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(54) **HAIR STYLING IMPLEMENT**

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(57) **ABSTRACT**

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The application discloses a hair styling implement 1 that comprises: a handle portion 3; and first 13 and second 17 styling parts, at least one of which is capable of being heated; wherein in a first operating mode one or both of said styling parts 13, 17 is or are moveable relative to at least part of said handle portion 3 to separate said styling parts 13, 17 so as to enable hair to be inserted therebetween for straightening; and in a second operating mode where said styling parts 13, 17 are adjacent hair can be wrapped around the periphery of the styling parts for curling. In another embodiment the invention provides a hair styling implement 1 comprising: a handle portion 3, and first and second styling parts 13, 17, at least one of which is capable of being heated; said styling parts each including a flat inner surface 29; wherein in a first operating mode one or both of said styling parts 13, 17 is or are moveable relative to at least part of said handle portion 3 to separate said styling parts 13, 17 so as to enable hair to be inserted therebetween for straightening; and at least one of said first and second styling parts 13, 17 includes a curved peripheral portion 33, 35 contiguous with said flat inner surface 29.

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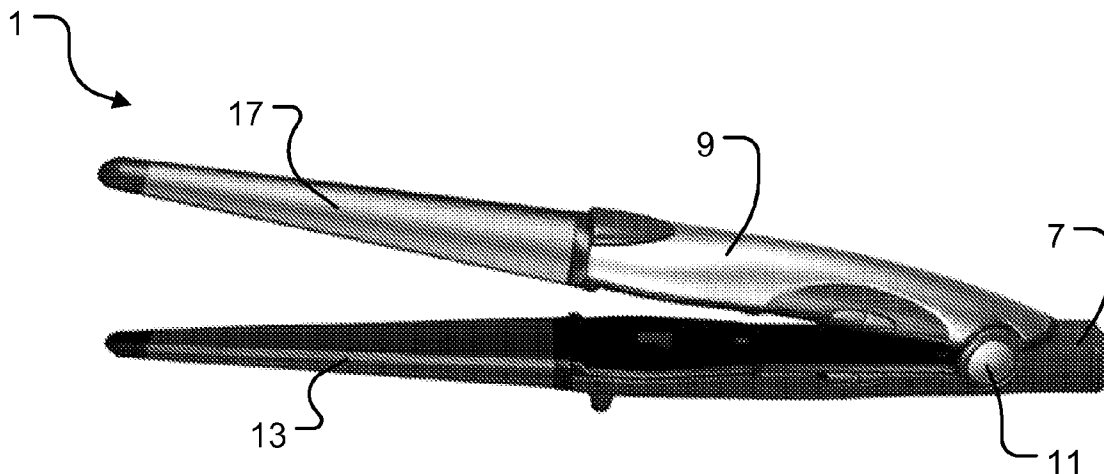
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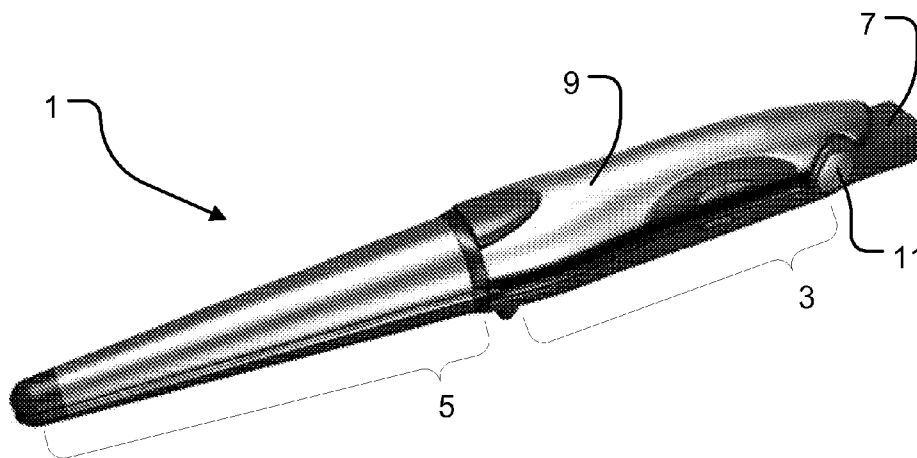
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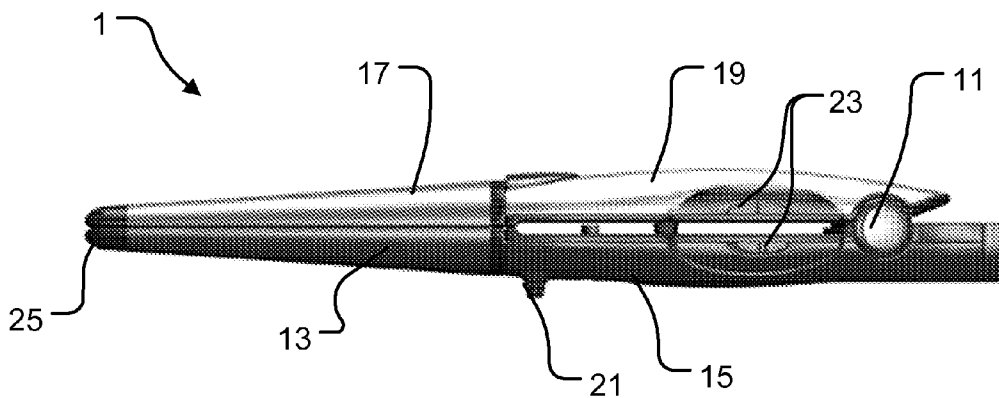
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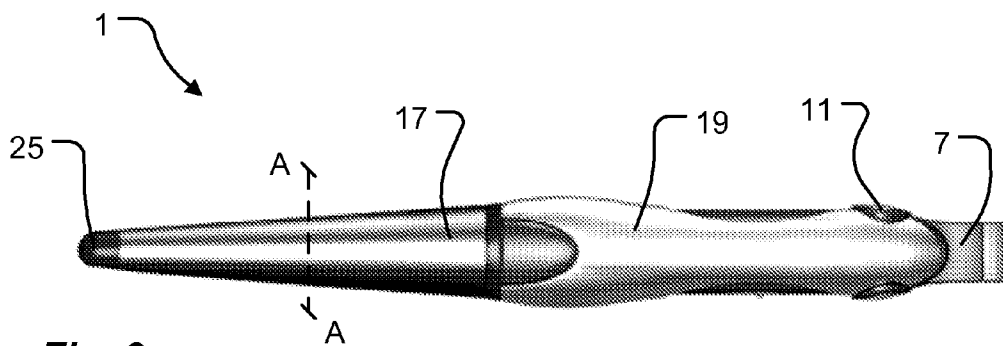




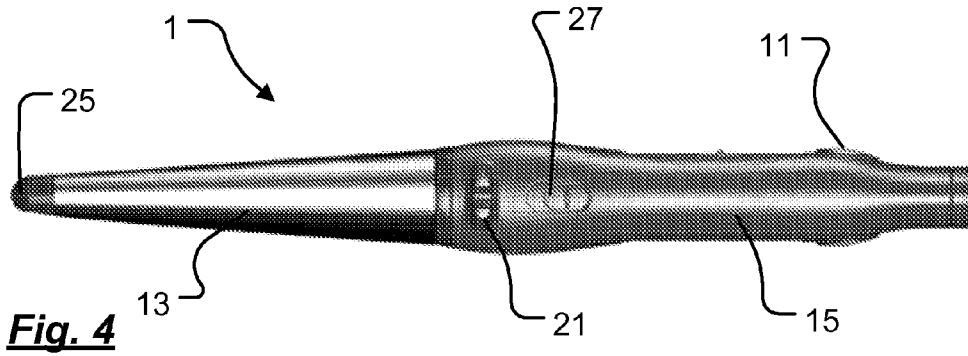
**Fig. 1**



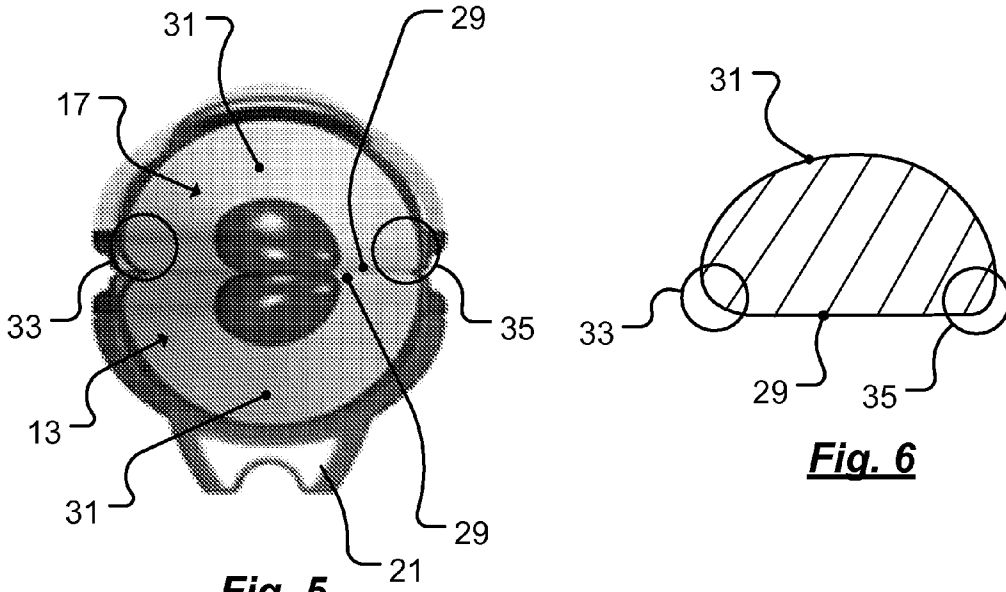
**Fig. 2**



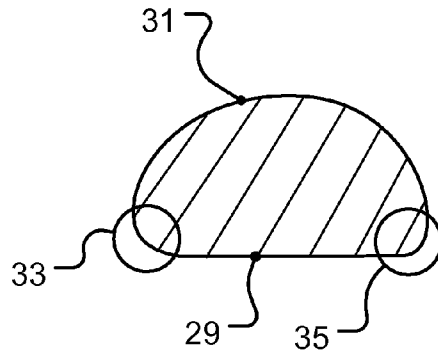
**Fig. 3**



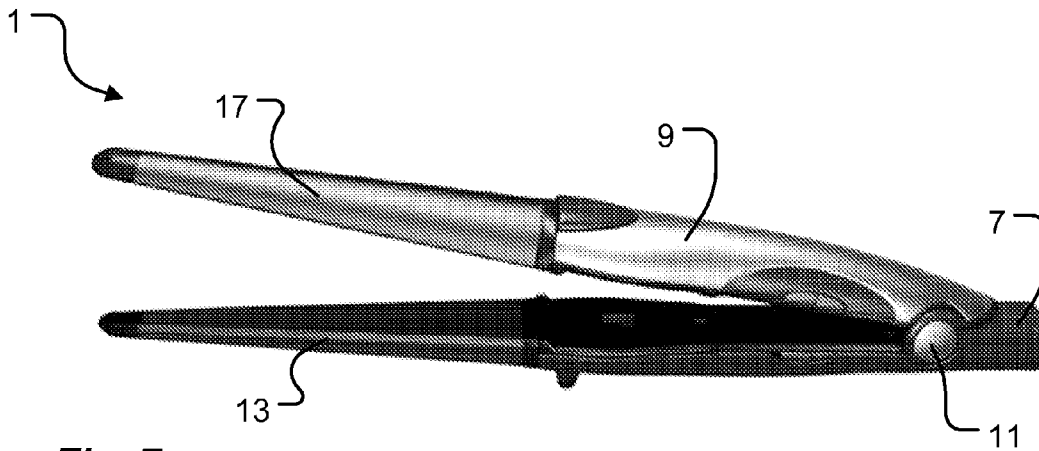
**Fig. 4**



**Fig. 5**



**Fig. 6**



**Fig. 7**

**HAIR STYLING IMPLEMENT**  
**CROSS REFERENCE TO RELATED APPLICATION**

**[0001]** This application claims the benefit of GB1006984.7 dated Apr. 27, 2010, the disclosure of which is incorporated herein by reference.

**FIELD**

**[0002]** This invention relates to hair styling implements. In one illustrative embodiment, the invention relates to an implement that can be used as a styling wand and as a hair straightener. In another envisaged implementation the implement is configured to facilitate the creation of curls with a selectable degree of tightness.

**BACKGROUND**

**[0003]** A variety of different hair styling implements have previously been proposed. In some instances these implements are designed to enable a user (or indeed a stylist) to straighten curly or wavy hair, and in other instances these implements are designed to help the user curl hair.

**[0004]** An illustrative example of a hair straightening implement is the GHD IV Salon Styler (sold by ghd, Unit 12, Ryefield Way, Silsden, West Yorkshire, BD20 0EF and online at www.ghdhair.com). This implement comprises a first arm that has a generally rectangular heating plate provided at an end of the arm distal from a handle portion. A second arm is pivotally coupled to the first arm and also carries a generally rectangular heating plate at an end of the arm distal from the pivot. An electrical element is provided within each arm underneath the plate, and can be energised to heat up the respective heating plates.

**[0005]** To use the implement as a straightening tool, the heating elements are energised to heat up the plates, and then a length of hair is sandwiched between the plates by squeezing the arms together at a point proximate the user's head. The implement is arranged so that the plates are parallel to the length of hair, and is then drawn slowly down the length of hair whilst the length of hair is held taut. The heated plates function to straighten the hair caught between them as they pass over the hair.

**[0006]** Although the primary function of this device is as a straightening implement, the GHD IV Salon Styler can also be used to curl hair. To use the implement in this way, the user clasps a length of taut hair between the plates at a point proximate the user's head, and then rotates the implement relative to the length of hair (whilst keeping the hair taut) so that the hair follows a non-straight path as the implement is drawn slowly downwards away from the user's head. In this instance, the tightness of the curls can be varied by varying the angle through which the implement is rotated. A small rotation will tend to give looser, larger diameter curls, whereas a rotation through 180 degrees will give tighter smaller diameter curls.

**[0007]** Whilst this device has been commercially successful, there is no escaping the fact that as its primary function is as a hair straightening implement, use of the device as a hair curling implement is more difficult. In particular, the device needs to be used carefully if the user is to replicate the degree of curl imparted to respective strands of hair. Another drawback is that the type of curl that can be styled is quite limited, and for these reasons, it is not unusual for users to own both a

straightening implement (such as the aforementioned GHD device), and a curling implement.

**[0008]** One popular curling implement is the so-called curling wand, an illustrative example of which is the YOGI Hair Wand (available from Mirage Direct Ltd, Unit A, 18 Buckland Road, Maidstone, Kent, ME16 0SL, ENGLAND, also available from: www.yogihairwand.com). This device comprises a handle with an on/off switch, and an electrically heated hair styling arm that extends from the handle and reduces slightly in circumference from the end of the arm proximate the handle to the end of the arm distal from the handle. To use the device, a user winds a length of hair around the hair styling arm and holds it in place for a short period of time. The user then gently pulls the wand from the hair whilst holding onto the end of the length of hair that they have just curled.

**[0009]** By varying where the hair is wound round the styling arm, the user can vary the diameter and tightness of the curls. However, users cannot use this device to straighten hair, and as such if they want to straighten and curl their hair they will need to have two devices. This can be inconvenient, especially if the user is travelling.

**[0010]** It would therefore be advantageous to provide a user with a single implement that is capable of straightening hair at least as well as a conventional hair straightener, as well as being able to curl hair at least as well as a conventional styling wand.

**[0011]** The present invention has been devised with the foregoing problems in mind, and one illustrative object of the invention is to provide a device that mitigates at least some of the problems previously described.

**SUMMARY**

**[0012]** To that end one illustrative arrangement embodying the teachings of the present invention provides a hair styling implement comprising: a handle portion; and first and second styling parts, at least one (preferably both) of which is capable of being heated; wherein in a first operating mode one or both (preferably both) of said styling parts is or are moveable relative to at least part of said handle portion to separate said styling parts so as to enable hair to be inserted therebetween for straightening; and in a second operating mode where said styling parts are adjacent hair can be wrapped around the periphery of the styling parts for curling.

**[0013]** Another illustrative arrangement embodying the teachings of the present invention provides a hair styling implement comprising: a handle portion, and first and second styling parts, at least one of which is capable of being heated; said styling parts each including a flat inner surface; wherein in a first operating mode one or both of said styling parts is or are moveable relative to at least part of said handle portion to separate said styling parts so as to enable hair to be inserted therebetween for straightening; and at least one of said first and second styling parts includes a curved peripheral portion contiguous with said flat inner surface.

**[0014]** In an envisaged arrangement, the implement may be configured to be operable in a second operating mode where said styling parts are adjacent hair can be wrapped around the periphery of the styling parts for curling.

**[0015]** The styling parts may each include a flat inner surface, and at least one of said first and second styling parts includes a curved peripheral portion contiguous with said flat inner surface.

[0016] In one embodiment said first styling part includes first and second curved peripheral portions contiguous with opposing lateral sides of said flat inner surface. In another embodiment said second styling part includes first and second curved peripheral portions contiguous with opposing lateral sides of said flat inner surface. In yet another embodiment each of said first and second styling parts include first and second curved peripheral portions that are contiguous with opposing lateral sides of said flat inner surface.

[0017] The first curved peripheral portion may have a different radius of curvature to that of said second curved peripheral portion. For example said first curved peripheral portion may have a larger radius of curvature than that of said second curved peripheral portion. The first curved peripheral portion may have a radius of curvature of approximately 3.5 mm. The second curved peripheral portion may have a radius of curvature of approximately 1.5 mm.

[0018] In one arrangement said first and second styling parts are configured to form, in said second operating mode, a generally conical styling portion that increases in diameter from a distal portion towards said handle portion.

[0019] The implement may comprise a heater for heating one or both of said styling parts. The heater may comprise an electrically powered heating device.

[0020] The handle portion may comprise a first part coupled to a second part for movement relative thereto. In one implementation said first handle part is coupled to said first styling part, and said second handle part is coupled to said second styling part. In another implementation said first handle part is integral with said first styling part and said second handle part is integral with said second styling part.

[0021] The second part may be coupled to said first part by a pivot pin that enables said second part to pivot relative to said first part.

[0022] The implement may comprise a controller for controlling operation of said implement.

[0023] In another aspect, the teachings of the invention provide a multifunctional hair styling implement that is configured and arranged to permit use as a tool for curling hair and a tool for straightening hair, for example as a styling wand and as a hair straightener. In one implementation the multifunctional hair styling implement said implement may be configured and arranged to permit a user to curl hair as it is straightened.

[0024] In yet another aspect, the teachings of the invention envisage the use of an implement as described herein as a tool for curling, straightening, or curling and straightening hair.

[0025] In another aspect, the teachings of the invention provide a hair straightening implement comprising first and second heated plates, wherein each said plate includes a flat portion that terminates on either side in respective peripheral portions, at least one of said peripheral portions being curved.

[0026] Other features, advantages and aspects of the teachings of the present invention will be apparent from the following detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

[0027] Various aspects of the teachings of the present invention, and arrangements embodying those teachings, will hereafter be described by way of illustrative example with reference to the accompanying drawings, in which:

[0028] FIG. 1 is a top perspective view of a hair styling implement according to an embodiment of the invention with arms abutting;

[0029] FIG. 2 is a left side elevation of the implement;

[0030] FIG. 3 is a top plan view of the implement;

[0031] FIG. 4 is a bottom plan view of the implement;

[0032] FIG. 5 is an enlarged front elevation of the implement;

[0033] FIG. 6 is a schematic cross-sectional view, along the line A-A of FIG. 3, through a styling part of a first arm of the implement; and

[0034] FIG. 7 is a perspective view of the implement with arms open.

DETAILED DESCRIPTION

[0035] Referring now to FIG. 1 of the drawings, there is depicted a schematic perspective view of an illustrative hair styling implement 1 that embodies the teachings of the present invention.

[0036] The implement 1 is shown in FIG. 1 in a configuration where the implement is ready to be stored, or used as a styling wand. In general terms, the implement 1 comprises a handle portion 3 that a user holds when they are using the implement 1, and a styling portion 5 that is capable of being heated.

[0037] In an envisaged implementation, the styling portion 5 is heated electrically by means of resistive electrical elements that are provided inside the respective parts that make up the styling portion 5. As will be appreciated by persons skilled in the art, the styling portion may instead be heated by a variety of alternative means, and as such the teachings of the present invention should not be interpreted as being limited only to an electrically powered implement. It will also be appreciated that whilst it is beneficial to heat both parts that make up the styling portion, it may be sufficient for just a single part to be heated.

[0038] In one envisaged arrangement, interior and exterior parts of the styling portion are heated. The interior and exterior parts need not necessarily be heated to the same temperature. For example, the outer parts of the styling portion (which parts might contact the skin of the person using the device) could be heated to a lower temperature than the interior parts. In another envisaged arrangement, only the interior parts of the styling portion may be heated. In either case it is envisaged that the outer parts of the styling portion (at least) will be smooth, and to this end at least the outer parts of the styling portion may be of metal.

[0039] The implement includes a first arm 7 and a second arm 9 that are coupled together to enable at least one arm to move relative to the other. In this particular implementation the second arm 9 is coupled to the first arm 7 by means of a hinge pin (indicated generally at 11) that enables the second arm 9 to pivot about the pivot pin 11 and thereby move relative to the first arm 7 between the position illustrated in FIG. 1 and the position illustrated in FIG. 5.

[0040] In another envisaged implementation not shown in the drawings, the styling portion 5 may comprise two arms that are each pivotally coupled to a handle portion, and configured to be capable of moving relative to the handle portion between a configuration where the respective arms of the styling portion are adjacent one another (i.e. a configuration similar to that shown in FIG. 1), and a configuration where the arms of the styling portion are spaced from one another (i.e. a configuration similar to that shown in FIG. 6).

[0041] Referring now to FIG. 2, the first arm 7 comprises a styling part 13 and a handle part 15. Similarly, the second arm 9 also comprises a styling part 17 and a handle part 19. The

first arm styling part **13** and the second arm styling part **17** each include a heating element (not shown) and cooperate to function as the aforementioned heated styling portion **5** of the implement **1**. In a similar manner, the first arm handle part **15** and the second arm handle part **19** cooperate to function as the aforementioned handle portion **3** of the implement **1**.

**[0042]** As shown in FIG. **2**, the first arm handle portion **15** includes a rest **21** that supports the implement when it is not in use (in particular so that the heated styling portion is kept out of contact with the surface on which the implement is lying), and each of the first and second arm handle portions **15**, **19** include buttons **23** that function as a control interface for the control system of the implement (for example to turn the implement on and off, and to control the temperature to which the styling portion is heated in use).

**[0043]** In one envisaged implementation the first and second arm styling portions **13**, **17** may be of metal or a heat conducting ceramic material that can easily be cleaned. The first and second arm handle portions **15**, **19** may be of a material, such as a plastics material, that is a poor conductor of heat.

**[0044]** Referring now to FIGS. **1** to **3**, the styling portion **5** is generally conical in shape, and increases in diameter from a tip **25** distal from the handle portion **3** towards the handle portion **3**. In an envisaged implementation, as shown, the maximum diameter of the styling portion **5** is generally the same as that of the handle portion **3**.

**[0045]** FIG. **4** is a plan view of the underside of the implement **1** showing, inter alia, a switch **27** that actuates a locking mechanism which functions to lock the first and second arms **7**, **9** together when the implement is to be stored or used as a styling wand. In one envisaged implementation the locking mechanism includes an upstanding L shaped locking member that projects from the handle part **15** of the first arm **7**, and which can be slid back and forth, by operating the switch **27**, so that the horizontal part of the L-shaped locking member moves into and out of engagement with a complementary keep formed in the handle part **19** of the second arm **9**.

**[0046]** Referring now to FIGS. **5** and **6**, as the generally conical styling portion **5** is formed by two discrete styling parts **13**, **17**, each of said styling parts is generally hemiconical in shape and hence generally D-shaped in cross-section (as shown in FIG. **6**). In an envisaged implementation the two styling parts are identical in shape, but it will be appreciated by persons of ordinary skill in the art that this is not an essential feature of the invention.

**[0047]** As shown in FIG. **6**, each styling part **13**, **17** includes a flat inner surface **29**. When the styling parts are heated the flat inner surfaces **29** cooperate to straighten hair pulled between them. In conventional heated hair straightening implements (such as the aforementioned GHD IV Salon Styler), each styling part is generally rectangular in cross-section. That is to say, each styling part includes a flat inner surface that terminates at each lateral periphery in a right-angled edge.

**[0048]** The styling parts **13**, **17** of the implement **1** also comprise, as shown in FIG. **6**, flat inner surfaces **29** but in a departure from convention the flat inner surfaces of each styling part of one envisaged implementation are joined to a curved outer surface **31** by smoothly curved peripheral portions **33**, **35** instead of right-angled edges. The principal advantage of such an arrangement is that it is much easier to curl hair using a straightening implement that has curved peripheral portions, than it is to curl hair with a straightening

implement that has right-angled, or more acutely angled edges. One reason for this is that a straightening implement with smoothly curved peripheral portions reduces the incidence of crease marks (known as “lines”) that are often left in the hair by traditional straightening irons with more acutely angled edges. As a consequence good results are typically easier to achieve with the device of the present invention than they are with traditional devices. It is also the case that curls are more easily replicated from strand to strand, than with conventional straighteners.

**[0049]** In an envisaged embodiment of the present invention, one peripheral portion **33** has a greater radius of curvature than the other peripheral portion **35**. An advantage of this arrangement is that each peripheral portion enables curls of a particular type to be created. In particular, the peripheral portion **33** with a larger radius of curvature enables curls with a larger radius of curvature to be created, whereas the peripheral portion **35** with a smaller radius of curvature enables smaller, tighter curls to be created. In one envisaged implementation, peripheral portion **33** has a radius of curvature of about 3.5 mm, whereas peripheral portion **35** has a radius of curvature of about 1.5 mm.

**[0050]** An advantage of providing a second tighter radius curved peripheral portion is that this portion can be used to facilitate the curling of stronger, more curl resistant hair or to produce a tighter curl on normal hair whilst, (in each case) reducing the likelihood of leaving “lines” in the hair.

**[0051]** Whilst in the some implementations each styling portion has roughly the same shape, in another envisaged arrangement only one of the styling portions could be provided with curved peripheral portions (the other being generally rectangular in cross-section). Whilst such an arrangement would not be as easy to use as an arrangement where both styling portions have generally the same shape, it would still be easier to use than a conventional straightening implement where both styling portions are rectangular in cross-section.

**[0052]** In yet another envisaged implementation, one styling portion could include a curved region at one lateral periphery and a right-angled edge at the other. In this implementation the other styling portion could be similarly shaped or have a conventional rectangular cross-section.

**[0053]** The device of some implementations has further advantages. For example, in one envisaged arrangement the smooth outermost metal housing facilitates certain styling techniques. For example, one technique involves gripping the hair near the root between the styling plates and then wrapping the hair below around the barrels of the styling portion. The implement is then pulled through the hair to create a curl, and the smoothness of the exterior metal housing enables a smooth pull-through and improved presentation of the curl with less potential for damage. In circumstances where the exterior of the styling portion is also heated, the presentation and longevity of the curl can also be improved.

**[0054]** In another envisaged arrangement of a conventional hair straightening implement could be modified so that at least one of the styling parts includes at least one smoothly curved peripheral region instead of having a right-angled edge. Whilst such an arrangement would not be as versatile as the implement described herein, it would nevertheless be an improvement over existing hair straightening implements (such as the aforementioned GHD product) that have styling parts which are generally rectangular in cross-section.

[0055] As aforementioned, the implement is configured so that the styling parts 13, 17 can be separated (as shown in FIG. 7) for the receipt of strands of hair for straightening. In the implementation shown in FIG. 7, the second arm 9 pivots about pivot pin 11 to separate the styling parts 13, 17 of the first and second arms 7, 9. In one envisaged implementation, a resilient bias may be provided within the handle portion 3 to urge the second arm towards a position such as that shown in FIG. 2. The advantage of this arrangement is that the resilient bias helps to clamp hair between the respective styling parts 13, 17 and thereby augments the clamping force provided by a user holding the handle portion 3.

[0056] In one illustrative implementation the first arm styling part 13 and second arm styling part 17 are each approximately 120 mm in length (i.e. from a junction between the styling portion 5 and the handle portion 3 to the tip 25 of the styling portion 5). At a point proximate the aforementioned junction, each styling part is roughly 30.9 mm wide (where the width is a dimension parallel to the aforementioned flat inner surface 29) and 15.75 mm thick (where the thickness is a dimension perpendicular to the aforementioned flat inner surface 29). At a point proximate the styling portion tip 25, each styling part is roughly 13.5 mm wide and 7.75 mm thick.

[0057] The implement can be used for a variety of different purposes. Once the styling part(s) are heated, by whatever means, a user can wrap a strand of hair round the generally conical styling portion 5 and use the implement in the manner of a conventional styling wand.

[0058] The user can also separate the styling parts (as shown in FIG. 7) and then insert a strand of hair that is then clamped between respective styling parts. The user can then draw the implement slowly down the clamped strand of hair to straighten it.

[0059] The user can also, as aforementioned, grip a strand of hair near the root between the styling plates and then wrap the hair below around the barrels of the styling portion. The implement can then be pulled through the hair to create a curl.

[0060] Lastly the user can rotate the implement relative to the strand of hair and then draw the implement slowly down the strand to straighten and curl the hair, either by means of the curved portion with the larger radius of curvature, or by means of the curved portion with the smaller radius of curvature.

[0061] It can be seen, therefore, that the teachings of the present invention provide an implement that is much more versatile than existing devices, and further that an implement embodying the teachings of the invention can more easily be operated to provide a desired style than existing devices.

[0062] It will be appreciated that whilst various aspects and embodiments of the present invention have heretofore been described, the scope of the present invention is not limited to the particular arrangements set out herein and instead extends to encompass all arrangements, and modifications and alterations thereto, which fall within the spirit and scope of the invention.

[0063] It should also be noted that whilst the accompanying claims set out particular combinations of features described herein, the scope of the present invention is not limited to the particular combinations hereafter claimed, but instead extends to encompass any combination of features herein disclosed.

1. A multifunctional hair styling implement that is configured and arranged to permit use as a tool for curling hair and a tool for straightening hair

2. An implement according to claim 1, comprising:

a handle portion; and

first and second styling parts, at least one of which is capable of being heated;

wherein in a first operating mode one or both of said styling parts is or are moveable relative to at least part of said handle portion to separate said styling parts so as to enable hair to be inserted therebetween for straightening; and

in a second operating mode where said styling parts are adjacent hair can be wrapped around the periphery of the styling parts for curling.

3. An implement according to claim 2, wherein said styling parts each include a flat inner surface, and at least one of said first and second styling parts includes a curved peripheral portion contiguous with said flat inner surface.

4. An implement according to claim 3, wherein said first styling part includes first and second curved peripheral portions contiguous with opposing lateral sides of said flat inner surface.

5. An implement according to claim 3, wherein said second styling part includes first and second curved peripheral portions contiguous with opposing lateral sides of said flat inner surface.

6. An implement according to claim 3, wherein each of said first and second styling parts include first and second curved peripheral portions that are contiguous with opposing lateral sides of said flat inner surface.

7. An implement according to claim 4, wherein said first curved peripheral portion has a different radius of curvature to that of said second curved peripheral portion.

8. An implement according to claim 7, wherein said first curved peripheral portion has a larger radius of curvature than that of said second curved peripheral portion.

9. An implement according to claim 8, wherein said first curved peripheral portion has a radius of curvature of approximately 3.5 mm.

10. An implement according to claim 8, wherein said second curved peripheral portion has a radius of curvature of approximately 1.5 mm.

11. An implement according to claim 2, wherein said first and second styling parts are configured to form, in said second operating mode, a generally conical styling portion that increases in diameter from a distal portion of said styling portion towards said handle portion.

12. An implement according to claim 2, wherein said handle portion comprises a first part coupled to a second part for movement relative thereto.

13. An implement according to claim 12, wherein said first handle part is coupled to said first styling part, and said second handle part is coupled to said second styling part.

14. An implement according to claim 12, wherein said first handle part is integral with said first styling part and said second handle part is integral with said second styling part.

15. An implement according to claim 1, comprising:

a handle portion, and

first and second styling parts, at least one of which is capable of being heated; said styling parts each including a flat inner surface;

wherein in a first operating mode one or both of said styling parts is or are moveable relative to at least part of said handle portion to separate said styling parts so as to enable hair to be inserted therebetween for straightening; and

at least one of said first and second styling parts includes a curved peripheral portion contiguous with said flat inner surface.

16. An implement according to claim 15, wherein in a second operating mode where said styling parts are adjacent hair can be wrapped around the periphery of the styling parts for curling.

17. An implement according to claim 15 wherein said first styling part includes first and second curved peripheral portions contiguous with opposing lateral sides of said flat inner surface.

18. An implement according to claim 15, wherein said second styling part includes first and second curved peripheral portions contiguous with opposing lateral sides of said flat inner surface.

19. An implement according to claim 15, wherein each of said first and second styling parts include first and second curved peripheral portions that are contiguous with opposing lateral sides of said flat inner surface.

20. An implement according to claim 19, wherein said first curved peripheral portion has a different radius of curvature to that of said second curved peripheral portion.

21. An implement according to claim 20, wherein said first curved peripheral portion has a larger radius of curvature than that of said second curved peripheral portion.

22. An implement according to claim 21, wherein said first curved peripheral portion has a radius of curvature of approximately 3.5 mm.

23. An implement according to claim 21, wherein said second curved peripheral portion has a radius of curvature of approximately 1.5 mm.

24. An implement according to claim 16, wherein said first and second styling parts are configured to form, in said second operating mode, a generally conical styling portion that increases in diameter from a distal portion towards said handle portion.

25. An implement according to claim 15, wherein said handle portion comprises a first part coupled to a second part for movement relative thereto.

26. An implement according to claim 25, wherein said first handle part is coupled to said first styling part, and said second handle part is coupled to said second styling part.

27. An implement according to claim 25, wherein said first handle part is integral with said first styling part and said second handle part is integral with said second styling part.

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