Oct. 26, 1948. P. T. COLOCCIA 2,452,225

HAIR CURLING DEVICE

Filed March 7, 1947

FIG. 1

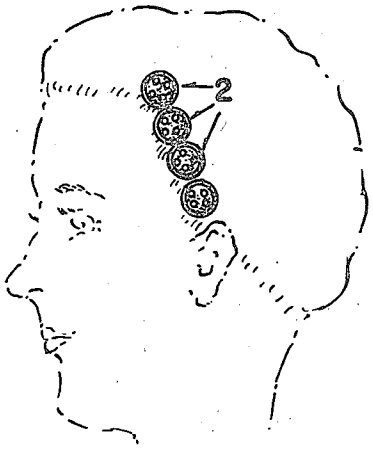


FIG. 2

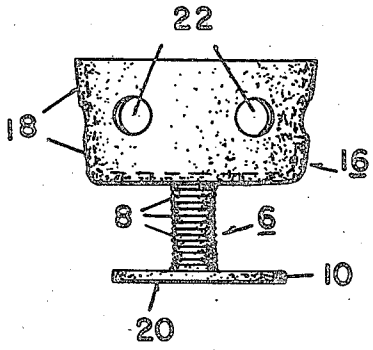


FIG. 3

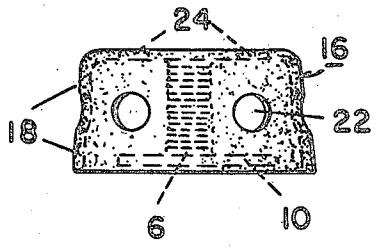


FIG. 4

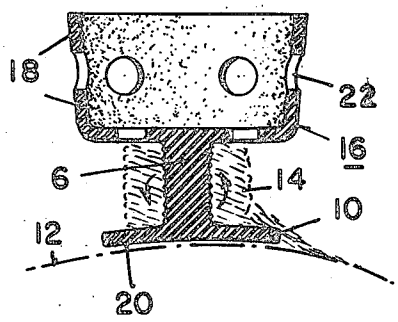


FIG. 5

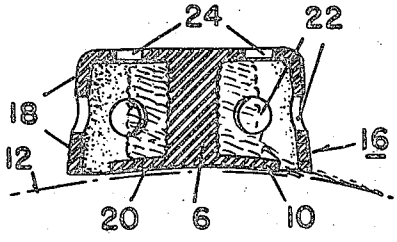
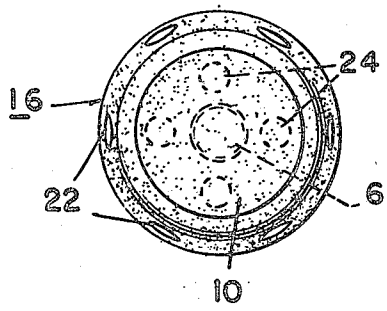


FIG. 6



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HAIR CURLING DEVICE

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5 Claims. (Cl. 132—40)

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The present invention relates to a hair curling device and more particularly to a flexible form on which the hair may be wound during the curling operation, being held on the scalp so that the plane of the curls when completed will be parallel to the scalp and held in position during treatment to produce permanent waves by the use of waving fluid, or to provide curls in the form of finger waves or watch spring curls, as desired.

Heretofore various forms of hair curling devices have been made, including hair curling apparatus of more or less complexity by which the hair is subjected to fluid treatment followed by a heat treatment at uncomfortably high temperatures for substantial periods of time. Various devices for holding curls in place have also been employed for cold wave treatment, such as bobby pins and various other forms of curl holding fasteners, but none of these devices have proved entirely successful.

Generally, in the treatment of the hair to produce permanent waves by either the heating process, or by the cold wave treatment, a hair softening chemical is employed which renders it limp or soft, without hydrolyzing the keratin of the hair, or bringing about any chemical change which would prevent the reconversion of the hair to its original physical state, and then applying a neutralizing chemical serving to react with the softening chemical originally applied, whereby the hair is reconverted to its original state. After applying the neutralizer, which prohibits the curling fluid from acting further, the hair may be rinsed with luke farm water with the curls set on the curling device hereinafter described in detail, and the hair may then be dried in any suitable manner.

One of the objects of the present invention is to provide a form of curling device which may be used by inexperienced persons without the use of bobby pins or other metal fastening means for the making of ordinary curls or permanent curls.

Another object of the invention is to provide a form of hair curling device which may be made at a low cost and which is adapted to be used at home with safety and ease in curling the hair.

Another object of the invention is to provide a form of curling device which may be made of rubber of a form which will be unaffected by oils and chemicals normally used in the curling of hair and which may be retained in place on the scalp with comfort while sleeping.

Another object of the invention is to provide a form of curling device which is adapted to be open while curls are being formed on one portion

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of the device and which may be closed or folded over the formed curls with provisions for ventilation or permitting air to contact with the curls, as well as permitting vaporization of moisture from the curls while held in place in the device.

With these and other objects in view, the invention comprises various features hereinafter more fully described and defined in the claims annexed hereto.

The various features of the invention are illustrated in the accompanying drawings in which:

Fig. 1 is a view in perspective showing a number or series of the devices of my invention in position on the scalp of a person during the hair curling operation;

Fig. 2 is a view in elevation of the device of my invention in open position;

Fig. 3 is a view in elevation of the device shown in Fig. 2 but in its folded position;

Fig. 4 is a sectional view in elevation indicating the upright position on the scalp while the device is open for the formation of a curl on the stem of the device;

Fig. 5 is a sectional view in elevation of the device in contact with the scalp in which the foldable or bowl portion is folded over the curl so as to enclose the same between the stem and the peripheral portion or inner sides of the bowl portion, and

Fig. 6 is a plan view of the device taken in an upward direction in Fig. 2.

Referring more in detail to the drawings, the numeral 2 designates the curling device or curler adapted for the making of curls in situ by winding the hair 4 in the manner hereinafter described.

The curling device is preferably made of synthetic rubber, such as neoprene, which is adapted to withstand the solvent action of oils and chemicals such as are ordinarily employed in the cold waving of hair or in the various curling operations in which heat is employed. Although the use of synthetic rubber is preferred in the making of the device of my invention, it will be understood that ordinary rubber may be used, or a mixture of ordinary rubber with synthetic rubber, or reclaimed rubber, or chlorinated rubber, or suitable mixtures thereof, may be employed. In the composition employed, I may use any suitable antioxidant, such as "Neozone D," and suitable accelerators, as will be understood by those skilled in the art.

Referring to Fig. 2 of the drawings, the curling device comprises a stem 6 preferably formed with indentations or circular ridges 8 which serve to

retain the hair in position on the stem when folded thereon. A base portion 10 which is preferably circular in form so as to readily seat on the part of the scalp 12 adjacent the strand of hair 14 which is to be curled thereon, is employed together with a bowl portion or foldable portion 16, which is adapted to be folded over the stem 6 so as to enclose the stem and the base portion 10. The skirt portion, or side portions 18 of the bowl portion 16, is preferably of a length so that in the folded position it reaches the bottom 20 of the base portion 10 of the curler.

In order to permit access of air to the curl of hair enclosed around the stem 6, a series of lateral openings 22 are provided in the skirt portion or foldable bowl portion 16 of the curling device, which may be of suitable size so as to permit vaporization of moisture from the hair and to permit a circulation of air through the device during the curling operation. Instead of a single series of openings at the mid-portion of the skirt portion, I may provide a series of openings of uniform size, or of varying sizes which may be in staggered relation, and I may also provide a series of openings 24 in the bowl portion adjacent or in proximity to the stem 6 in order to assist in vaporization of moisture from the curl and to provide for additional access of air to the interior of the curling device in the folded position.

In the use of the device, the base portion 10 is first placed in contact with the scalp 12 adjacent the strand or tuft of hair which is to be curled, and the strand 14 is then wound around the stem 6 in a clockwise or counter clockwise direction, as may be preferred beginning at the lowest portion and winding the hair spirally upward against the holding elements or indentations 8, while the bowl portion remains in its upper or unfolded position. The hair may be wound up and down over the stem during the curling operation, depending upon the length of the strand or tuft of hair to be curled. After the curl is in place, it is held in position, as by means of the thumb and forefinger, while the skirt or bowl portion 16 is folded down over the curl, by which it is retained in the position indicated in Fig. 5 of the drawings. The hair may be allowed to remain in position on the curlers over night, or a suitable time such that the moisture from the hair is evaporated and a more or less permanent set of the curl is obtained.

After the curling operation is completed, and the hair has been suitably dried, the skirt or bowl portion 16 is first inverted into its upward extending position, as indicated in Fig. 4 of the drawings, and the curl is then held by means of the fingers in its position in a plane parallel to the scalp while the curling device 2 is removed by pulling the flexible base portion 10 through the curl. During the removal operation, the disc portion becomes bent into a more or less conical form, so that the base portion 10 passes through the curl without disarranging any part thereof.

It will be understood that the device of my invention is adapted to be used in a hair curling operation with the use of any suitable chemicals and with the use of heat or without heat as in the cold wave treatment, and is adapted to be used professionally by skilled hairdressers or by relatively unskilled persons in the home, either alone or with the assistance of others. By the use of the device for the curling of hair while sleeping, the use of bobby pins and other metal fasteners which have a tendency to fall out of the hair with slight movements while sleeping, and causing more or less discomfort by pressing against portions of the scalp, is entirely avoided.

It will be understood that various changes or modifications may be made in the device as herein described without departing from the spirit or scope of the invention as defined in the claims annexed hereto.

Having thus described the invention, what is claimed as new is:

1. A hair curling device adapted for positioning on the scalp adjacent a strand or lock of hair to be curled which comprises a flexible flat base portion, a stem portion extending upwardly therefrom, a bowl portion extending upwardly from the stem portion and adapted to be folded over in position around the stem portion so as to enclose said stem portion and said base portion and openings in said bowl portion to provide for ventilation of air during use of the device.

2. A rubber unitary hair curling device adapted for positioning on the scalp adjacent the strand or lock of hair to be curled and for the curling of hair in a plane parallel to the scalp which comprises a circular flat base portion, a stem member extending upwardly therefrom, a bowl portion extending normally downwardly from the stem portion to enclose the stem portion and the base portion and adapted to be inverted in position so as to extend upwardly from the stem member to permit the winding or curling of hair around the said stem member and openings in the side portions and the base portion of the said bowl portion to permit ventilation and vaporization of moisture from the hair during use of the device, the said circular flat base portion being of limited thickness to provide flexibility such that it may be drawn through a curl without disturbing the position of the strands of hair in the curl.

3. A rubber unitary hair curling device adapted for positioning on the scalp adjacent the strand or lock of hair to be curled in a plane parallel to the scalp which comprises a thin flexible base portion having a flat surface adapted to contact with the scalp, a cylindrical stem member extending upwardly from said base portion, circular ridges on said stem member adapted to hold strands of hair in position thereon, a bowl portion united to the upper end of the stem member and folded in normal position over the stem and base portion, so that when said bowl portion is inverted into its upper position to permit winding or curling of hair on the stem portion, the bowl portion may be readily reinverted into its normal position surrounding the hair on the stem member and said base portion, and openings through the sides and base of the bowl portion to provide for ventilation of air during use of the device.

4. A unitary hair curling device of molded rubber which comprises a thin flexible disk portion adapted to be positioned in contact with the scalp, a stem member united to the disk portion and extending upwardly therefrom a sufficient distance to permit curling long strands of hair thereon, a bowl portion connected to said stem member and extending downwardly therefrom in its normal position, the bowl portion having sides of a length such that when folded over a curl in its normal position, the sides will extend to the said base portion and remain over the curl without substantial tension in its normal folded position, the said bowl portion being adapted to be inverted in position so as to extend upwardly from the stem member to permit winding or curl-

ing of hair on the said stem member in a plane parallel to the scalp, and openings in the body of the bowl portion to permit ventilation of air and evaporation of moisture from the hair during use of the device.

5. A rubber unitary hair curling device which comprises a thin, flexible disk portion adapted to be positioned flat against the scalp, a solid, non-collapsible stem member united to the center of the disk portion and extending upwardly therefrom a sufficient distance to permit curling of long strands of hair thereon, an invertible cylindrical portion connected to the upper end of said stem member, the internal diameter of said cylindrical portion being greater than the external diameter of said disk portion, said cylindrical portion being hollow and extending normally downwardly to enclose said disk portion, and openings extending through said cylindrical portion to provide ventilation during use in a hair curling operation.

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