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(54) **Hairclip**

Haarspange

Clip pour cheveux

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Description

Field of the invention

[0001] The present invention generally relates to hair clips and more particularly to hair clips having pivotable jaws for gripping hair.

Background of the invention

[0002] One type of prior art clips which use pivotable jaws are generally known as butterfly clips. These clips comprise two jaw members having tines and being joined along a pivot axis. A spring arrangement is provided at the pivot axis to resiliently urge the tines of the jaws to a closed position to grip the hair. To enable the tines to be disengaged and the jaws opened, the jaws are provided with lever members extending therefrom at a position away from the tines. This gives the clip the classic 'butterfly' appearance and hence its common name. When the clips are worn the primary visible parts are the lever members or 'wings' and the joining pivot and spring mechanism. The problem is that although these clips are easy to use single handed, the spring and pivot mechanism is not very aesthetically appealing. The arrangement disclosed in US5862815 addresses this problem by providing a cover over the spring mechanism. This cover is however required to flex or fold as the clip is opened and the wings close together. Thus the cover mechanism is complex to build and is fragile and thus liable to failure in use, especially as the clip ages.

[0003] Another type of clip which provides pivotable jaws is disclosed in US6142159. This clip comprises a barrette made of a single flat strip of resilient material. Ends of the flat strip form tines that join when in the closed position. In one example the clip can be opened by pulling the two ends apart. This operation requires the use of two hands and is thus more complex than that required for opening butterfly clips. In another example in US6142159 handle portions are provided and the strip flexes in a central region. While this enables single handed operation, it requires the central region to be flexible. This limits the decorative ability of the central region.

[0004] In US6186151, a combined grooming device and hair clip is disclosed in which a body houses a grooming device such as a brush which can hingedly extend out from the body when used for grooming. The body carries two hinged arms which enable the device to be used as a hair clip. This device is however bulky as a hair clip and has low aesthetic appeal.

[0005] It is thus an object of the present invention to provide an improved hair clip that overcomes the deficiencies in the prior art.

Summary of the invention

[0006] The present invention provides a hair clip comprising a part cylindrical body portion; part cylindrical jaw

portions attached to said body portion; and a jaw opening arrangement to allow said jaw portions to be opened single handed; wherein said jaw portions have tines and are hingedly and resiliently connected to said body portion to urge said tines together to a closed position for gripping hair, said jaw portions are connected to said body portion at hinge positions defining laterally spaced hinge axes, and said jaw portions and said body portion define an outer hair clip surface which is substantially cylindrical when said jaw portions are in the closed position.

[0007] By laterally spacing the pivot axes it is possible to use a body which can be decorated or made less visible and can also act to hide the pivot mechanisms if necessary, thereby improving the aesthetic appearance of the clip in use.

[0008] The present invention includes any body arrangement such as a single body part or multiple body parts acting to hold the effective pivot points of the jaw arrangements spaces laterally. Also the jaw arrangements can comprise any arrangement of single or multiple jaw parts. Where multiple jaw parts are provided, the jaw parts can be pivotable connected together to form a multiply pivoted jaw arrangement. The pivots in such an arrangement will lie substantially parallel. The jaw opening arrangement can comprise any suitable part or collection of parts to enable the jaw arrangements to be urged pivotably to an open position against the resilient force of the resilient connection between the jaw arrangements and the body arrangement.

[0009] In one embodiment of the present invention, the body arrangement has an outer face and the pivot mechanisms are arranged on said body arrangement away from the outer face. Thus the pivot mechanisms are hidden in the hair when worn.

[0010] In an embodiment of the present invention, the opening arrangement comprises handle portions extending from said jaw arrangements at positions away from the tines and acting as lever members to lever the jaw arrangements open about the pivots.

[0011] In an alternative embodiment, the opening arrangement comprises an engagement member arranged within the jaws arrangements and operable in a direction of the pivot axes to engage the jaw arrangements to urge them open. In this embodiment the jaw engagement portion can have angled engagement surfaces for engagement with the jaw arrangements to urge them open. Also the jaw engagement portion can be carried by the body arrangement. For example the jaw engagement portion can be slidably attached to said body portion to allow said jaw engagement portion to slide relative to said body portion to engage said jaw portions.

[0012] In another embodiment of the present invention, resilient portions are arranged between the body arrangement and the jaw arrangement to provide the resilient connection between the body arrangement and the jaw arrangement. In this embodiment the jaw portions can be mounted to the body arrangement via pivot pins, and the resilient portions can comprise spring members

engaging the body arrangement and the jaw arrangements. In an alternative embodiment of the present invention, the jaw portions are formed from the same piece of material as said body portion and at pivot points the material is thinned in section to enable the jaw portions to pivot relative to the body portion, and a resilient member is provided to urge the jaw arrangements to the closed position. In another alternative embodiment of the present invention the resilient portions comprise resilient material connecting the jaw arrangements and the body arrangement.

[0013] In another embodiment of the present invention, the body arrangement comprises a base portion to which the jaw arrangements are connected, and at least one decorative cover portion. In this embodiment at least one said decorative cover portion can be removable in use to enable different cover portions to be connected to the base portion.

[0014] In another embodiment the body is formed of thin section edge regions defining a central aperture through the body between the pivot axes. Thus in this embodiment the hair of the wearer can be seen through the body thus reducing the visibility of the clip.

[0015] In one embodiment of the present invention, the jaw portions are arcuate in section to define a volume between the body arrangement and the jaw arrangements into which hair can be clasped in use.

[0016] In one embodiment of the present invention each jaw arrangement comprises a plurality of hinged and resiliently coupled jaw sections, each hinged coupling lying along an axis parallel to the laterally spaced axes.

Brief description of the drawings

[0017]

Figure 1 is a perspective diagram of a hair clip of a first embodiment of the present invention;
 Figure 2 is an exploded view of the hair clip of the first embodiment of the present invention;
 Figure 3 is a cross sectional view through the hair clip of the first embodiment of the present invention in the closed position;
 Figure 4 is a cross sectional view through the hair clip of the first embodiment of the present invention in the open position;
 Figure 5 is an exploded view of the hair clip of a second embodiment of the present invention;
 Figure 6 is a perspective diagram of a hair clip of the second embodiment of the present invention;
 Figure 7 is an end view of the hair clip of the second embodiment of the present invention;
 Figure 8 is a cross sectional view through the hair clip of the second embodiment of the present invention in the closed position;
 Figure 9 is a cross sectional view through the hair clip of the second embodiment of the present inven-

tion in the open position;

Figure 10 is a perspective view of the hair clip of the first embodiment of the present invention showing the inside of the hair clip in the open position;

Figure 11 is a perspective diagram of a hair clip of a third embodiment of the present invention;

Figure 12 is a schematic cross section through a hair clip of a fourth embodiment of the present invention;

Figure 13 is a schematic cross section through a hair clip of a fifth embodiment of the present invention; and

Figure 14 is a schematic cross section through a hair clip of a further embodiment of the present invention.

15 Description of embodiments of the invention

[0018] A first embodiment of the present invention will now be described with reference to figures 1 to 4.

[0019] The hair clip of this embodiment comprises a body 1 formed of a base 1a and a cover 1b which is coupled to the base 1a. The decorative cover can either be detachable in use to enable the cover to be changed, or it can only be fixed. The fixed cover enables the fixing of different covers to the same base 1a during the manufacturing process. The base 1a has an elongate arcuate carrying surface for carrying the decorative cover 1b in an elongate arcuate shape. Below the carrying surface there are provided two arms 4a and 4b extending away from the base 1a at spaced positions to the sides of the base 1a. The arms 4a and 4b have pivot holes 5a and 5b for receiving pivot pins 6a and 6b.

[0020] Two opposed elongate jaws 2 and 3 have a curved or roughly arcuate cross section. A pivot arm 2a and 3a respectively extends inwardly from an upper edge of each jaw 2 and 3 and has a pivot hole for receiving the respective pivot pin 6a and 6b. In this way the jaws 2 and 3 are mounted on the base 1a to pivot about pivot axes spaced from one another. The pivot arms 2 and 3 have an upper lip 2b and 3b respectively which serves to limit the closed position of the jaws 2 and 3 by engaging with an inner surface of the base 1a. Cover portions 2d and 2e, and 3d and 3e extend from the upper edges of the jaws 2 and 3 parallel to the pivot arms to bridge the gap between the jaws 2 and 3 and the base 1a when the jaws are in the closed position. Along one edge of the jaws 2 and 3 away from the pivot arms 2a and 3a and cover portions 2d, 2e, 3d and 3e respectively tines 2c and 3c respectively extend towards one another for gripping hair. In the closed position the tines 2c and 3c of the jaws 2 and 3 interlace. The jaws 2 and 3 are also provided with handle portions or 'wings' 2f and 3f which extend along the body of the jaws 2 and 3 and extend therefrom at a position away from the tines 2c and 3c near the top edges of the jaws 2 and 3. The handle portions 2f and 3f are arranged above the pivot point so that they can be held between the fingers of a hand and squeezed to urge the jaws 2 and 3 to the open position.

[0021] Also mounted on the pivot pins 6a and 6b are

springs 7a and 7b having spring arms for engaging the arms 4a and 4b and the pivot arms 2a and 3a to urge them apart and thereby urge the jaws 2 and 3 to the closed position.

[0022] It can be seen that in this embodiment the jaws 2 and 3 are pivoted on laterally separated pivot positions either side of the body 1 so that the pivot mechanisms are hidden under the body 1. Thus the body 1 can be decorated to improve the aesthetic appearance of the hair clip. The appearance can also be changed as desired in this embodiment by changing the cover 1a.

[0023] A second embodiment of the present invention will now be described with reference to figures 5 to 10. This embodiment is similar to the first embodiment except that the jaw opening arrangement is different.

[0024] The hair clip of this embodiment comprises a body 10 having an elongate arcuate decorative outer surface. Below the decorative surface there are provided two arms 10a and 10b extending away from the body 10 at spaced positions to the sides of the body 10. The arms 10a and 10b have pivot holes for receiving pivot pins 15a and 15b.

[0025] Two opposed elongate jaws 11 and 12 have a curved or roughly arcuate cross section. A pivot arm 11a and 12a respectively extends inwardly from an upper edge of each jaw 11 and 12 and has a pivot hole for receiving the respective pivot pin 15a and 15b. In this way the jaws 11 and 12 are mounted on the body 10 to pivot about pivot axes spaced from one another. Along one edge of the jaws 11 and 12 away from the pivot arms 11a and 12a respectively tines 11c and 12c respectively extend towards one another for gripping hair. In the closed position the tines 11c and 12c of the jaws 11 and 12 interlace.

[0026] An opening member 13 is provided for engaging and opening said jaws 11 and 12. The body 10 is provided with ridges 10c and 10d extending along inner edges and an engagement slot 10e on an inner face of the body for engagement by the opening member. The body 10 is also provided with an end plate 10f extending from one end of the inner face near the engagement slot 10e. The opening member 13 comprises a main portion 13a having a section shaped to fit in the inner surface of the body 10 and grooves 13b in the sides to ride along the ridges 10c and 10d of the body 10 so that the opening member 13 can slide laterally along the body 10. The opening member 13 also has an arm portion 13c extending from the body portion 13a. The arm portion 13c has a sloping surface 13d for engagement with the pivot arms 11a and 12a of the jaws to urge the jaws 11 and 12 open. The opening member 13 includes a latch member 13e at the end of the arm portion for engaging the engagement slot 10e in the body 10 to prevent the opening member 13 detaching from the body 10. A single handed operation to open the clip involves holding the hair clip in one hand and squeezing the opening member 13 and the end plate 10f with the fingers and thumb of the hand.

[0027] Also mounted on the pivot pins 15a and 15b are

springs 16a and 16b having spring arms for engaging the arms 10a and 10b and the pivot arms 11a and 12a to urge them apart and thereby urge the jaws 11 and 12 to the closed position. The opening member 13 is operable to act against the springs 15a and 15b.

[0028] It can be seen that in this embodiment the jaws 11 and 12 are pivoted on laterally separated pivot positions either side of the body 10 so that the pivot mechanisms are hidden under the body 10. Thus the body 10 can be decorated to improve the aesthetic appearance of the hair clip.

[0029] In this embodiment, although the face 13d of the opening member 13 that engages the arms 4a and 4b is flat, the face can be any suitable shape to enhance the application of an opening force on the arms 4a and 4b. For example, the face can be formed or two opposed sloping faces to provide a triangular cross section.

[0030] A third embodiment of the present invention will now be described with reference to figure 11. This embodiment is similar to the first embodiment except that the hair clip is shorter and the body 100 has a large aperture in it.

[0031] The body 100 in this embodiment is formed of thin section material forming an aperture between the two pivot axes on which the jaws 101 and 102 pivot. Thus in this embodiment when the clip is worn the wearers hair can be seen through the aperture. This reduces the visibility of the clip. Also since the pivot mechanisms for the jaws are mounted on the lower or inside of the clip, the mechanisms are hidden by the wearer's hair in use.

[0032] In this embodiment a cover can be provided to be detachably attached to the body 100 to cover the aperture. This enables the wearer to select whether or not to have a decorative cover and also to choose which decorative cover to use.

[0033] A fourth embodiment of the present invention will now be described with reference to figure 112. This embodiment is similar to the first embodiment except that the pivotable mounting of the jaws on the body is formed by thinning a section of material.

[0034] The hair clip of this embodiment comprises a body 20 having an elongate arcuate carrying surface. Either side, along the elongate edges of the body 20 the body is connected to two jaws 21 and 22. The connection is formed by regions 25 and 26 of thinning of the material between the jaws 21 and 22 and the body 20. This forms a hinge or pivot point extending along the edges of the body 20. Thus the body 20 and the jaws 21 and 22 can be formed of the same material e.g. a plastic material having a thin region therebetween. Alternatively the body 20 and the jaws 21 and 22 can be formed in three pieces and joined by connection of a thin section region of one to the other.

[0035] Within the jaws 21 and 22 and the body springs or resilient members 20 provide the resilient force to urge the jaws 21 and 22 to the closed position. The jaws 21 and 22 are provided with handle portions 21a and 22a to enable to one handed operation of the hair clip. Also

the jaws 21 and 22 have tines 21b and 22b for gripping hair.

[0036] Thus in this embodiment the lateral displacement of the pivot axes of the jaws enable a decorative body to be used while still enabling single handed operation. The pivot mechanism is displaced to either side of the decorative body.

[0037] A fifth embodiment of the present invention will now be described with reference to figure 13. This embodiment is similar to the fourth embodiment except that the pivotable mounting of the jaws on the body is formed by regions or resilient material interconnecting the jaws and the body.

[0038] The hair clip of this embodiment comprises a body 30 having an elongate arcuate carrying surface. Either side, along the elongate edges of the body 30 the body is connected to two jaws 31 and 32. The connection is formed by regions of resilient material 33 and 34 between the jaws 31 and 32 and the body 30. This forms a hinge or pivot point extending along the edges of the body 30. Thus the body 30 and the jaws 31 and 32 are formed in three pieces and joined by connection of a resilient section of material 33 and 34.

[0039] The jaws 31 and 32 are provided with handle portions 31a and 32a to enable to one handed operation of the hair clip. Also the jaws 31 and 32 have tines 31b and 32b for gripping hair.

[0040] Thus in this embodiment the lateral displacement of the pivot axes of the jaws enable a decorative body to be used while still enabling single handed operation. The pivot mechanism is displaced to either side of the decorative body.

[0041] Figure 14 illustrates a further embodiment of the present invention. This embodiment is similar to the fifth embodiment except that the jaws 41 and 42 are formed of a plurality of jaw sections 41c, 41d, 42c and 42d.

[0042] The hair clip of this embodiment comprises a body 40 having an elongate arcuate carrying surface. Two jaws 41 and 42 are hingedly and resiliently arranged either side of the body 40 along the elongate edges of the body 40. The jaws 41 and 42 are formed of a plurality of jaw sections 41c, 41d, 42c and 42d. The first jaws sections 41c and 42c are hingedly connected to the body 40 by a resilient section of material 44a and 43a respectively. The second jaw sections 41d and 42d are hingedly connected to the first jaw sections 41c and 42c by a resilient section of material 44b and 43b respectively. Handle portions 41a and 42a are provided extending from the second jaw sections 41d and 42d and tines 41b and 42b are provided on the second jaw sections 41d and 42d.

[0043] Thus in this embodiment the resilient material 44a, 43a, 44b and 43b provide hinged couplings which lie parallel to the axis of the elongate body 40.

[0044] In all of the embodiments described herein above the hair clip can be made of any suitable material such as a decorative plastic material, or metal such as

gold or silver when the hair clip is a jewellery item. The resilient members or springs can be formed of any suitable material, such as spring metal or spring plastic, that provides a spring force between the jaws and the body to urge the jaws to the closed position. The hair clip can be of any length and need not be elongate. Also, it is possible to attach false hair to the clip to enable the wearer to wear the clip and have extended hair.

Claims

1. A hair clip comprising a part cylindrical body portion (1a, 1b; 10); part cylindrical jaw portions (2, 3; 11, 12) attached to said body portion (1a, 1b; 10); and a jaw opening arrangement (2f, 3f; 13) to allow said jaw portions (2, 3; 11, 12) to be opened single handed; wherein said jaw portions (2, 3; 11, 12) have tines (2c, 3c; 11c, 12c) and are hingedly and resiliently connected to said body portion (1a, 1b; 10) to urge said tines (2c, 3c; 11c, 12c) together to a closed position for gripping hair, said jaw portions (2, 3; 11, 12) are connected to said body portion (1a, 1b; 10) at hinge positions defining laterally spaced hinge axes, and said jaw portions (2, 3; 11, 12) and said body portion (1a, 1b; 10) define an outer hair clip surface which is substantially cylindrical when said jaw portions (2, 3; 11, 12) are in the closed position.
2. A hair clip according to claim 1, wherein said tines (2c, 3c; 11c, 12c) are arranged to meet substantially in a plane when said jaw portions (2, 3; 11, 12) are in the closed position.
3. A hair clip according to claim 2, wherein said tines (2c, 3c; 11c, 12c) are arranged to meet interdigitatedly.
4. A hair clip according to any preceding claim, wherein said jaw portions (2, 3; 11, 12) are hingedly connected to said body portion (1a, 1b; 10) at a position away and inward from said outer hair clip surface.
5. A hair clip according to any preceding claim, wherein said jaw opening arrangement (2f, 3f; 13) comprises handle portions (2f, 3f) extending from said jaw portions (2, 3) away from said tines (2c, 3c) to allow said jaw portions (2, 3) to be opened by urging said handle portions (2f, 3f) about said axes.
6. A hair clip according to any one of claims 1 to 4, wherein said jaw opening arrangement (2f, 3f; 13) comprises a jaw engagement portion (13) arranged in an area defined within said jaws portions (11, 12) and said body portion (10), said jaw engagement portion (13) being operable in a direction of said hinge axes to engage said jaw portions (11, 12) to urge said jaw portions (11, 12) open.

7. A hair clip according to claim 6, wherein said jaw engagement portion (13) has angled engagement surfaces for (13d) engagement with said jaw portions (11, 12) to urge said jaw portions (11, 12) open.
8. A hair clip according to claim 6 or claim 7, wherein said jaw engagement portion (13) is carried by said body portion (10).
9. A hair clip according to claim 8, wherein said jaw engagement portion (13) is slidably attached to said body portion (10) to allow said jaw engagement portion (13) to slide relative to said body portion (10) to engage said jaw portions (11, 12).
10. A hair clip according to any preceding claim, including resilient portions (7a, 7b; 16a, 16b) arranged between said body portion (1a, 1b; 10) and said jaw portions (2, 3; 11, 12) to provide said resilient connection between said body portion (1a, 1b; 10) and said jaw portions (2, 3; 11, 12).
11. A hair clip according to claim 10, wherein said jaw portions (2, 3; 11, 12) are mounted to said body portion (1a, 1b; 10) via pivot pins (6a, 6b; 15a, 15b), and said resilient portions (7a, 7b; 16a, 16b) comprise spring members engaging said body portion (1a, 1b; 10) and said jaw portions (2, 3; 11, 12).
12. A hair clip according to claim 10, wherein said body portion (20) and said jaw portions (21, 22) are formed from a single piece of material thinned at said hinge positions to enable the relative pivoting of said jaw portions (21, 22) and said body portion (20), and said resilient portions comprise resilient members (23, 24) engaging said jaw portions (21, 22) and said body portion (20).
13. A hair clip according to claim 10, wherein said resilient portions (34) comprise resilient material connecting said jaw portions (31, 32) and said body portion (30).
14. A hair clip according to any preceding claim, wherein said body portion (1a, 1b; 10) comprises a base portion (1b) to which said jaw portions (2, 3) are connected, and at least one decorative cover portion (1a).
15. A hair clip according to claim 14, wherein at least one said decorative cover portion (1a) is removable in use to enable different cover portions (1a) to be connected to said base portion (1b).
16. A hair clip according to any preceding claim, wherein said body portion (100) has thin section edge portions defining a large aperture between said axes, to allow hair of a wearer to be seen therethrough

when worn.

17. A hair clip according to any preceding claim, wherein said jaw portions (2, 3; 11, 12) are arcuate in section to define a volume between said body portion (1a, 1b; 10) and said jaw portions (2, 3; 11, 12) into which hair is clasped in use.
18. A hair clip according to any preceding claim, wherein each said jaw portion (41, 42) comprises a plurality of hingedly and resiliently coupled jaw sections (41c, 41d; 42c, 42d), each axis of the hinged couplings lying parallel to said laterally spaced axes.

Patentansprüche

1. Haarklammer, umfassend einen teilweise zylindrischen Körperteil (1a, 1b; 10); teilweise zylindrische Backenteile (2, 3; 11, 12), die an dem Körperteil (1a, 1b; 10) befestigt sind; und eine Backenöffnungsanordnung (2f, 3f; 13), um zu gewährleisten, dass die Backenteile (2, 3; 11, 12) mit einer Hand geöffnet werden können; wobei die Backenteile (2, 3; 11, 12) Zinken (2c, 3c; 11c, 12c) aufweisen und gelenkig und federnd mit dem Körperteil (1a, 1b; 10) verbunden sind, um die Zinken (2c, 3c; 11c, 12c) in eine geschlossene Position zusammenzudrücken, um Haare zu greifen, die Backenteile (2, 3; 11, 12) mit dem Körperteil (1a, 1b; 10) an Gelenkteilen, die seitlich voneinander beabstandete Gelenkachsen definieren, miteinander verbunden sind, und die Backenteile (2, 3; 11, 12) und der Körperteil (1a, 1b; 10) eine äussere Haarklammerfläche definieren, die im Wesentlichen zylindrisch ist, wenn sich die Backenteile (2, 3; 11, 12) in der geschlossenen Position befinden.
2. Haarklammer nach Anspruch 1, wobei die Zinken (2c, 3c; 11c, 12c) angeordnet sind, um sich im Wesentlichen auf einer Ebene zu begegnen, wenn sich die Backenteile (2, 3; 11, 12) in der geschlossenen Position befinden.
3. Haarklammer nach Anspruch 2, wobei die Zinken (2c, 3c; 11c, 12c) angeordnet sind, um sich ineinandergreifend zu begegnen.
4. Haarklammer nach einem der vorhergehenden Ansprüche, wobei die Backenteile (2, 3; 11, 12) gelenkig mit dem Körperteil (1a, 1b; 10) an einer Position verbunden sind, die sich weg von der äusseren Haarklammerfläche befindet und nach innen gerichtet ist.
5. Haarklammer nach einem der vorhergehenden Ansprüche, wobei die Backenöffnungsanordnung (2f, 3f; 13) Griffteile (2f, 3f) umfasst, die sich von den

Backenteilen (2, 3) weg von den Zinken (2c, 3c) erstrecken, um zu gewährleisten, dass die Backenteile (2, 3) durch Drücken der Griffteile (2f, 3f) um die Achsen, geöffnet werden.

6. Haarklammer nach einem der Ansprüche 1 bis 4, wobei die Backenöffnungsanordnung (2f, 3f; 13) einen Backeneingriffsteil (13) umfasst, der in einem innerhalb der Backenteile (11, 12) und des Körperteils (10) definierten Bereich angeordnet ist, wobei der Backeneingriffsteil (13) in eine Richtung der Gelenkachsen betriebsfähig ist, um mit den Backenteilen (11, 12) in Eingriff zu kommen, um die Backenteile (11, 12) aufzudrücken.
7. Haarklammer nach Anspruch 6, wobei der Backeneingriffsteil (13) eckige Eingriffsflächen (13d) für einen Eingriff mit den Backenteilen (11, 12) aufweist, um die Backenteile (11, 12) aufzudrücken.
8. Haarklammer nach Anspruch 6 oder Anspruch 7, wobei der Backeneingriffsteil (13) von dem Körperteil (10) getragen wird.
9. Haarklammer nach Anspruch 8, wobei der Backeneingriffsteil (13) gleitbar an dem Körperteil (10) angebracht ist, um zu gewährleisten, dass der Backeneingriffsteil (13) in Bezug auf den Körperteil (10) gleitet, um mit den Backenteilen (11, 12) in Eingriff zu kommen.
10. Haarklammer nach einem der vorhergehenden Ansprüche, einschliessend federnde Teile (7a, 7b; 16a, 16b), die zwischen dem Körperteil (1a, 1b; 10) und den Backenteilen (2, 3; 11, 12) angeordnet sind, um die federnde Verbindung zwischen dem Körperteil (1a, 1b; 10) und den Backenteilen (2, 3; 11, 12) bereitzustellen.
11. Haarklammer nach Anspruch 10, wobei die Backenteile (2, 3; 11, 12) mit Hilfe von Drehzapfen (6a, 6b; 15a, 15b) auf dem Körperteil (1a, 1b; 10) montiert sind, und die federnden Teile (7a, 7b; 16a, 16b) Federelemente umfassen, die mit dem Körperteil (1a, 1b; 10) und den Backenteilen (2, 3; 11, 12) in Eingriff kommen.
12. Haarklammer nach Anspruch 10, wobei der Körperteil (20) und die Backenteile (21, 22) aus einem einzigen Materialstück gebildet sind, das an den Gelenkteilen ausgedünnt ist, um die jeweilige Drehung der Backenteile (21, 22) und des Körperteils (20) zu gewährleisten, und die federnden Teile federnde Elemente (23, 24) umfassen, die mit den Backenteilen (21, 22) und dem Körperteil (20) in Eingriff kommen.
13. Haarklammer nach Anspruch 10, wobei die federnden

Teile (34) federndes Material umfassen, das die Backenteile (31, 32) und den Körperteil (30) miteinander verbindet.

14. Haarklammer nach einem der vorhergehenden Ansprüche, wobei der Körperteil (1a, 1b; 10) einen Basisteil (1b), an dem die Backenteile (2, 3) miteinander verbunden sind, und mindestens einen dekorativen Bedeckungsteil (1a) umfasst.
15. Haarklammer nach Anspruch 14, wobei mindestens ein dekorativer Bedeckungsteil (1a) bei Gebrauch entfernt werden kann, um zu gewährleisten, dass verschiedene Bedeckungsteile (1a) mit dem Basisteil (1b) verbunden werden können.
16. Haarklammer nach einem der vorhergehenden Ansprüche, wobei der Körperteil (100) dünne Querschnittsrandteile aufweist, die eine grosse Öffnung zwischen den Achsen definieren, um zu gewährleisten, dass man das Haar eines Trägers **dadurch** sieht, wenn sie getragen wird.
17. Haarklammer nach einem der vorhergehenden Ansprüche, wobei die Backenteile (2, 3; 11, 12) einen bogenförmigen Querschnitt aufweisen, um ein Volumen zwischen dem Körperteil (1a, 1b; 10) und den Backenteilen (2, 3; 11, 12) zu definieren in welches Haar bei Gebrauch geklemmt wird.
18. Haarklammer nach einem der vorhergehenden Ansprüche, wobei jeder Backenabteil (41, 42) eine Mehrzahl gelenkiger und federnder aneinandergeschaltete Backenteile (41c, 41d; 42c, 42d) umfasst, wobei jede Achse gelenkiger Kopplungen parallel bezüglich der seitlich voneinander beabstandeten Achsen liegt.

Revendications

1. Pince à cheveux comprenant une partie de corps (1a, 1b; 10) partiellement cylindrique ; des parties de mâchoire (2, 3; 11, 12) partiellement cylindriques fixées à ladite partie de corps (1a, 1b; 10) ; et un agencement d'ouverture des mâchoires (2f, 3f; 13) pour faire en sorte que lesdites parties de mâchoire (2, 3; 11, 12) puissent être ouvertes d'une main ; dans laquelle lesdites parties de mâchoire (2, 3; 11, 12) ont des dents (2c, 3c; 11c, 12c) et sont connectées de façon articulée et élastique à ladite partie de corps (1a, 1b; 10) pour amener lesdites dents (2c, 3c; 11c 12c) par poussée dans une position fermée afin de saisir les cheveux, lesdites parties de mâchoire (2, 3; 11, 12) sont connectés à ladite partie de corps (1a, 1b; 10) à des positions d'articulation définissant des axes d'articulation espacés latéralement, et lesdites parties de mâchoire (2, 3; 11, 12)

- et ladite partie de corps (1a, 1b; 10) définissent une surface de pince à cheveux extérieure qui est substantiellement cylindrique lorsque lesdites parties de mâchoire (2, 3; 11, 12) se trouvent dans la position fermée.
2. Pince à cheveux selon la revendication 1, dans laquelle lesdites dents (2c, 3c; 11c, 12c) sont agencées de façon à ce qu'elles se rencontrent substantiellement dans un plan lorsque les parties de mâchoire (2, 3; 11, 12) se trouvent dans la position fermée.
 3. Pince à cheveux selon la revendication 2, dans laquelle lesdites dents (2c, 3c; 11c, 12c) sont agencées de façon à ce qu'elles se rencontrent par inter-pénétration.
 4. Pince à cheveux selon l'une quelconque des revendications précédentes, dans laquelle lesdites parties de mâchoire (2, 3; 11, 12) sont connectées de façon articulée à ladite partie de corps (1a, 1b; 10) à une position à l'écart et vers l'intérieur de ladite surface de pince à cheveux extérieure.
 5. Pince à cheveux selon l'une quelconque des revendications précédentes, dans laquelle l'agencement d'ouverture des mâchoires (2f, 3f; 13) comprend des parties de poignée (2f, 3f) qui s'étendent desdites parties de mâchoire (2, 3) à l'écart desdites dents (2c, 3c) pour permettre que lesdites parties de mâchoire (2, 3) soient ouvertes en poussant lesdites parties de poignée (2f, 3f) autour desdits axes.
 6. Pince à cheveux selon l'une quelconque des revendications 1 à 4, dans laquelle ledit agencement d'ouverture des mâchoires (2f, 3f; 13) comprend une partie d'engagement des mâchoires (13) agencée dans une zone définie à l'intérieur desdites parties de mâchoire (11, 12) et de ladite partie de corps (10), ladite partie d'engagement de mâchoire (13) pouvant fonctionner dans une direction desdits axes d'articulation pour s'engager avec lesdites parties de mâchoire (11, 12) pour amener lesdites parties de mâchoire (11, 12) par poussée dans une position ouverte.
 7. Pince à cheveux selon la revendication 6, dans laquelle ladite partie d'engagement des mâchoires (13) a des surfaces d'engagement anguleux (13d) pour s'engager avec lesdites parties de mâchoire (11, 12) pour amener lesdites parties de mâchoire (11, 12) par poussée dans une position ouverte.
 8. Pince à cheveux selon la revendication 6 ou la revendication 7, dans laquelle ladite partie d'engagement des mâchoires (13) est portée par ladite partie de corps (10).
 9. Pince à cheveux selon la revendication 8, dans laquelle ladite partie d'engagement des mâchoires (13) est fixée de façon coulissante à ladite partie de corps (10) pour permettre que ladite partie d'engagement des mâchoires (13) glisse par rapport à ladite partie de corps (10) pour s'engager avec lesdites parties de mâchoires (11, 12).
 10. Pince à cheveux selon l'une quelconque des revendications précédentes, incluant des parties élastiques (7a, 7b; 16a, 16b) agencées entre ladite partie de corps (1a, 1b; 10) et lesdites parties de mâchoire (2, 3; 11, 12) pour fournir ladite connection élastique entre ladite partie de corps (1a, 1b; 10) et lesdites parties de mâchoire (2, 3, 11, 12).
 11. Pince à cheveux selon la revendication 10, dans laquelle lesdites parties de mâchoire (2, 3; 11, 12) sont montées sur ladite partie de corps (1a, 1b; 10) par le biais de broches pivot (6a, 6b; 15a, 15b), et lesdites parties élastiques (7a, 7b; 16a, 16b) comprennent des éléments de ressort s'engageant dans ladite partie de corps (1a, 1b; 10) et lesdites parties de mâchoire (2, 3; 11, 12).
 12. Pince à cheveux selon la revendication 10, dans laquelle la partie de corps (20) et lesdites parties de mâchoire (21, 22) sont formées d'une seule pièce de matériau aminci auxdites parties d'articulation pour permettre le pivotement relatif desdites parties de mâchoire (21, 22) et de ladite partie de corps (20), et lesdites parties élastiques comprennent des éléments élastiques (23, 24) s'engageant dans lesdites parties de mâchoire (21, 22) et ladite partie de corps (20).
 13. Pince à cheveux selon la revendication 10, dans laquelle lesdites parties élastiques (34) comprennent un matériau élastique connectant lesdites parties de mâchoire (31, 32) et ladite partie de corps (30),
 14. Pince à cheveux selon l'une quelconque des revendications précédentes, dans laquelle ladite partie de corps (1a, 1b; 10) comprend une partie de base (1b) à laquelle lesdites parties de mâchoire (2, 3) sont connectées, et au moins une partie de couverture décorative (1a).
 15. Pince à cheveux selon la revendication 14, dans laquelle au moins une dite partie de couverture décorative (1a) peut être enlevée pour permettre la connection de différentes parties de couverture (1a) à ladite partie de base (1b).
 16. Pince à cheveux selon l'une quelconque des revendications précédentes, dans laquelle ladite partie de corps (100) a de fines parties de bord de section transversale définissant une grande ouverture entre

lesdits axes pour permettre de voir les cheveux d'un porteur à travers celle-ci lorsqu'elle est portée.

17. Pince à cheveux selon l'une quelconque des revendications précédentes, dans laquelle lesdites parties de mâchoire (2, 3; 11, 12) ont une section transversale arquée pour définir un volume entre ladite partie de corps (1a, 1b; 10) et lesdites parties de mâchoire (2, 3; 11, 12) dans lequel les cheveux sont serrés lors de l'utilisation. 5 10
18. Pince à cheveux selon l'une quelconque des revendications précédentes, dans laquelle chaque dite partie de mâchoire (41, 42) comprend une pluralité de sections de mâchoire (41c, 41d; 42c, 42d) couplées de façon articulée et élastique, chaque axe des accouplements d'articulation étant parallèle auxdits axes espacés latéralement. 15

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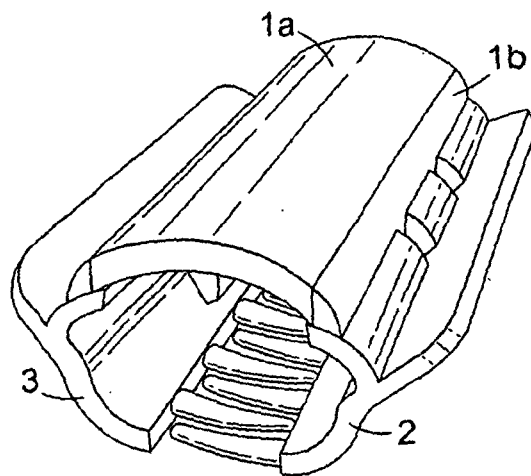


Fig. 1

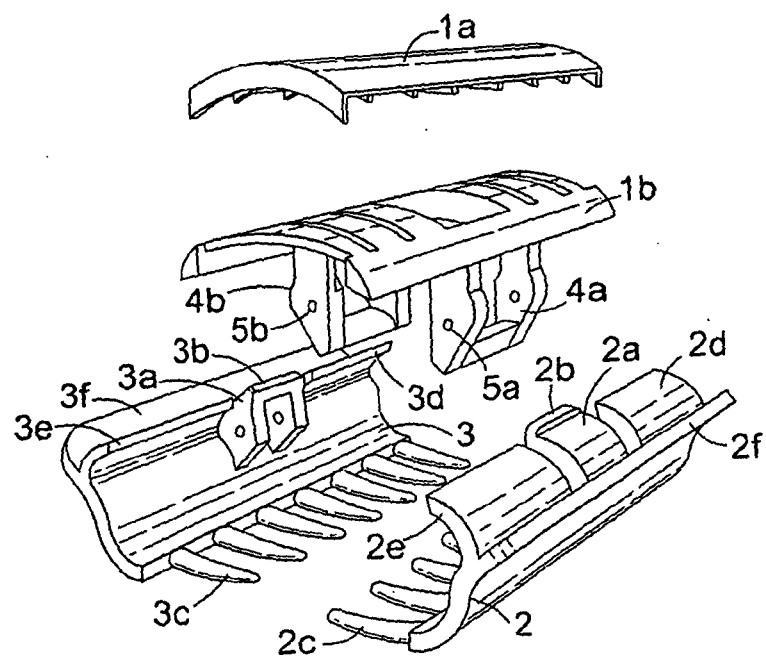


Fig. 2

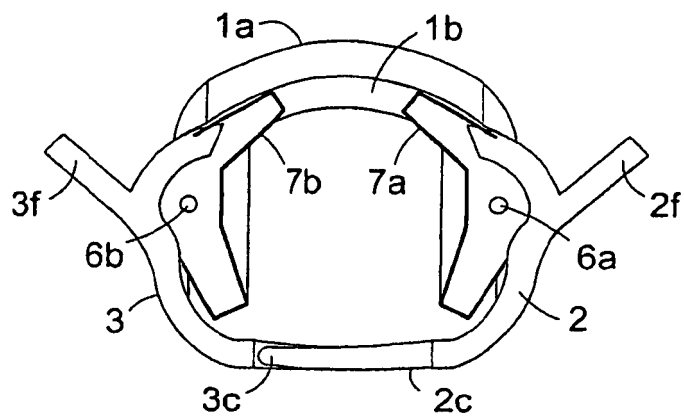


Fig. 3

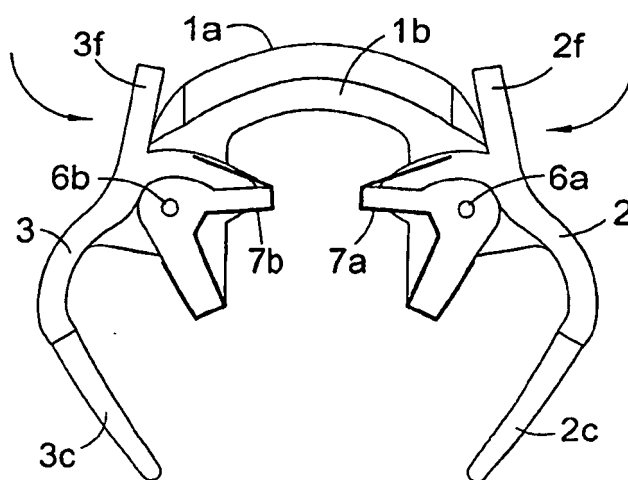


Fig. 4

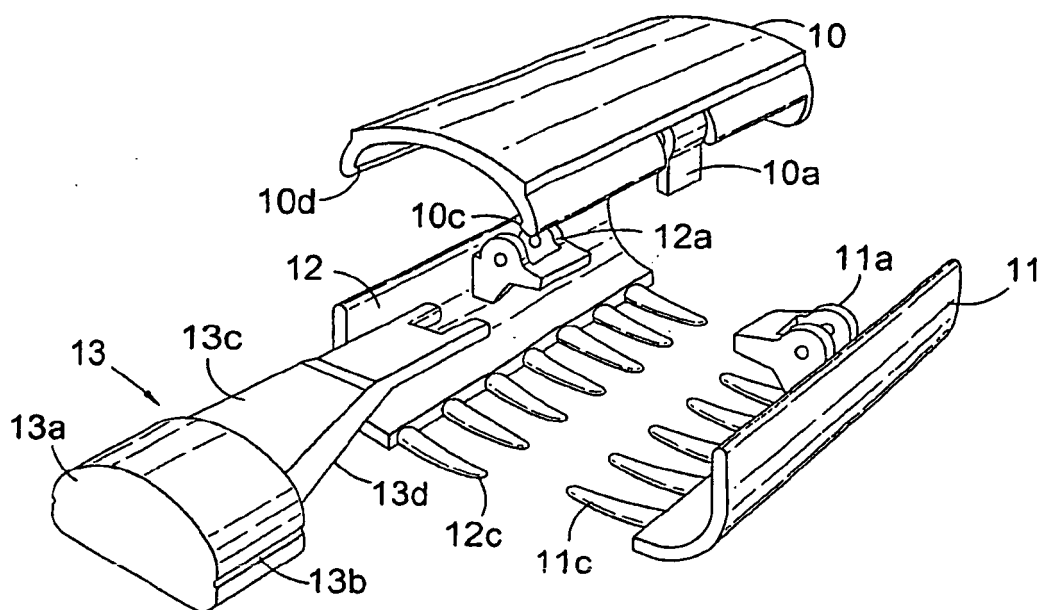


Fig. 5

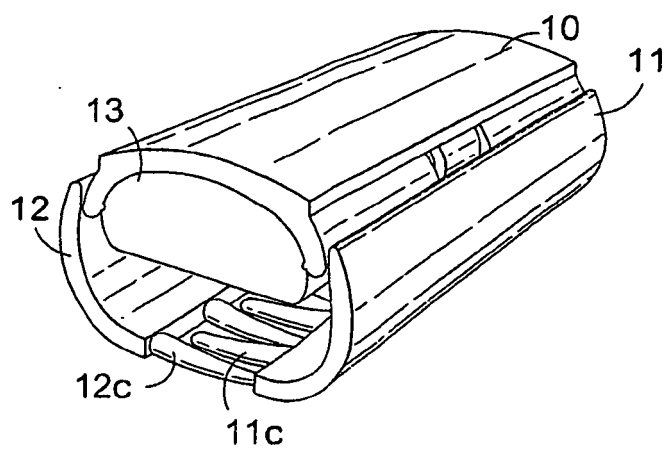


Fig. 6

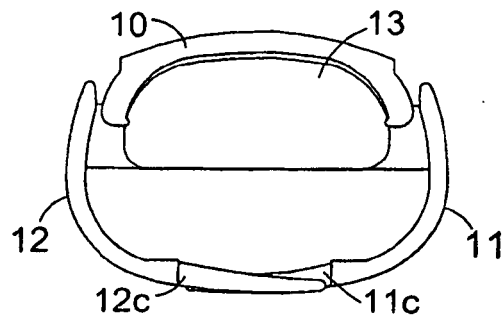


Fig. 7

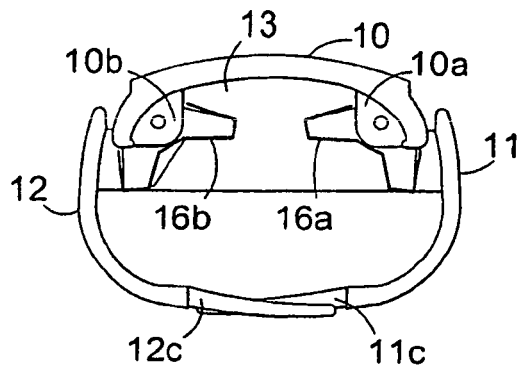


Fig. 8

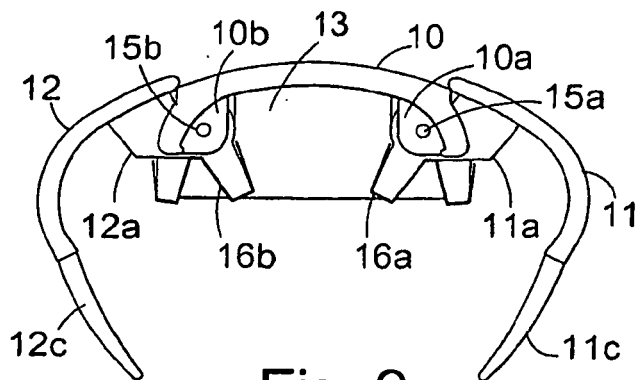


Fig. 9

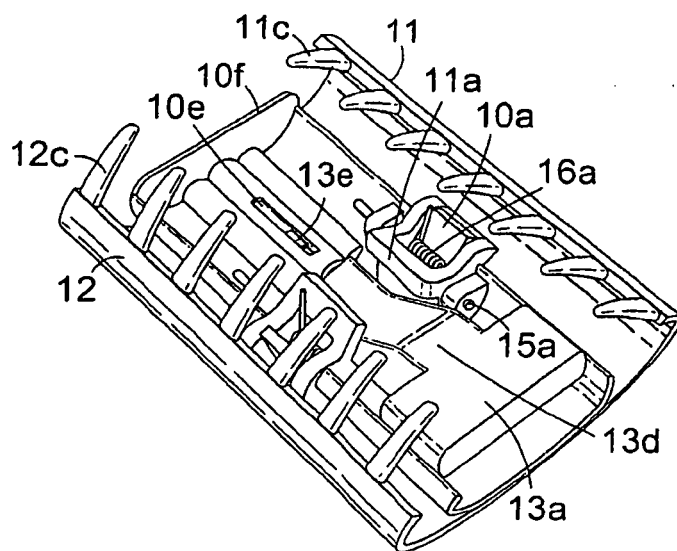


Fig. 10

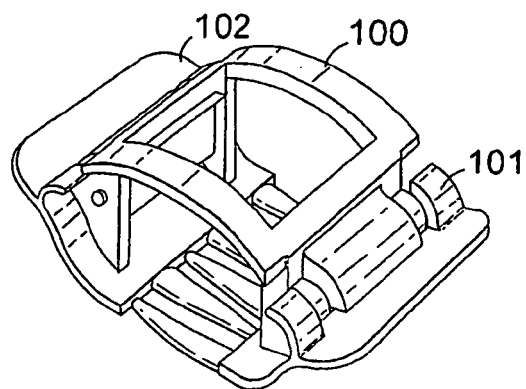


Fig. 11

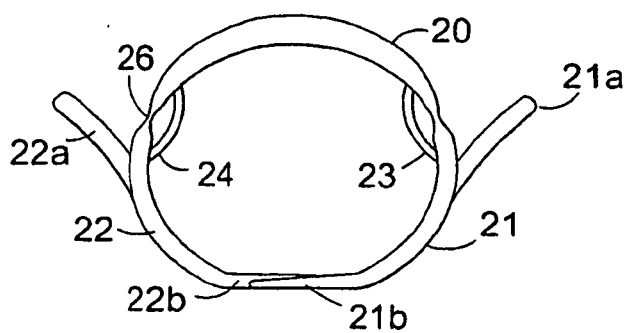


Fig. 12

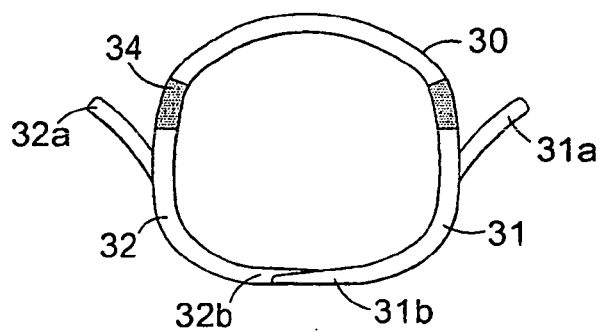


Fig. 13

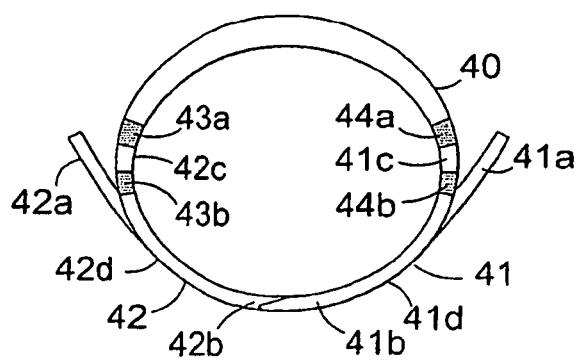


Fig. 14

REFERENCES CITED IN THE DESCRIPTION

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