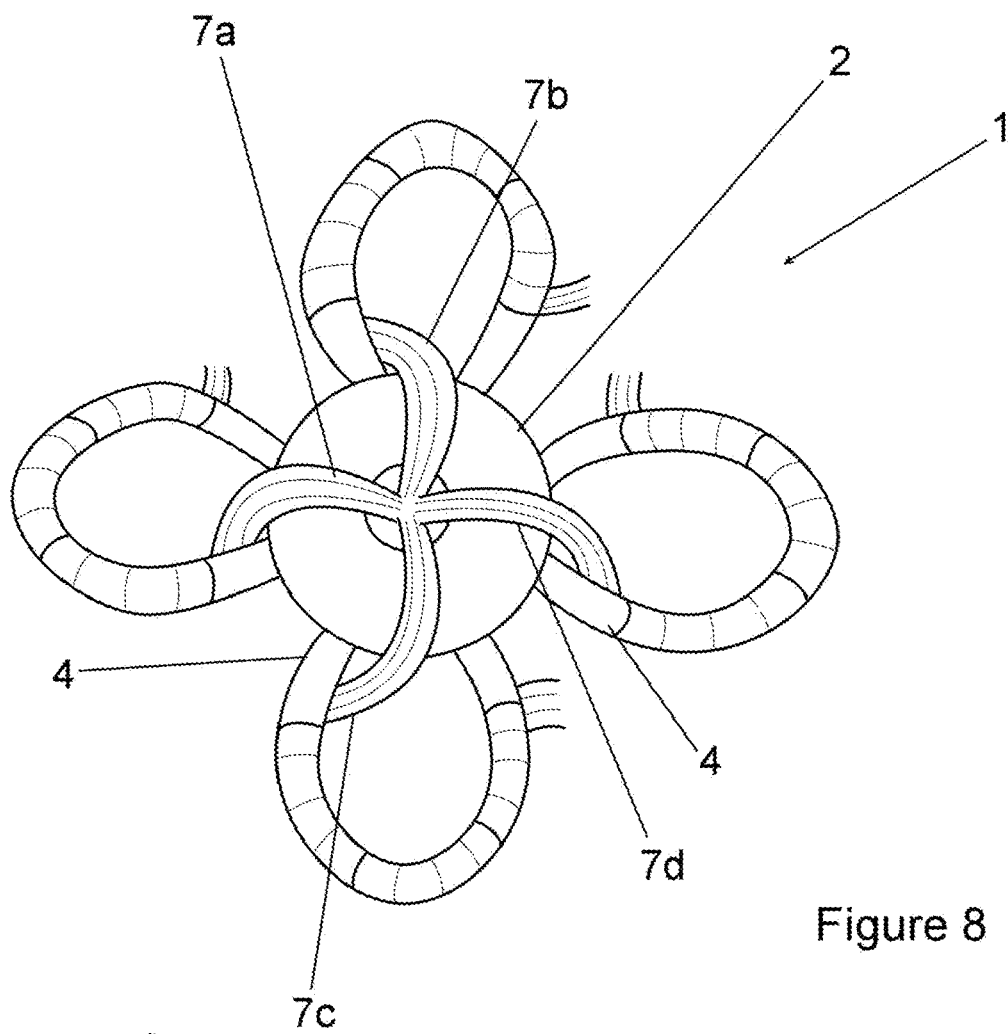


Figure 8

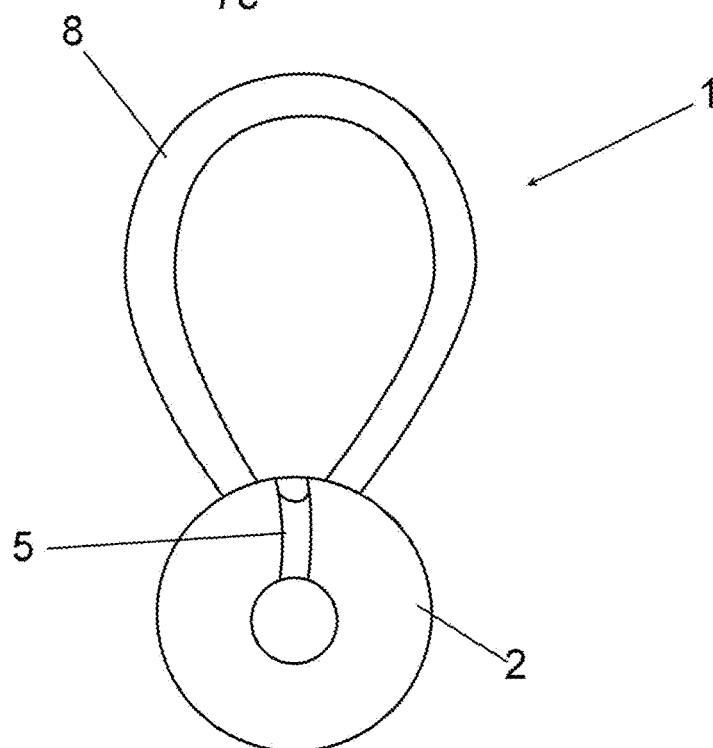


Figure 9

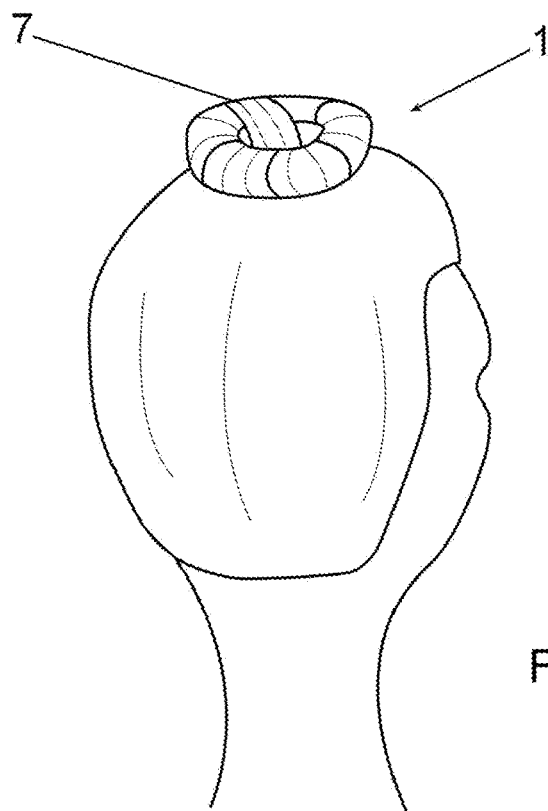


Figure 10

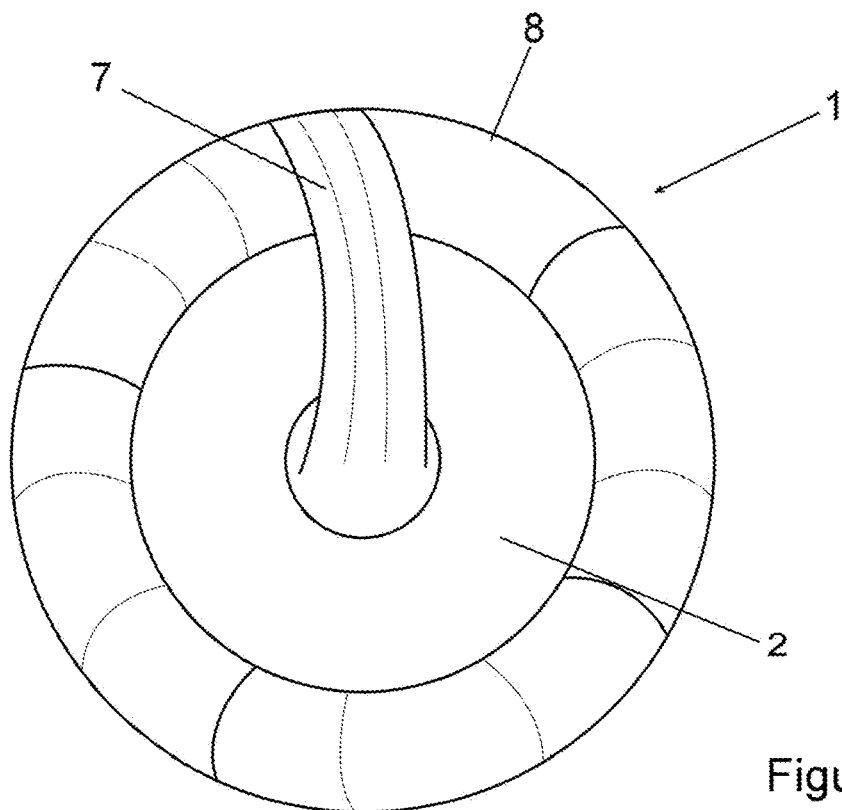


Figure 11

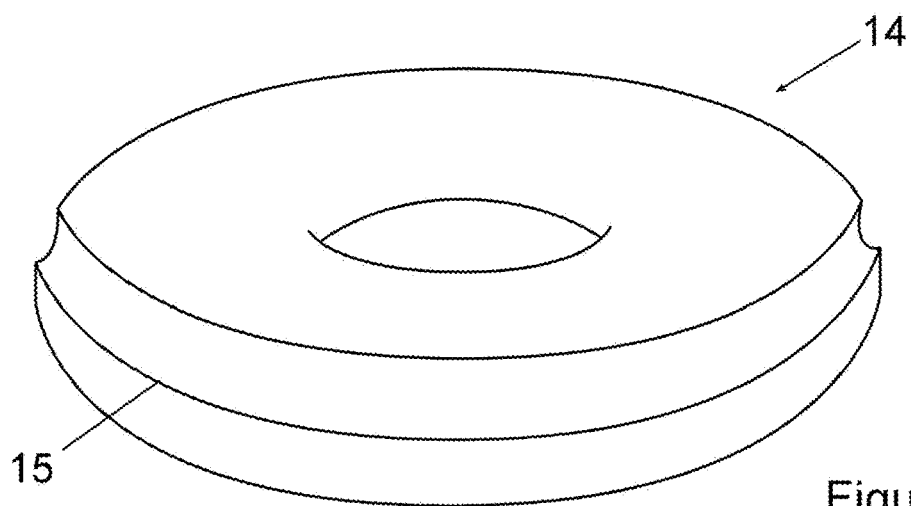


Figure 12

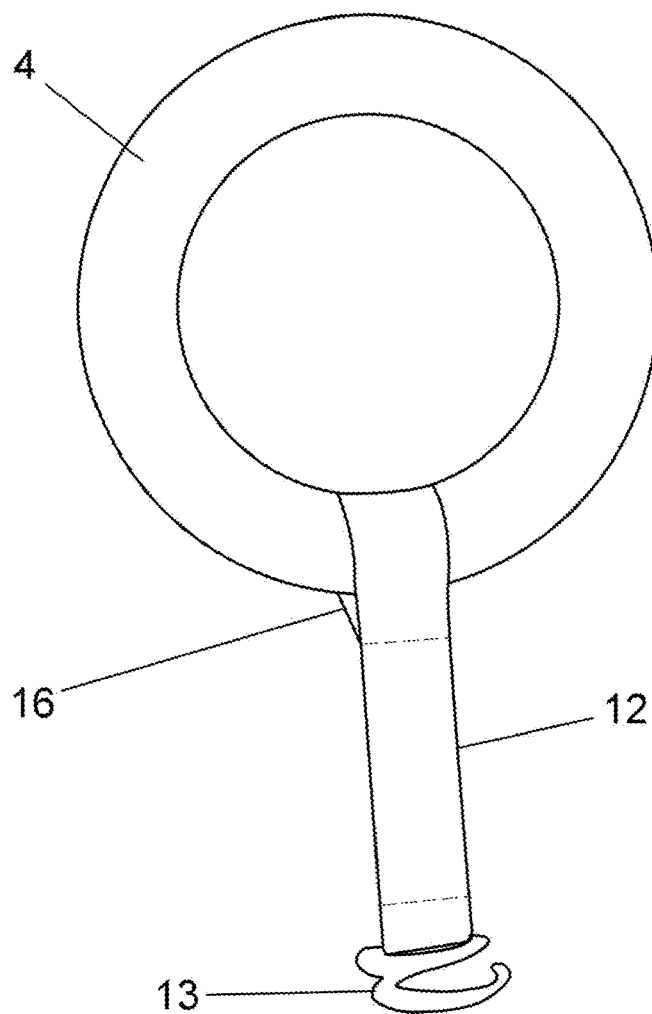


Figure 13

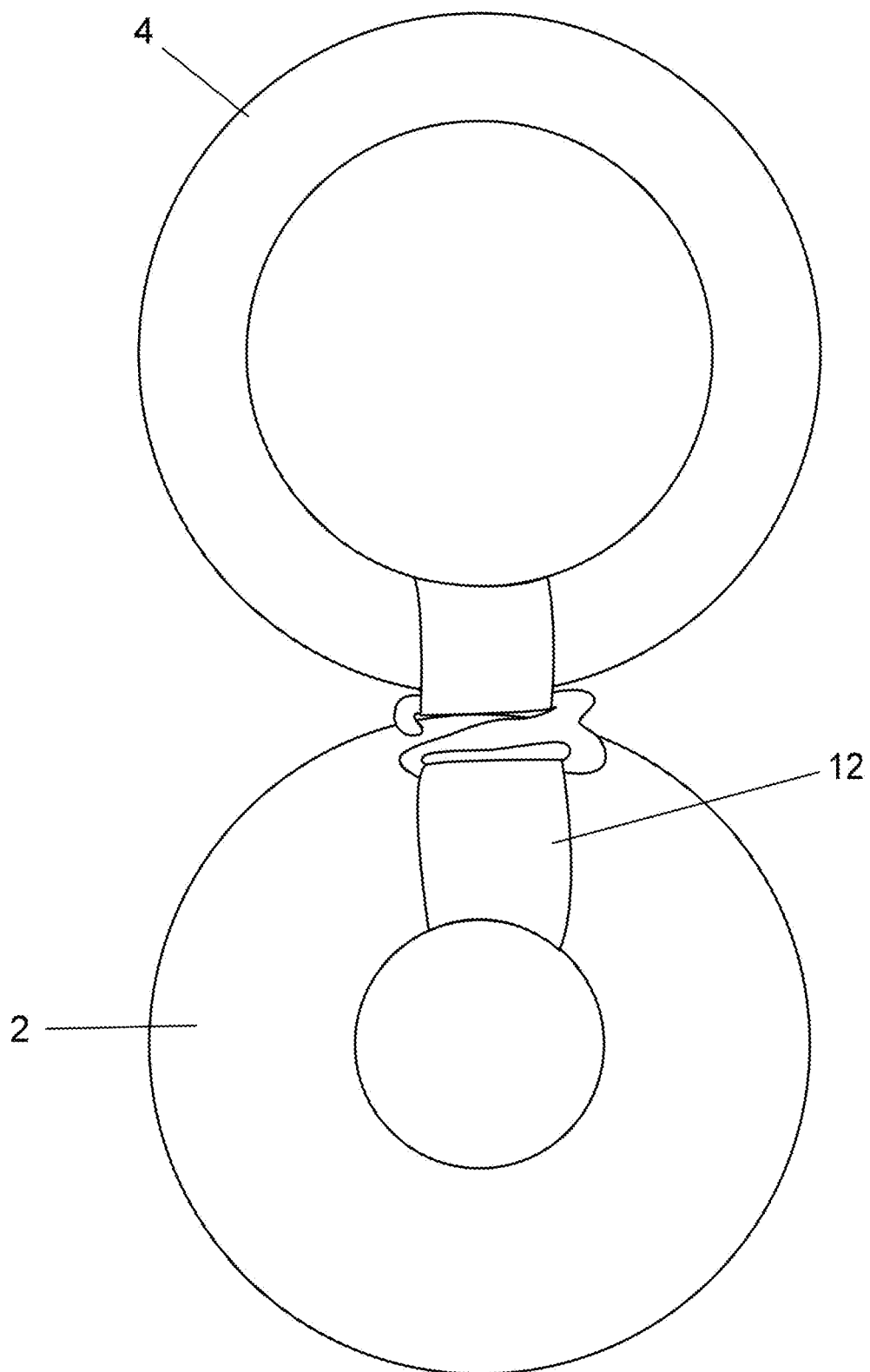


Figure 14

IMPROVEMENTS IN HAIR-CURLING DEVICES

BACKGROUND OF THE INVENTION

[0001] The present invention relates to improvements in hair-curling devices.

[0002] The sculpting and shaping of hair, including perming and curling, has been a long-held interest of mankind. Many devices and methods for curling hair have been proposed in the past.

[0003] Many devices are known for styling hair and holding it in a desired shape while the device is worn on the head. For example, patent application US2012/0174942 describes a hair styling accessory for holding the hair in a bun. The accessory comprises a rubber band loosely attached to a nylon halo by a piece of elastic. Hair is styled by wrapping it around the halo to form a bun. The rubber band is stretched around the halo to hold the bun in place.

[0004] The present invention seeks to improve upon prior art solutions and, in particular, to provide a hair-curling device that leaves curls in the hair after it is removed.

SUMMARY OF THE INVENTION

[0005] The present invention provides a hair-curling device comprising: a substantially toroidal main body having an aperture through which a length of hair to be curled may be extended; at least one hair-curling loop having a respective attachment means to attach the hair-curling loop to the main body such that the hair-curling loop abuts the main body.

[0006] Advantageously, the hair-curling device is adapted to leave curls in the hair after it is removed. The device may be worn for several hours or overnight and then removed, providing the hair with curls without the need to use heat or perming chemicals.

[0007] In some embodiments, the device comprises a plurality of hair-curling loops, each having respective attachment means to attach the hair-curling loops to the main body.

[0008] In some embodiments, the or each hair-curling loop is removably attachable to the main body. In this way a user can attach a desired number of hair-curling loops to the main body to achieve a desired amount of curling of the hair.

[0009] In some embodiments, the or each hair-curling loop is attachable to the main body in a substantially fixed position on the perimeter of the main body. In this way, movement of the hair-curling loop(s) around the ring of the main body is limited to ensure that the arrangement does not fall out of place.

[0010] In some embodiments, the attachment means comprises a strap sized to tightly encircle a ring of the toroidal main body in order to attach the hair-curling loop to the main body in a substantially fixed position on the perimeter of the main body.

[0011] In some embodiments, the attachment means comprises an elongate attachment member that is attached to its hair-curling loop in a substantially fixed position, the attachment member comprising two free ends comprising connection means to releasably connect the elongate attachment member in a loop configuration. Alternatively, the attachment means comprises an elongate attachment member that is attached at a first end to its hair-curling loop in a

substantially fixed position and has at its free end connection means to releasably connect the elongate attachment member in a loop configuration. The connection means in either case may comprise a press-stud, a clip, a hook, hook-and-loop fastener, or a button.

[0012] In some embodiments, an attachment means is of a length such that the attachment means snugly houses the main body when it is attached to the main body.

[0013] In some embodiments the main body is elastic. In some embodiments hair-curling loops are substantially elastic or inelastic.

[0014] In some embodiments hair-curling loops comprise a foam body.

[0015] In some embodiments hair-curling loops comprise a satin or silk covering.

[0016] In some embodiments a main body comprises at least one groove formed around its outer periphery.

[0017] The present invention also provides a method of curling hair comprising the steps of: providing a hair-curling device formed in accordance with any preceding statement of invention; and winding the length of hair around the or each hair-curling loop.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] Preferred embodiments of the invention will now be described with reference to the accompanying drawings in which:

[0019] FIG. 1 is a perspective view of a main body of a hair-curling device;

[0020] FIG. 2 is a view of a first side of a hair-curling loop for use with the body of FIG. 1;

[0021] FIG. 3 is a view of a second, opposite side of the hair-curling loop of FIG. 2;

[0022] FIG. 4 is a plan view showing a hair-curling device comprising five hair-curling loops attached to a main body;

[0023] FIG. 5 is a perspective view showing a hair-curling device having four hair-curling loops attached to a main body;

[0024] FIGS. 6 and 7 are perspective views of the head of a user illustrating how a user may use a hair-curling device comprising four hair-curling loops;

[0025] FIG. 8 is a plan view of the device illustrated in FIG. 7;

[0026] FIG. 9 is a hair-curling device comprising the main body of FIG. 1 and a larger hair-curling loop.

[0027] FIG. 10 is a perspective view of the head of a user illustrating how a user may use the device of FIG. 9;

[0028] FIG. 11 is plan view of the device illustrated in FIG. 10;

[0029] FIG. 12 is a perspective view of an alternative main body;

[0030] FIG. 13 illustrates a hair-curling loop having an alternative attachment member; and

[0031] FIG. 14 illustrates the hair-curling loop of FIG. 12 attached to a main body.

DETAILED DESCRIPTION OF THE INVENTION

[0032] A hair-curling device 1 comprises a main body 2 and one or more hair-curling loops 4. In use, hair to be curled is wound around the or each hair-curling loop 4 and the arrangement is left for a period time, such as overnight. When the device is removed, the hair is provided with curls.

[0033] FIG. 1 illustrates a main body 2. The main body 2 is substantially toroidal in shape being a continuous ring, having no free ends, and having a substantially central aperture 3.

[0034] The main body 2 is soft, to ensure comfort for a user, and may be sufficiently stiff to hold its shape in use. It is sized to help ensure that there are no dents left in the hair when it is removed. It may be elastic or inelastic. It may be formed from a single piece of elastic foam, for example. Alternatively, as illustrated in FIG. 5, the main body 2 may be woven or otherwise made from threads of a plastic material such as nylon or any other suitable material.

[0035] FIGS. 2 and 3 illustrate first and second opposing sides of a hair-curling loop 4 with an attachment member 5.

[0036] The hair-curling loop 4 is substantially toroidal in shape and may be closed loop, having no free ends, and having a substantially central aperture 3. The ring of the hair-curling loop 4 may alternatively have a gap so that it is not a closed loop.

[0037] The hair-curling loop 4 is soft, to ensure comfort for a user, and may be sufficiently stiff to hold its shape in use. It may be elastic or inelastic. It may be formed from a single piece of firm, elastic foam, for example. The foam may be housed within an outer satin sheath to provide additional comfort. Any appropriate materials may of course be used, such as silk for the sheath.

[0038] The attachment member 5 is a flexible elongate member or strap attached to hair-curling loop 4 in a substantially fixed position. The strap may be elastic or inelastic. The attachment may be made using an adhesive or by stitching, for example.

[0039] The attachment member 5 may comprise two free ends. On a first side of the attachment member 5, adjacent a first free end, is located a first half of press-stud 6a and on a second side of the attachment member 5, adjacent a second free end, is located a second half of press-stud 6b. The free ends of the attachment member 5 may be connected together by means of the two press-stud halves 6a, 6b, thereby forming a closed loop. Any other suitable means might of course be used to connect the free ends together, such as hook-and-loop fastener or a button.

[0040] The hair-curling loop 4 is removably attachable to the main body 2 by passing the attachment member 5 through the aperture 3 of the main body 2 such that the attachment member 5 encircles the ring of the main body 2. The press-stud halves 6a, 6b are then connected together.

[0041] Attachment member 5 is of a length such that, when it is attached to main body 2, the ring of the main body 2 is tightly encircled or otherwise snugly housed by the attachment member 5. This prevents or at least limits movement of attachment member 5 and the hair-curling loop 4 around the perimeter of the main body 2.

[0042] When attached to the main body 2, the hair-curling loop 4 abuts the ring of the main body 2. As the hair-curling loop 4 and main body 2 are both in the form of closed loops, it is not possible for them to intersect. Instead the hair-curling loop 4 and main body 2 may only ever be adjacent to, or about each other, remaining non-intersecting loops.

[0043] As illustrated in FIGS. 4 and 5, a user may attach any desired number of hair curling loops 4 to the main body 2 by means of respective attachment members 5. The or each hair-curling loop 4 is held in a substantially fixed position on the outer perimeter of the main body 2 by its attachment

member 5. FIG. 5 illustrates an alternative attachment member 12, described in more detail below in connection with FIGS. 13 and 14

[0044] FIGS. 6 to 8 illustrate an example of the hair-curling device 1 in use. A person wishing to curl their hair may use the hair-curling device 1 on their own head. Alternatively, the hair-curling device 1 may be applied to a user by another person, such as a hairdresser or stylist.

[0045] First, any desired number of hair-curling loops 4 are attached to the main body 2 as described above. In the example illustrated in FIGS. 6 to 8 four hair-curling loops 4 are attached to the main body 2.

[0046] The hair-curling device 1 is then positioned atop the user's head. It may be placed high on the head, as illustrated, or lower down. A length of hair 7 to be curled is extended through the aperture 3 in the main body 2. The length of hair is divided into approximately equal sections 7a, 7b, 7c, 7d. The number of sections corresponds with the number of hair-curling loops 4. Each section 7a, 7b, 7c, 7d is wound around the ring of a respective hair-curling loop 4. This task is made easier, particularly for user's with relatively short hair (approximately shoulder-length, for example), because of the fixed relative position between the hair-curling loop(s) 4 and the main body 2.

[0047] If desired, the or each section of hair may be retained in position on a respective hair-curling loop 4 by suitable retention means such as one or more bobby pins. The or each hair-curling loop 4, with hair wrapped around it, may also be held in a substantially fixed position on a user's head by suitable retention means such as one or more bobby pins.

[0048] The user may then relax for a time or even retire to sleep in comfort owing to the soft nature of the device 1. The substantially fixed relative position of the hair-curling loop (s) 4 relative to the main body 2 limits movement so that the arrangement stays in place. When the hair-curling device 1 is removed a few hours later or the following morning, the length of hair 7 will be curled in a fashion dictated by the number of hair-curling loops 4 used.

[0049] FIGS. 9 to 11 illustrate an alternative way of using a hair-curling device 1 having a single hair-curling loop 8. In this arrangement, the hair-curling loop 8 is larger than in the previous arrangement and is sized so as to be able to be retained on main body 2 in a substantially concentric position.

[0050] As previously, the single hair-curling loop 8 is attached to the main body 2 by means of an attachment member 5.

[0051] Instead of segmenting a length of hair 7 into separate sections a user winds the whole of the length of hair around hair-curling loop 8 and positions the hair-curling loop 8 circumferentially around main body 2 such that main body 2 and hair-curling loop 8 are substantially concentric.

[0052] An alternative main body 14 is illustrated in FIG. 12. In this arrangement, the main body 14 is substantially toroidal but one or more grooves or indentations are formed around its outer periphery to aid location of the hair curling loop 8 in a circumferential position around main body 2. In FIG. 11, the main body 14 has a single groove around its entire periphery.

[0053] FIG. 13 illustrates an alternative attachment member 12 for a hair-curling loop 4. The alternative attachment member comprises a strap or elongate member 12 having two ends. A first end of the strap 12 is provided with a

fastening hook **13**. A second end of the strap is secured to the hair-curling loop **4** by looping the second end around the hair-curling loop and either stitching or otherwise joining the second end to the strap **12**. A small aperture **16** is left between the looped second end of the strap **12** and the hair-curling loop **4**.

[0054] In order to attach the hair-curling loop **4** to the main body **2**, the strap **12** is looped around the ring of the main body **2** and the fastening hook **13** hooks through the aperture **16**. FIG. **14** illustrates a hair curling loop **4** attached to the main body **2** by this alternative attachment member **12**. As in previous arrangements, the strap **12** is sized so that the hair-curling loop **4** is secured in a relatively fixed position on the perimeter of the main body **2**.

[0055] Hair-curling loops **4** and main body **2** may of course be provided in a variety of different shapes and sizes. For example, the hair-curling loops **4** and main body **2** need not be circular in cross-section. The term toroidal is not intended to be limited to a regular torus defined by revolving a circular disc in three-dimensional space about an axis coplanar with the disc, but is also intended to encompass analogous toroidal shapes such as toroidal polyhedra. Also, while the main body **2** and hair-curling loop(s) **4** loops typically have a substantially circular outline, other outlines are possible such as an ellipse or a petal shape.

[0056] Many variations are possible without departing from the scope of the present invention as defined in the appended claims.

1. A hair-curling device comprising:

a substantially toroidal main body comprising a continuous loop having an aperture through which a length of hair to be curled is extended in use; and

at least one hair-curling loop having an attachment means to removably attach the hair-curling loop to the main body such that the hair-curling loop abuts the main body, wherein the attachment means comprises an elongate member sized to tightly encircle a ring of the toroidal main body in order to removably attach the hair-curling loop to the main body in a substantially fixed position on the perimeter of the main body.

2.-4. (canceled)

5. The device of claim **1** wherein the device comprises a plurality of hair-curling loops each having respective attachment means to attach the hair-curling loops to the main body.

6. The device of claim **1** wherein the attachment means comprises an elongate member that is attached to its hair-curling loop in a substantially fixed position, the attachment member comprising two free ends comprising connection

means to releasably connect the two free ends such that the elongate member forms a closed loop.

7.-15. (canceled)

16. The device of claim **6** wherein the connection means comprises at least one of a press-stud, a clip, a hook, hook-and-loop fastener, and a button.

17. The device of claim **1** wherein the attachment means comprises an elongate member that is attached at a first end to its hair-curling loop in a substantially fixed position and has at its free end connection means to releasably connect the elongate member in a closed loop.

18. The device of claim **17** wherein the connection means comprises at least one of a press-stud, a clip, a hook, hook-and-loop fastener, and a button.

19. The device of claim **1** wherein the hair-curling loop comprises a foam body.

20. The device of claim **1** wherein the hair-curling loop comprises a soft cloth covering.

21. The device of claim **1** wherein the main body comprises at least one groove formed around its outer periphery.

22. The device of claim **1** wherein the device comprises a single hair-curling loop, and the hair-curling loop and main body are sized such that the hair-curling loop is positionable around the main body in a substantially concentric arrangement.

23. A method of curling hair comprising:

providing a hair-curling device, the hair-curling device comprising (i) a substantially toroidal main body comprising a continuous loop having an aperture through which a length of hair to be curled is extended in use, and (ii) at least one hair-curling loop having an attachment means to removably attach the hair-curling loop to the main body such that the hair-curling loop abuts the main body, wherein the attachment means comprises an elongate member sized to tightly encircle a ring of the toroidal main body in order to removably attach the hair-curling loop to the main body in a substantially fixed position on the perimeter of the main body; and

winding the length of hair around the at least one hair-curling loop.

24. The method of claim **23** wherein the device comprises a single hair-curling loop, the method further comprising positioning the hair-curling loop circumferentially around the main body such that the main body and hair-curling loop are substantially concentric.

* * * * *