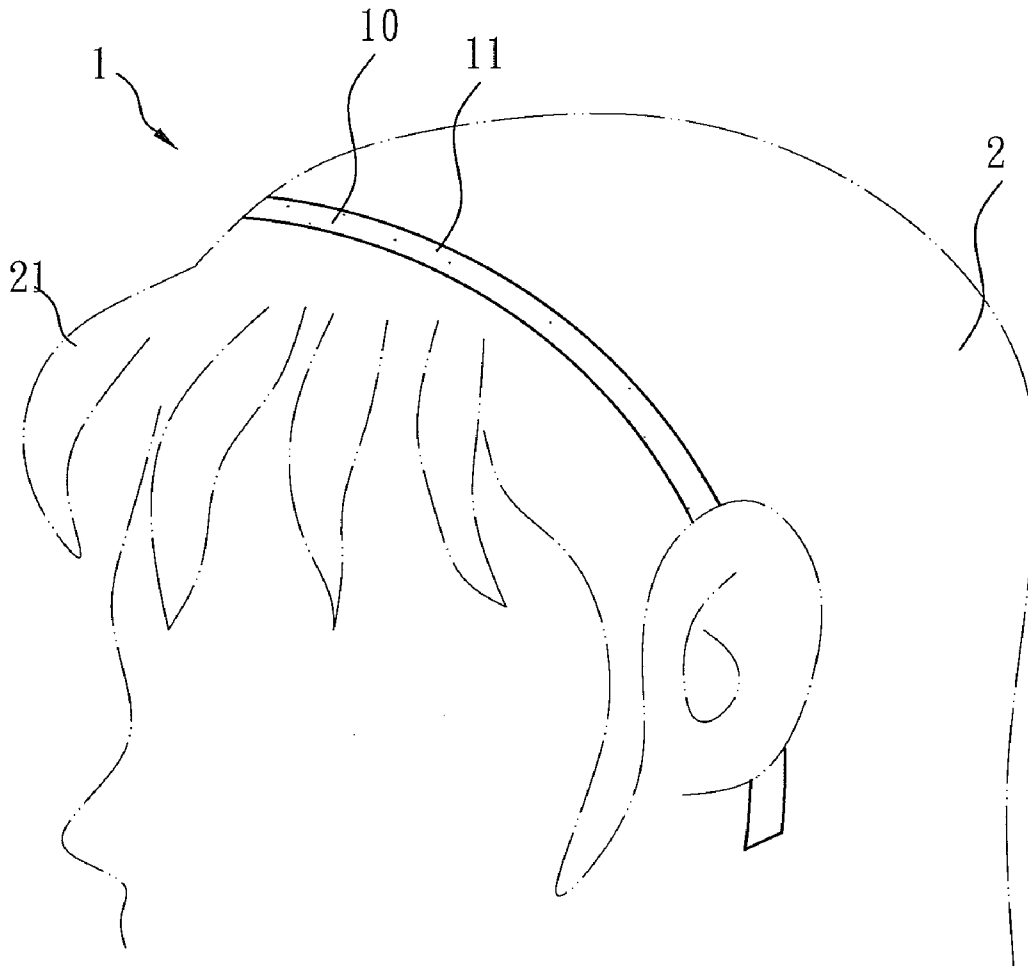




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(19) **United States**(12) **Patent Application Publication**
Hsu(10) **Pub. No.: US 2012/0234344 A1**(43) **Pub. Date: Sep. 20, 2012**(54) **HAIR ELASTIC**(76) Inventor: **Shih-Ling Hsu**, Tainan City (TW)(21) Appl. No.: **13/050,028**(22) Filed: **Mar. 17, 2011****Publication Classification**(51) **Int. Cl.**
A45D 8/36 (2006.01)(52) **U.S. Cl.** **132/273**(57) **ABSTRACT**

The present invention provides a hair elastic used as a hair band or a hair fastener. The hair elastic includes an endless ring integrally formed by flexible material. The ring includes inner and outer surfaces opposed in a thickness direction. The hair elastic further includes a plurality of minute protrusions uniformly disposed on the inner and outer surfaces of the ring. The plurality of minute protrusions on the inner and outer surfaces is in a point-contact mode with a hair of a user so that the hair elastic is capable of being comfortably fastened to a head of the user and has low resistance during removal.



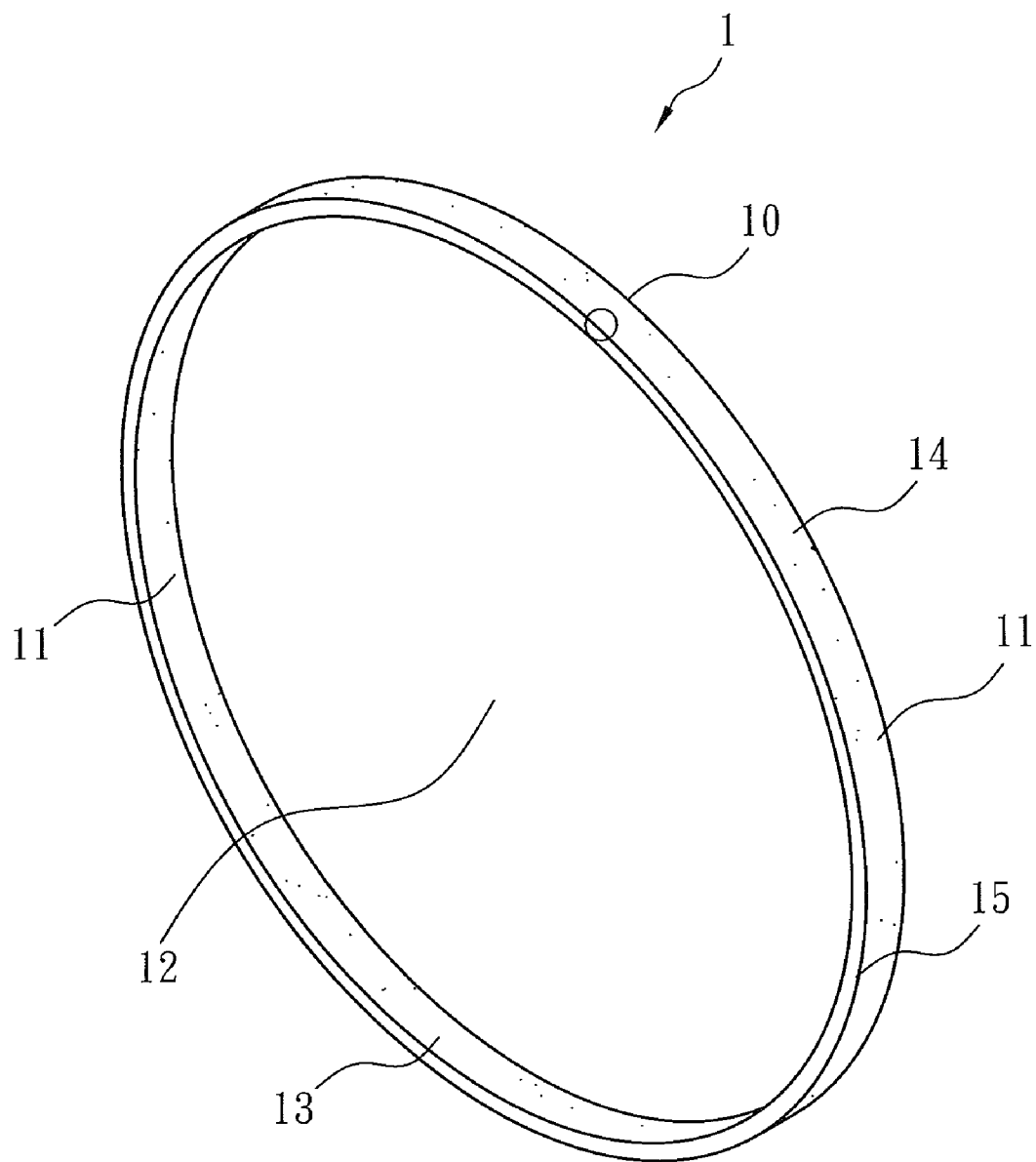


FIG. 1

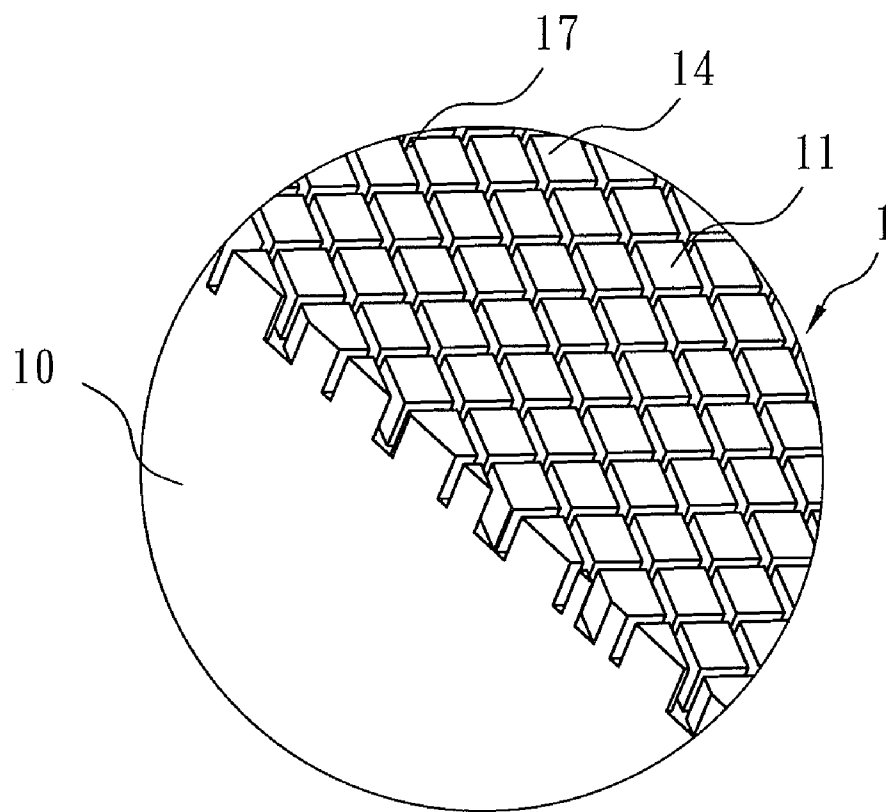


FIG. 2

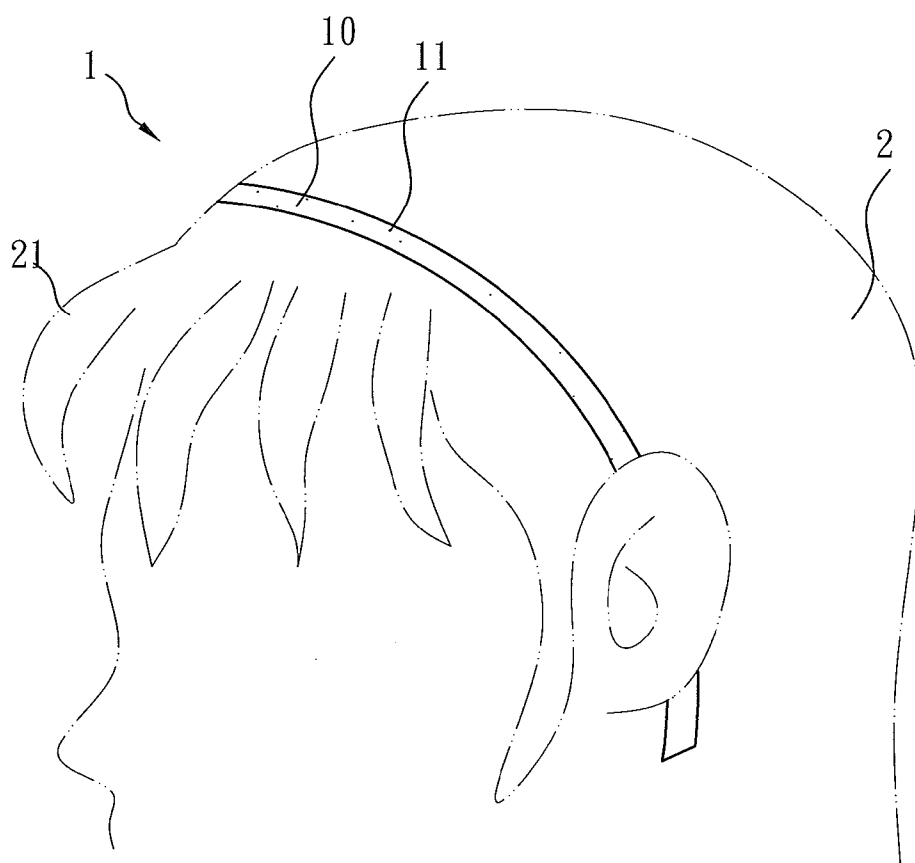


FIG. 3

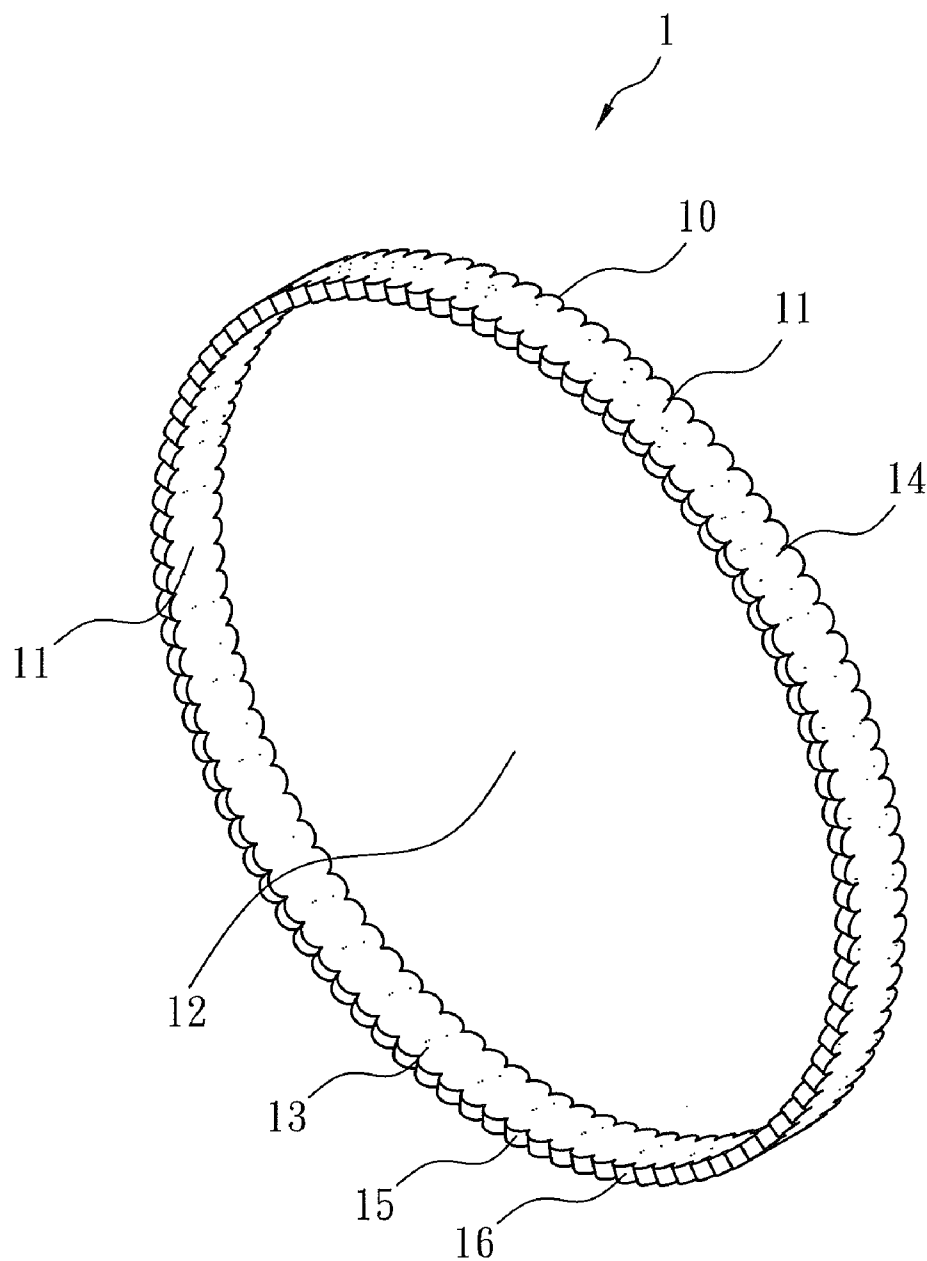


FIG. 4

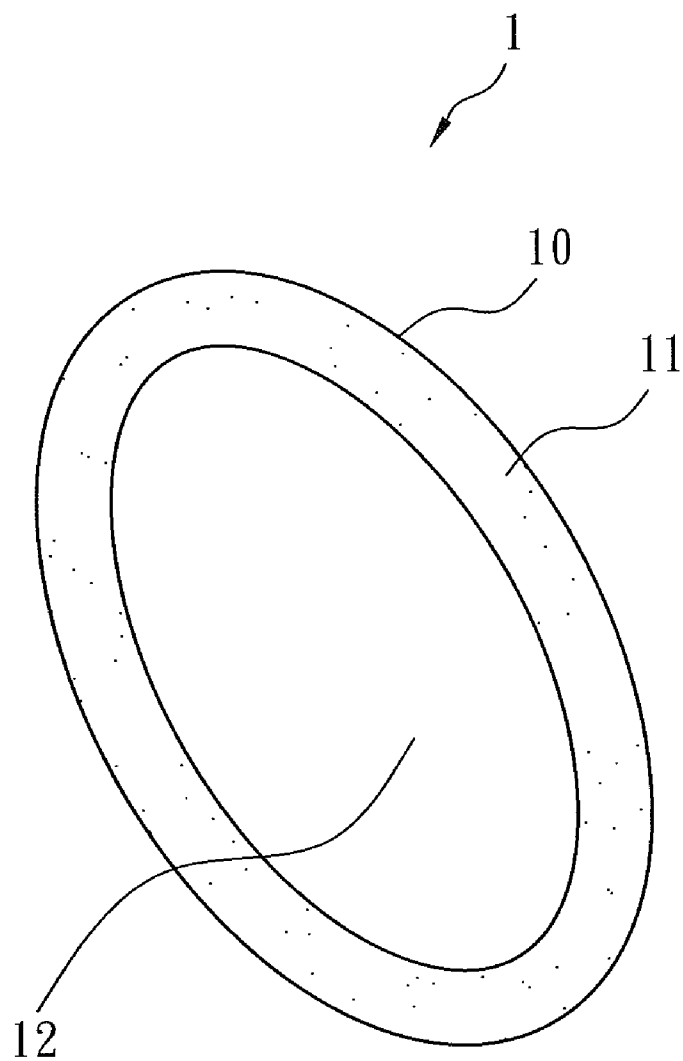


FIG. 5

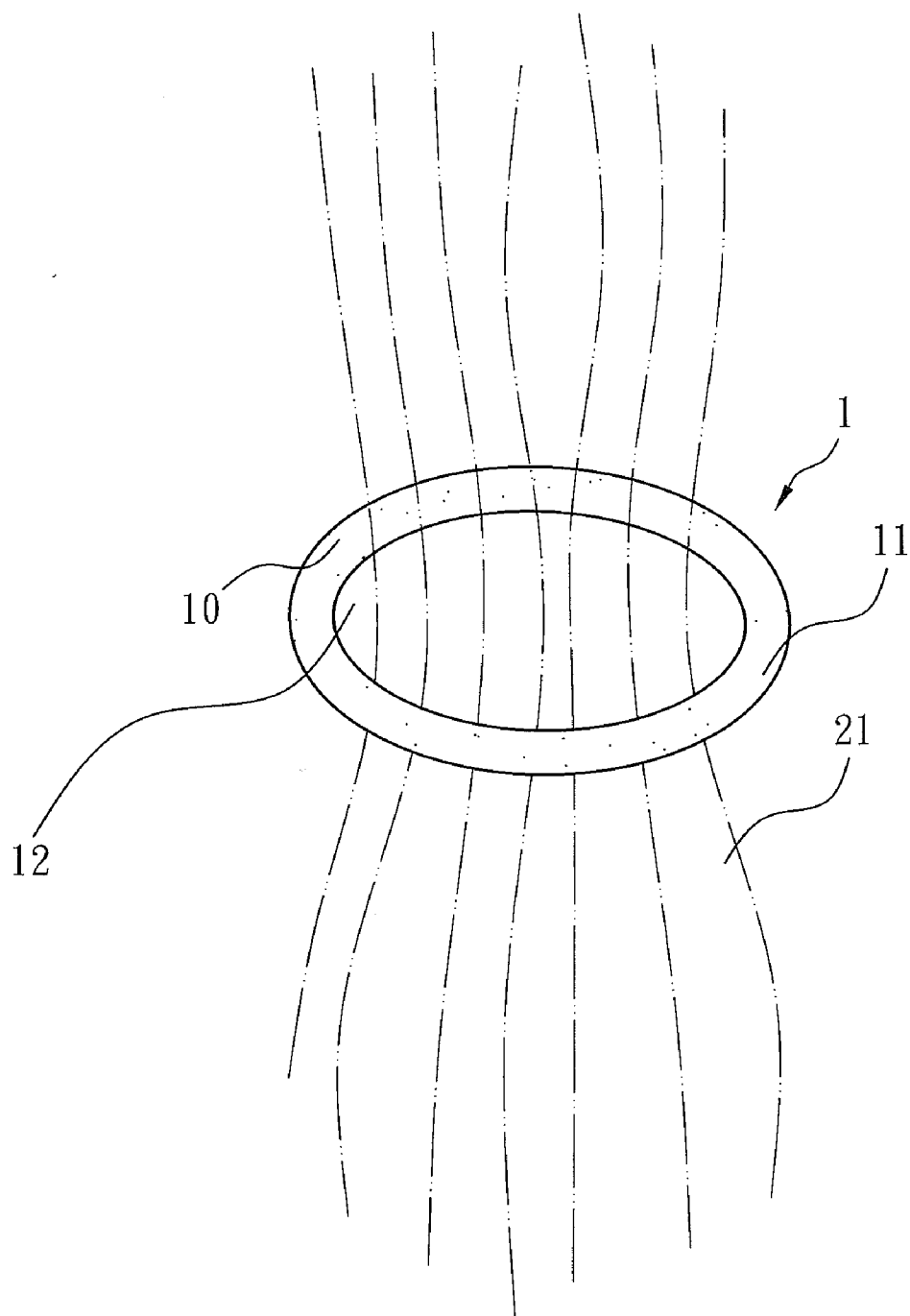


FIG. 6

HAIR ELASTIC

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a hair elastic and, more particularly, to an elastic including a plurality of protrusions disposed thereon such that the hair elastic is in point-contact with user's hair.

[0003] 2. Description of the Related Art

[0004] Existing hair band or hair fastener is usually a ring made of flexible material, wherein the ring has smooth inner and outer surfaces. As the existing hair band or hair fastener is used in hairstyling, the contact between the ring and user's hair is a face-contact. Since face-contact is of high resistance, the user cannot remove the hair band or hair fastener from the hair easily. Further, during the removal process, some of the hair may be pulled off. Hence, a hair elastic that is of different structure should be used to solve the foregoing problems.

BRIEF SUMMARY OF THE INVENTION

[0005] Therefore, it is an objective of the present invention to overcome the aforementioned shortcoming and deficiency of the prior art by providing a hair elastic that is used as a hair band or a hair fastener and is in point-contact with user's hair, allowing the hair elastic to be removed from the hair easily without making any damage to the hair.

[0006] A hair elastic of the present invention includes an endless ring integrally formed by a flexible material. The ring includes a central hole and inner and outer surfaces opposed in a thickness direction. The hair elastic further includes a plurality of minute protrusions uniformly disposed on the inner surface of the ring. The plurality of minute protrusions on the inner surface is in a point-contact mode with a hair of a user so that the hair elastic is capable of being comfortably fastened to a head of the user as a hair band or a hair tie and has low resistance during removal.

[0007] In a most preferred form, the hair elastic further includes a plurality of minute protrusions uniformly disposed on the outer surface of the ring. The inner and outer surfaces of the ring have reticulate concave grooves thereon, and the plurality of minute protrusions is defined by the reticulate concave grooves.

[0008] In a preferred form, the ring further includes two side surfaces spaced in a width direction perpendicular to the thickness direction, and each of the two side surfaces is formed with a plurality of undulating projections along a peripheral direction of the ring. The plurality of protrusions on the inner and outer surfaces of the ring have a diameter ranging from 0.005 mm to 0.2 mm and have a height ranging from 0.005 mm to 0.2 mm.

[0009] The present invention will become clearer in light of the following detailed description of illustrative embodiments of this invention described in connection with the drawings.

DESCRIPTION OF THE DRAWINGS

[0010] The illustrative embodiments may best be described by reference to the accompanying drawings where:

[0011] FIG. 1 is a perspective view of a hair elastic according to a first embodiment of the present invention.

[0012] FIG. 2 shows an enlarged view of a circled portion of the hair elastic of FIG. 1.

[0013] FIG. 3 is a schematic view showing the hair elastic of FIG. 1 applied to a head of a user.

[0014] FIG. 4 is a perspective view of a hair elastic according to a second embodiment of the present invention.

[0015] FIG. 5 is a perspective view of a hair elastic according to a third embodiment of the present invention.

[0016] FIG. 6 is a schematic representation illustrating a hair of the user extending through a central hole of the hair elastic of FIG. 5.

DETAILED DESCRIPTION OF THE INVENTION

[0017] A hair elastic of a first embodiment of the present invention is shown in FIGS. 1 through 3 of the drawings and generally designated 1. The hair elastic 1 includes an endless ring 10 integrally formed by flexible material such as rubber, silicone gel, or plastic and having a central hole 12 therein. The ring 10 includes inner and outer surfaces 13 and 14 opposed in a thickness direction. A plurality of minute protrusions 11 is uniformly disposed on the inner and outer surfaces 13 and 14. In the preferred embodiment, reticulate convex pattern is etched on a mould for forming the hair elastic 1; the hair elastic 1 formed this way hence has the inner and outer surfaces 13 and 14 with reticulate concave grooves 17 thereon, and the plurality of minute protrusions 11 is defined by convex portions between the reticulate concave grooves 17. It is preferred that the diameters of the protrusions 11 on the inner and outer surfaces 13 and 14 are between 0.005 mm and 0.5 mm, and the plurality of protrusions 11 on the inner and outer surfaces 13 and 14 have a height ranging from 0.005 mm to 0.5 mm, more preferably, 0.01 mm to 0.2 mm. However, it can be appreciated that the plurality of minute protrusions 11 can be disposed only on the inner surface 13 of the hair elastic 1.

[0018] Referring to FIG. 3, the hair elastic 1 is used as a hair band to tie up a hair 21 of a user 2. In practice, the ring 10 is capable of holding the hair 21 of the user 2 in place with the elasticity thereof, and the plurality of minute protrusions 11 on the inner and outer surfaces 13 and 14 is in a point-contact mode with the hair 21. The hair elastic 1 is hence capable of being comfortably fastened to the head of the user 2 as a hair band and has low resistance during removal. The user 2 is capable of removing the hair elastic 1 easily without making damage to the hair 21.

[0019] Further, the ring 10 includes two side surfaces 15 spaced in a width direction perpendicular to the thickness direction. In the first embodiment shown in FIG. 1, the two side surfaces 15 are plane surfaces. In a second embodiment of the present invention shown in FIG. 4, each of the two side surfaces 15 is formed with a plurality of undulating projections 16 along a peripheral direction of the ring 10. The plurality of undulating projections 16 is capable of helping the ring 10 to hold the hair 21 of the user 2 in position. Furthermore, it can be appreciated that the plurality of minute protrusions 11 can also be disposed on the two side surfaces 15 of the ring 10.

[0020] A hair elastic 1 of a third embodiment of the present invention is shown in FIGS. 5 and 6 of the drawings and is used as a hair tie capable of fastening the hair 21 to form a ponytail hairstyle. The ring 10 of the hair elastic 1 includes a plurality of minute protrusions 11 uniformly disposed on peripheral surfaces thereof. In practice, the central hole 12 of the ring 10 allows the hair 21 of the user 2 to go through therebetween, and then wind the ring 10 around the hair 21 several times to form a ponytail hairstyle. Since the plurality

of minute protrusions **11** of the hair elastic **1** is in point-contact with the hair **21** of the user **2**, the hair elastic **1** is being removed from the hair **21** easily without making damage to the hair **21**.

[0021] Thus since the invention disclosed herein may be embodied in other specific forms without departing from the spirit or general characteristics thereof, some of which forms have been indicated, the embodiments described herein are to be considered in all respects illustrative and not restrictive. The scope of the invention is to be indicated by the appended claims, rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are intended to be embraced therein.

1. A hair elastic used as a hair band or a hair fastener, comprising:

an endless ring integrally formed by a flexible material and having a central hole therein, with the ring including inner and outer surfaces opposed in a thickness direction; and

a plurality of minute protrusions disposed on the inner surface of the ring, allowing a point-contact between the hair elastic and a hair of a user.

2. The hair elastic according to claim **1**, further comprising: a plurality of minute protrusions disposed on the outer surface of the ring.

3. The hair elastic according to claim **2**, with the inner and outer surfaces of the ring having reticulate concave grooves thereon, and with the plurality of minute protrusions on the inner and outer surfaces of the ring defined by the reticulate concave grooves.

4. The hair elastic according to claim **3**, with the ring further including two side surfaces spaced in a width direction perpendicular to the thickness direction, and with each of the two side surfaces formed with a plurality of undulating projections along a peripheral direction of the ring.

5. The hair elastic according to claim **4**, with the plurality of protrusions on the inner and outer surfaces of the ring having a diameter ranging from 0.005 mm to 0.2 mm and having a height ranging from 0.005 mm to 0.2 mm.

6. The hair elastic according to claim **3**, with the plurality of protrusions on the inner and outer surfaces of the ring having a diameter ranging from 0.005 mm to 0.2 mm and having a height ranging from 0.005 mm to 0.2 mm.

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