



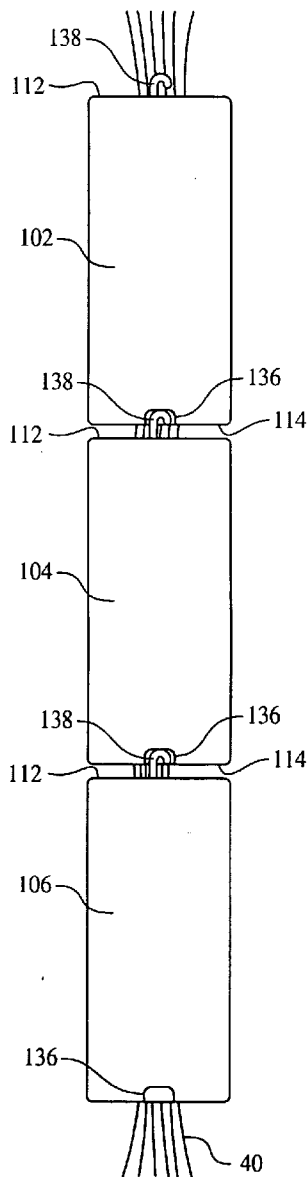
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(19) **United States**(12) **Patent Application Publication****Allen**(10) **Pub. No.: US 2005/0284493 A1**(43) **Pub. Date: Dec. 29, 2005**(54) **HAIR SETTER**(52) **U.S. Cl. 132/225**(76) **Inventor: Racquel R. Allen, Owings Mills, MD (US)**

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(21) **Appl. No.: 10/877,703**(22) **Filed: Jun. 24, 2004****Publication Classification**(51) **Int. Cl.⁷ A45D 2/40**(57) **ABSTRACT**

A relatively narrow, inexpensive, easy to use hair setter which imparts curls to a section of hair is described. A series of setters may be used to curl a long section of hair. An array of setters may be used to curl a relatively wide swath comprised of several sections of hair. The setters in an array may be arranged to cause the hair to be curled with waves extending across the width of the swath, or to cause the hair to be curled with waves appearing at random over the width of the swath.



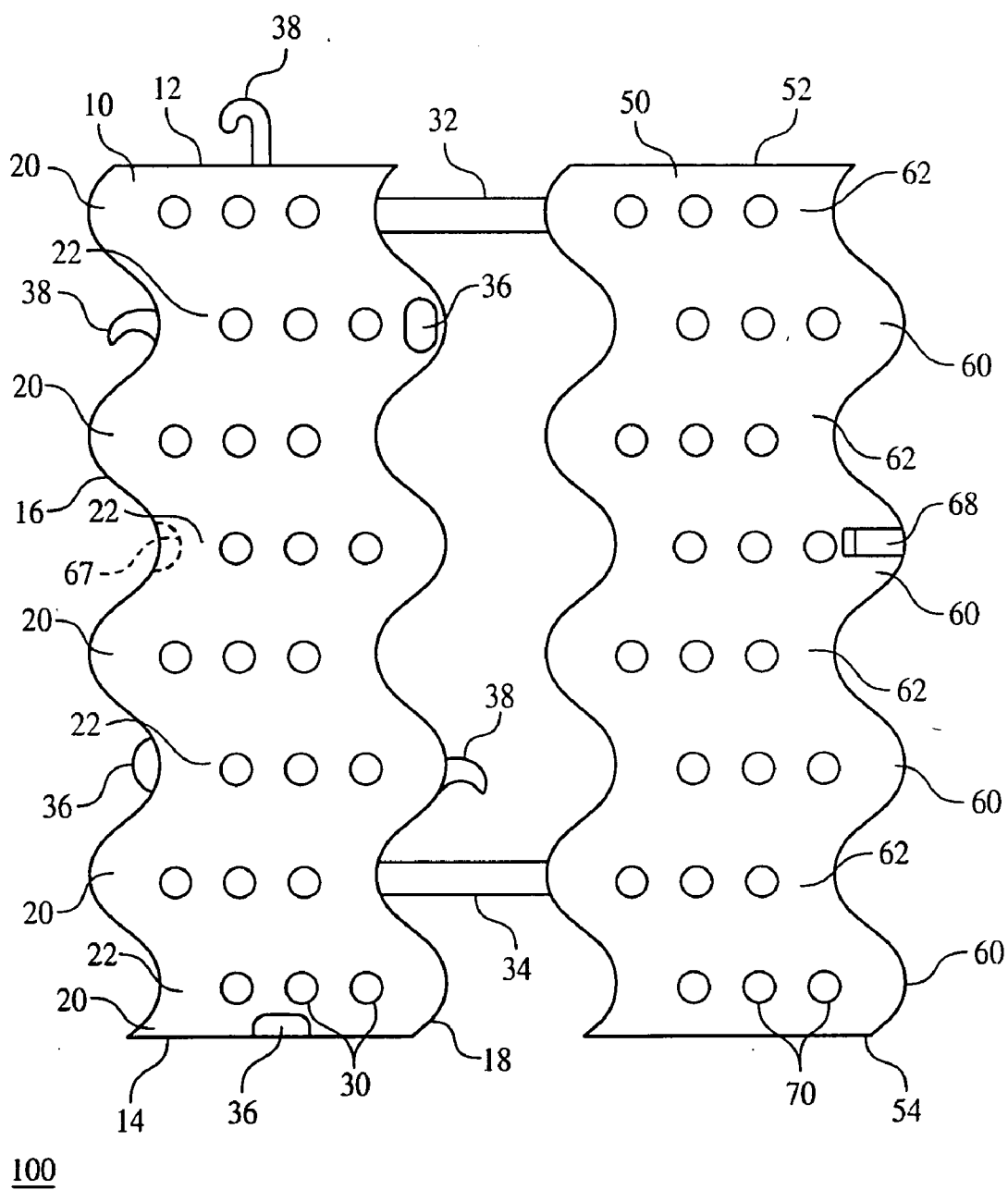


FIG. 1

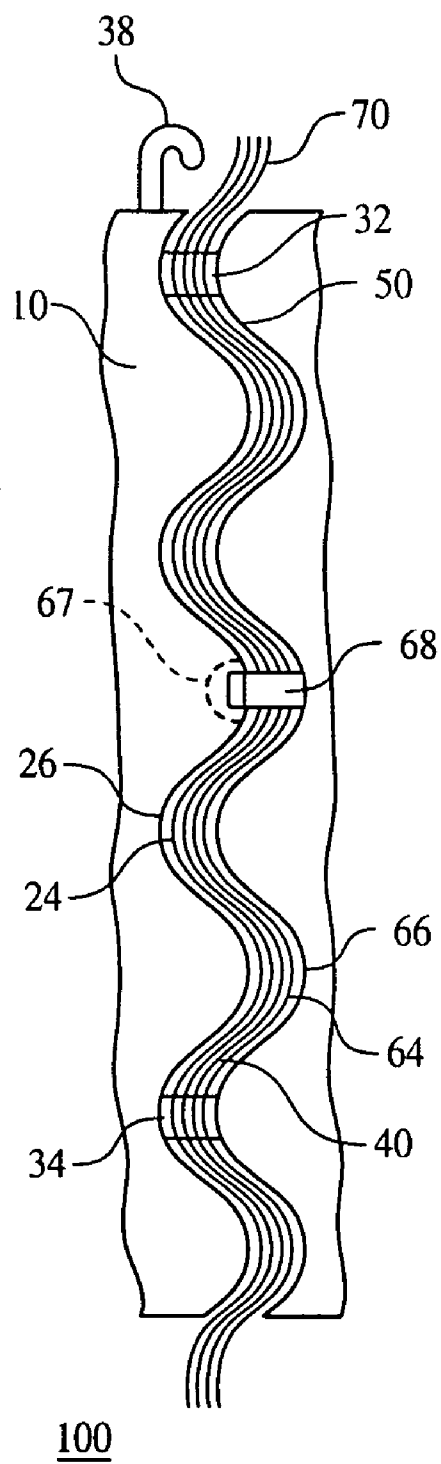


FIG. 2

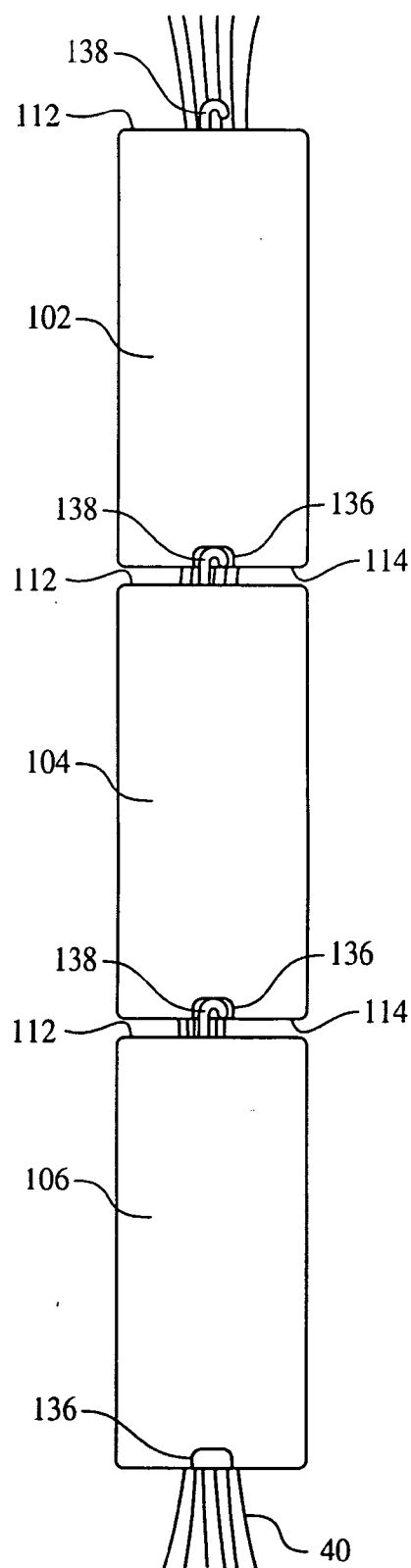


FIG. 3

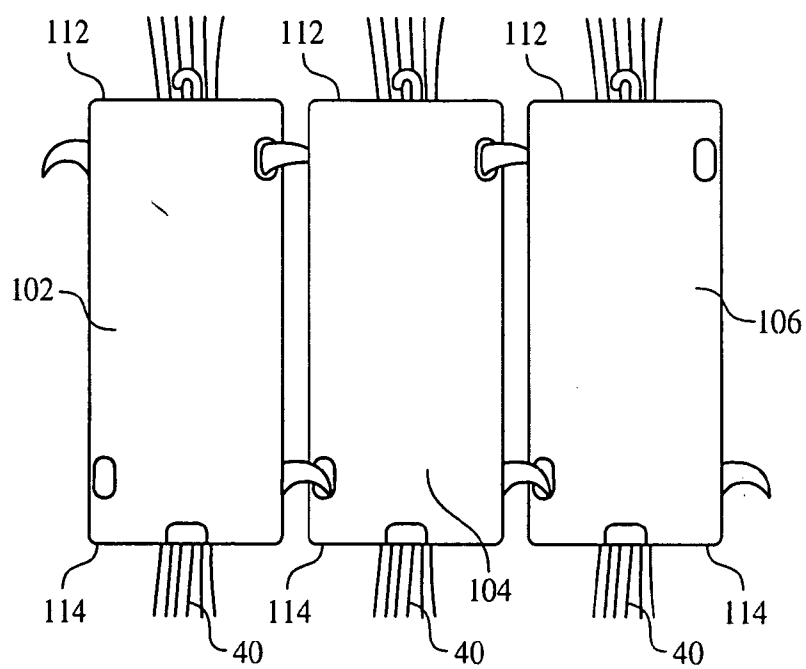


FIG. 4

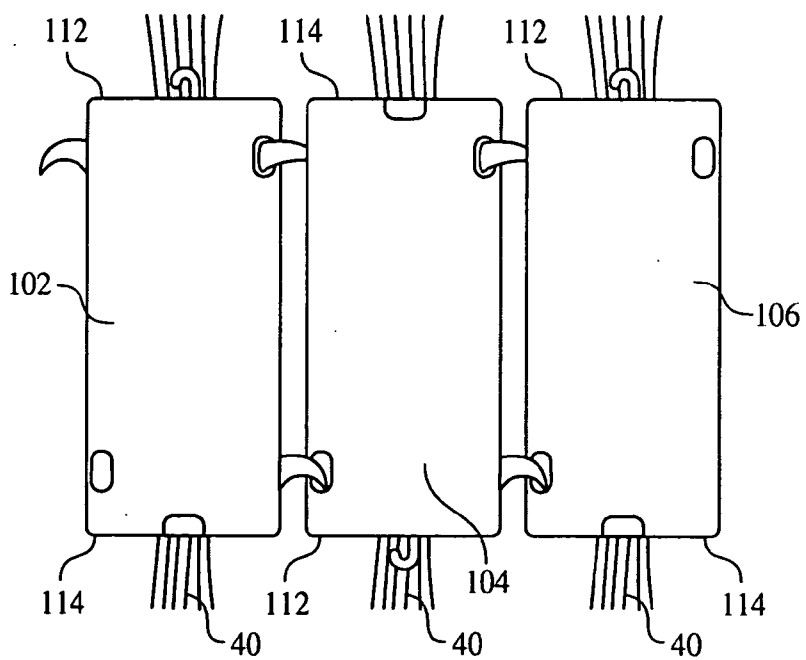


FIG. 5

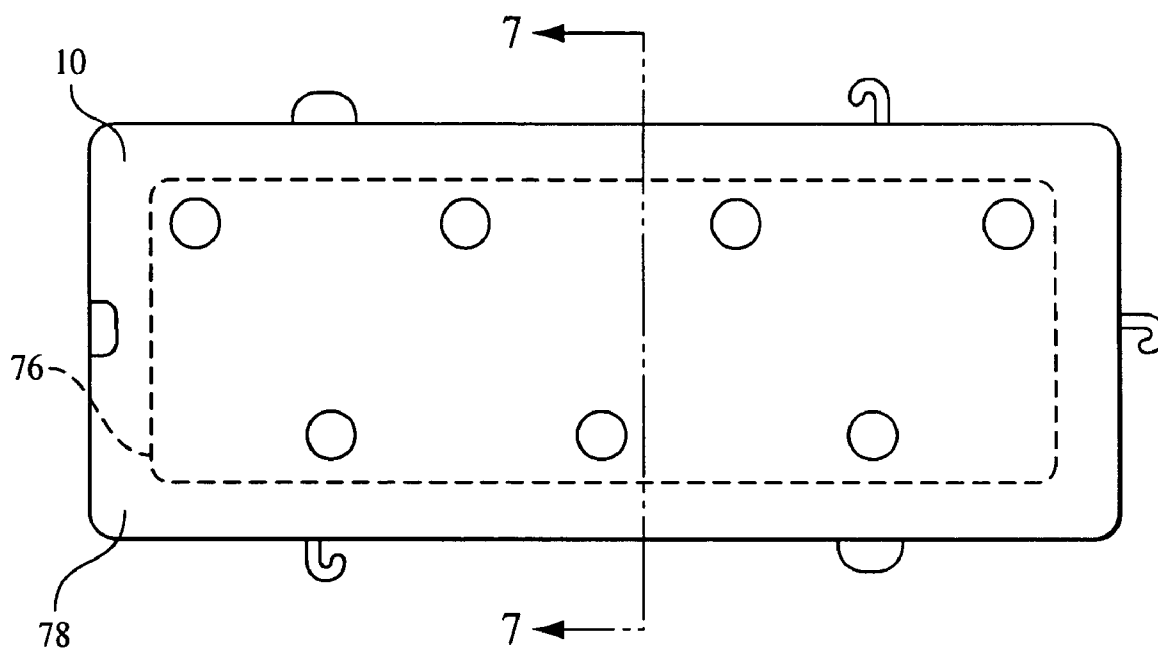


FIG. 6

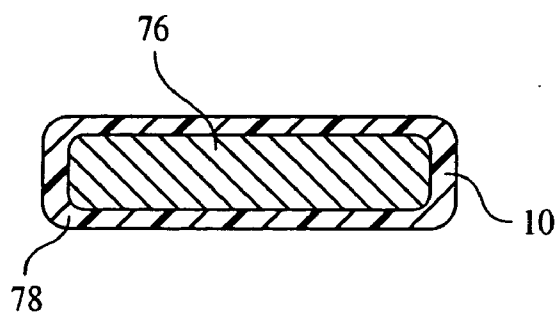


FIG. 7

HAIR SETTER

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Not Applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not Applicable.

REFERENCE TO A "MICROFICHE APPENDIX"

[0003] Not Applicable.

BACKGROUND OF THE INVENTION

[0004] 1. Field of the Invention

[0005] This invention pertains to devices for imparting waves into hair.

[0006] 2. Description of Related Art Including Information Disclosed Under 37 CFR 1.97 and 37 CFR 1.98.

[0007] In this patent disclosure the term "section" means a cluster of hair on a person's head selected and isolated for treatment by a beautician. A section is approximately one to two inches in width and is comprised of hundreds of strands of hair. The isolation of a section is termed slicing, parting, or sectioning.

[0008] Style in hair preparation is subject to rapid change. Current styles include relatively long strands of hair with multiple relatively small crimps or folds in the strands. The hair is maintained in this style by treatment with permanent wave preparations followed by setting with a hair curler or by placing wet hair into a hair curler.

[0009] U.S. Pat. No. 2,936,766 discloses a hair curler comprising of a strip with perforations and with a crease in the middle. The crease is used to prevent curling until the hair is laid on the strip. The strip is then allowed to curl.

[0010] U.S. Pat. No. 3,108,603 discloses a hair curler comprising two strips which are attached by flexible connectors through openings along one of the long sides on each strip. There are arms or legs at one end which are used to spread the sheets for insertion of hair on the strips, when the strips are allowed to come together and curl, containing the hair between the strips comprising the now cylindrical roll.

[0011] U.S. Pat. No. 4,261,375 discloses a hair curler and crimper with two washboard shaped section connected by a living hinge. Hair strands are placed on one section and is engulfed and waved by closing the second section over the first.

[0012] U.S. Pat. No. 4,714,820 discloses an electrically heated hair curler system with an electrically heated strip hinged connected to a flap. Hair is placed on the strip, the flap is closed, and the strip rolled. Alternatively, the strips may be corrugated to create a pleated hair pattern.

[0013] U.S. Pat. No. 4,867,185 discloses a hair waving device of two complementary washboard shaped sides connected by a living hinge which are folded over a stand of hair. A number of devices may be connected to obtain curls extending through the length of the hair strand.

[0014] U.S. Pat. No. 5,813,419 discloses a hair curler of a sheet of semi-rigid material with perforations folded in the middle, and then folded in zigzags. The hair is placed in the between the sides and the zigzags compressed, then the device locked in place.

[0015] U.S. Pat. No. 5,819,763 discloses a microwavable hair curler with a microwave heatable element.

[0016] U.S. Pat. No. 5,944,029 discloses a hair curler strip with hooks on one side and loops on the other. Hair is placed on one side; the strip is curled, and is secured in place by the hooks and loops.

[0017] U.S. Pat. No. 6,394,101 discloses a flexible hair curler with holes and hooks along the outer edges. Hair is placed on one side, the curler is allowed to curl into a cylindrical form, and the cylindrical form is secured in place by the holes and hooks.

[0018] None of the prior art discloses a hair curler with dimensions suitable for providing relatively small sections or locks of hair having small curls or crinkles, especially when adjacent sections have crinkles which are not in phase

BRIEF SUMMARY OF THE EMBODIMENTS OF THE INVENTION

[0019] This patent application discloses embodiments of resilient hair setters comprising a resilient ribbon shaped base panel having left and right long sides and upper and lower short sides, the long sides of length approximately 4 to 15 times the length of the short sides, an interior and an exterior surface. The base panel is shaped with waves having crests and troughs parallel to the short sides. There is a rectangular flexible ribbon shaped top panel having left and right long sides and upper and lower short sides, the long sides of length approximately 4 to 15 times the length of the short sides, and an interior and an exterior surface. The top panel is shaped with waves having crests and troughs parallel to the short sides.

[0020] The top panel is attached to the base panel by hinges located on the long sides of the base and the top panels, the crests on the interior surface of the base panel is aligned with the troughs on the interior surface of the top panel. On both the base and top panels the one short side is at a crest and the other short side is at a trough. In use, a section of hair to be curled is placed on the interior surface of one panel and the curler or setter is closed, with the interior portion of the other panel engulfing the section of hair and imparting curls and crimps to it.

[0021] The upper short side and lower short side of the base panel have an attachment site for attaching the setter to the short side of another hair setter base panel. This provides an array of setters aligned end to end and used for curling a section of hair longer than the length of the setter.

[0022] The left and right long sides of the base panel have attachment sites for attaching the setter to the long side of an adjacent hair setter. This allows a wide swath of hair to be curled. If the adjacent setters are aligned with the upper ends adjacent, the swath of hair will have curls with the crest and troughs aligned across the width of the sections. If the adjacent setters are aligned with the upper and lower ends alternating, the swath of hair will have curls in which the crests and troughs alternate.

[0023] The objective of this invention is to provide a hair setter which imparts curls into narrow sections of hair.

[0024] Another objective of this invention is to provide hair setters which may be connected serially in order to impart curls into long sections of hair.

[0025] Another objective of this invention is to provide hair setters which may be connected adjacently in order to impart curls in a wide swath of hair.

[0026] Another objective of this invention is to provide hair setters which impart curls into a wide swath of hair with aligned crests and troughs over the wide swath.

[0027] Another objective of this invention is to provide hair setters which impart curls into a wide swath of hair with alternating crests and troughs over the wide swath of hair.

[0028] Another objective of this invention is to provide a hair setter which may be easily and inexpensively manufactured without adverse effects on the environment

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0029] FIG. 1 is a perspective view of one embodiment setter showing the interior sides of the base panel and top panel.

[0030] FIG. 2 is a side view of the setter closed on a section of hair.

[0031] FIG. 3 is a diagrammatic representation of three setters connected by the short sides in order to provide curling over a long section of hair.

[0032] FIG. 4 is a diagrammatic representation of three setters attached adjacently in an array with the upper sides uppermost.

[0033] FIG. 5 is a diagrammatic representation of three setters attached adjacently in an array with the upper and lower sides uppermost.

[0034] FIG. 6 is a plan view of the top of a microwave heatable embodiment setter.

[0035] FIG. 7 is a cross section of the microwave heatable embodiment setter taken at arrows 7 of FIG. 6.

DETAILED DESCRIPTION OF THE EMBODIMENTS OF THE INVENTION

[0036] FIG. 1 is a perspective view of one embodiment setter 100 showing the interior sides 24 and 64 of the base panel 10 and top panel 50, respectively. Visible in FIG. 1 is the base panel 10 with the base upper short side 12, base lower short side 14, base left long side 16, and base right long side 18. Base crests 20 and base troughs 22 are also shown. The base interior side 24 is shown while the base exterior side (26 in FIG. 2) is not visible in FIG. 1. Base holes 30 penetrate the panel and are distributed over the surface of the base panel 10. An upper hinge 32 and a lower hinge 34 which connect the base panel 10 and top panel 50 are also shown. Female connectors 36, in this embodiment, loops, are shown at the base lower short side and the base left long side. Male connectors 38, in this embodiment, hooks are shown at the base upper short side and the base right long side.

[0037] Also visible in FIG. 1 is the top panel 50 with the top upper short side 52, top lower short side 54, top left long side 56, and top right long side 58. Top crests 60 and top troughs 62 are also shown. The top interior side 64 is shown while the top exterior side (66 in FIG. 2) is not visible in FIG. 1. Top holes 30 penetrate the panel and are distributed over the surface of the top panel 50. A latch 68 is attached to the top 50 panel and an indent 67 which interacts with the latch 68 is depicted by dashed lines on the interior side of base panel 10.

[0038] FIG. 2 is a side view of the setter closed on a section of hair. Visible in FIG. 2 is the base panel 10 with the base exterior side 26, base interior side 24, and male connector 38. Also visible in FIG. 2 is the top panel 50 with the top exterior side 66, top interior side 64, and latch 68. Latch 68 interacts with indent 67 on base panel 10. The upper hinge 32 and lower 34 hinges also are shown. A section 40 of hair is shown engulfed by the closed setter 100. Note that the positions of the crests of the base panel correspond to the positions of the troughs of the top panel when the setter is closed, thereby imparting curls or kinks into the engulfed hair section.

[0039] The width of the base and top panels, approximately equal to the length of the short sides, preferably is from approximately 1 to 3 inches. A preferred width is 2 inches. The length of the base and top panels, approximately equal to the length of the long sides, is at least 4 times the width of the panels, 4 to 12 inches. Preferred lengths are 6, 10, or 14 inches,

[0040] Small holes 30 and 60 which penetrate the base 10 and top 50 panels are distributed throughout the curler. Such holes allow the penetration of steam into the setter and allow the escape of water and water vapor from the hair engulfed by the setter.

[0041] Any suitable hinge 30 and 32 may be used to connect the base 10 panel and top 50 panels. The hinges allow the curler to be closed over a section of hair, thereby engulfing the section between the interior sides of the base and top panels. A preferred hinge is a living hinge, a strip of flexible material such as plastic which extends from the side of the base and top panels. Other suitable preferred hinges such as a wire loop or ring extending between holes in the base and top panels may be used. Other suitable materials may be used, such as, a plastic band.

[0042] Any suitable latch 68 may be used to secure the curler in the closed position with a section of hair engulfed between the interior surfaces of the base panel and top panel. In the this embodiment a friction latch 68 extending from the interior surface 64 of the top 50 panel secures the top panel in a closed position by friction fit against an indent 67 located on the left long side 16 of the base panel 10.

[0043] The attachment devices used to connect one setter to another are described as male 38 and female 36 connectors. A number of suitable configurations may be used, one of which uses holes or loops 36 in the base panel as female connection into which a male connector in the shape of a hook 38 is inserted.

[0044] Any suitable strong, resilient material capable of formation in the shape of the panels of the present invention, such as plastic, aluminum, copper, or steel may be used. A preferred material is plastic. Another preferred material is a

metal which is a conductor of heat such as aluminum. Use of such a metal facilitates the transfer of heat generated by a hair drier or other source of heated air to the hair section engulfed by the setter and speeds the drying and setting of the section of hair. In a preferred embodiment, setters of different sizes have different colors.

[0045] Alternatively, the panels may have provisions for heating in order to speed formation of curls or drying of the hair being curled. Electrical heatable inserts heated by resistance heating which are oriented along the length of the interior of the panel may be used.

[0046] FIG. 6 is a plan view of the top of a microwave heatable embodiment setter. In FIG. 6, a base panel 10 made of a microwave transparent or unheatable material 78 such as plastic is shown and a microwave heatable insert 76 is depicted in dashed line.

[0047] FIG. 7 is a cross section of the microwave heatable embodiment setter taken at arrows 7 of FIG. 6. Visible in FIG. 7 are the microwave heatable insert 76 embedded in the microwave transparent or unheatable material 78. In this embodiment, the curler is heated in a microwave oven before use.

[0048] FIG. 3 is a diagrammatic representation of an array three setters, 100, 102, 104, which are connected in series to each other by male connectors 138 at the base upper short sides 112 which interact with the female connectors 136 at base lower short sides 114. The purpose of this array is to provide curling over a long strand of hair 40. The male connector at the upper side of one setter is attached to the female connector at the lower side of a second setter.

[0049] FIG. 4 is a diagrammatic representation of three setters, 102, 104, 106 attached adjacently in an array with the base upper short sides 112 adjacent to each other. In the array of FIG. 4 all the base upper short sides are adjacent and all of the base lower sides 114 are adjacent to each other. The male connectors are shown as hooks 138 and the female connectors shown as loops 136. In this array, the crests and troughs of all the curlers are aligned. This array of curlers is used to curl a broad swath of hair comprised of several sections 40 of hair when it is desired that waves or curls should extend over the width of the swath.

[0050] FIG. 5 is a diagrammatic representation of three setters 102, 104, 106 attached adjacently in an array with both upper 112 and lower 114 sides uppermost. In the array of FIG. 5 the upper and lower sides of the adjacent setters alternate or are at random. In this array, the crests and troughs of the adjacent setters are not necessarily aligned. This array of curlers is used to curl a broad swath comprised of several sections 40 of hair, when it is desired the waves or curls should be distributed at random over the width of the swath. The array of FIG. 5 provides this effect because the upper 112 short side ends at a trough while the lower 114 short side ends with a crest.

[0051] In one method of use, it is contemplated that some 25 to 30 setters are used in setting a single persons hair. Sections of hair in setters may overlap. It is contemplated that a line of setters may be arrayed around a person's hair

from one side of the head to the other. Another line of setters may be arrayed above the first line with the effect that the setters of the second line overlap those of the first.

[0052] It will be apparent to those skilled in the art that the examples and embodiments described herein are by way of illustration and not of limitation, and that other examples may be used without departing from the spirit and scope of the present invention, as set forth in the appended claims.

I claim:

1. A hair setter comprising:

a rectangular ribbon shaped base panel having left and right long sides and upper and lower short sides, the long sides of length approximately 4 to 15 times the length of the short sides, an interior and an exterior surface,

the base panel shaped with waves having crests and troughs parallel to the short sides,

a rectangular ribbon shaped top panel having left and right long sides and upper and lower short sides, the long sides of length approximately 4 to 15 times the length of the short sides, an interior and an exterior surface,

the top panel shaped with waves having crests and troughs parallel to the short sides,

the top panel attached to the base panel by hinges located on the long sides of the base and the top panels, the crests on the interior surface of the base panel aligned with the troughs on the interior surface of the top panel, whereby one short side is at a crest and the other short side is at a trough,

the upper short side and lower short side of the base panel having an attachment site for attaching to the short side of another hair curler base panel, and

the left and right long sides of the base panel having attachment sites for attaching an adjacent hair curler.

2. An array of adjacent attached hair setters of claim 1 wherein the upper short side of each setter is adjacent to the upper short side of an adjacent setter.

3. An array of adjacent attached hair setters of claim 1 wherein the upper short side of some of the setters are adjacent to the lower short sides of some adjacent setters.

4. The hair setter of claim 1 wherein the attachment sites on the left and right long sides of the base panel are male and female attachment sites wherein a male attachment site on one long side is opposed by a female attachment site on the other long side and a male and a female attachment site is on each long side.

5. The hair setter of claim 1 wherein the material of manufacture is aluminum.

6. The hair setter of claim 1 wherein the material of manufacture is plastic.

7. The hair setter of claim 1 wherein the setter may be heated in a microwave oven.

8. The hair setter of claim 7 wherein the material of manufacture includes material which is microwave heatable.

* * * * *