

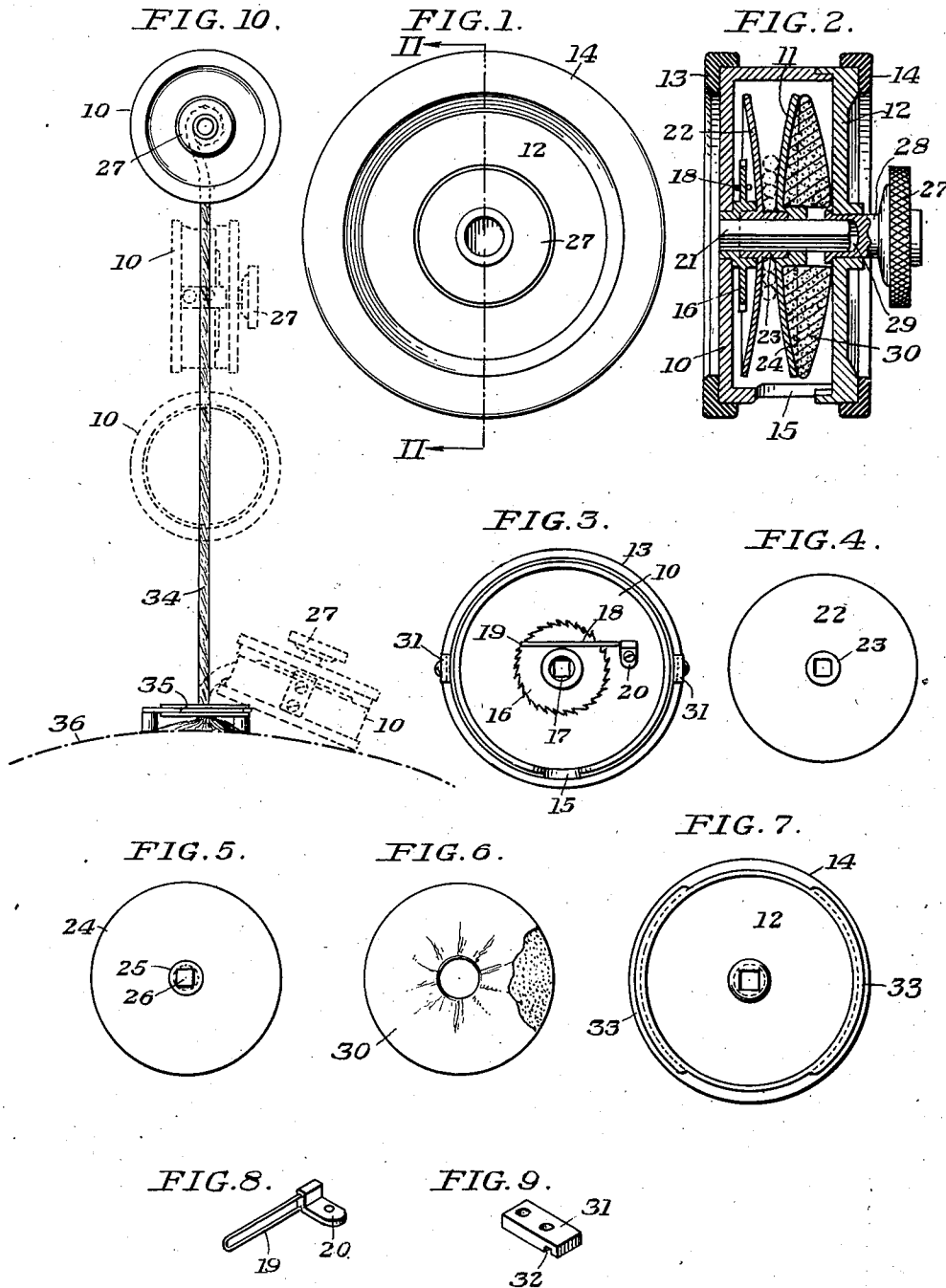
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HAIR-WAVING DEVICE AND METHOD

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HAIR-WAVING DEVICE AND METHOD

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This invention relates to the waving of hair on the human head and, in particular, to a method and apparatus for producing an improved permanent wave.

Two principal methods of curling or waving hair "permanently" have been known heretofore. As pointed out in Mayer Reissue Patent 18,841, the first method comprises winding a substantially round strand of hair in a helix on a rod or spindle, and subjecting the helix to heat. This method produces a curl of the type best described by the term "corkscrew." In the second method, a strand of hair is so confined that it remains generally flat and, in that condition, is wound on a curler from the end of the strand toward the scalp and then subjected to heat. This treatment produces a sinuous wave which is generally flat or follows more or less the contour of the head.

I have invented a novel method and apparatus for waving hair which is characterized by numerous advantages over the methods and apparatus known heretofore. In a preferred practice of the invention, I coil a generally round strand of hair, from the outer end toward the scalp, in what I designate as a "pancake" spiral, i. e., the several turns of the spiral lie generally in a single plane, one on the other. The strand is preferably twisted by turning the spiral as it is coiled. The finished spiral is preferably reversed on completion of the coil and is maintained in that position until set.

The apparatus of my invention comprises an enclosure having coiling means such as a spool rotatably therein. In a preferred embodiment, the spool is separable from the enclosure or box and may be taken apart to facilitate the starting of a coil thereon. I provide means accessible on the exterior of the box for winding up a coil on the spool, the box having an opening in a wall thereof disposed radially of the spool to receive the strand as it is coiled up. The box is designed to receive a chemical heating pad adjacent the spool, whereby the coiled spiral may be subjected to the proper degree of heat.

Various details of the practice and embodiment outlined above, and the numerous advantages of the invention will be pointed out during the following complete description and explanation which refers to the accompanying drawing illustrating the apparatus and, diagrammatically, the method. In the drawing:

Fig. 1 is a side elevation to a slightly enlarged scale;

Fig. 2 is a transverse section taken along the plane of line II—II of Fig. 1;

Fig. 3 is a plan view of the box with the cover and all other parts removed;

Fig. 4 is a side elevation of one of the disks of the spool;

Fig. 5 is a side elevation of the other spool disk;

Fig. 6 is an elevation of the heating pad;

Fig. 7 is an elevation of the cover looking on the interior thereof;

Fig. 8 is a perspective view of a spring pawl;

Fig. 9 is a perspective view of a notched retainer; and

Fig. 10 is a diagram illustrating the use of the apparatus in carrying out my method.

Referring now in detail to the drawing and, for the present, to Figs. 1 through 9, the embodiment of the invention there illustrated comprises an enclosure or box 10 and a spool or other wind-up member 11 rotatably mounted therein. The box 10 may conveniently take the form of a shallow cylinder, open at one end and provided with a cover 12 removably disposed thereon. The box and cover are preferably provided with cushioning rings or collars 13 and 14. The side wall of the box is slotted as at 15, providing an opening disposed radially relative to the spool 11.

A ratchet wheel 16 is rotatably secured to the bottom of the box 10 adjacent the center thereof and the hub of the wheel is provided with a square or other non-circular hole 17 therethrough. A spring pawl 18 cooperates with the teeth on the periphery of the wheel 16. The pawl 18 comprises a loop 19 of spring wire extending laterally from a bracket 20 secured to the bottom of the box 10.

A non-circular shaft 21 which, in the illustrated embodiment, is square, to fit into the hole 17, is provided with a spool disk 22 having a hub 23. For convenience, the hub 23 is fixed securely on the shaft 21, although it may, if desired, be axially removable therefrom. In any event, the hub 23 has a hole therethrough fitting closely around the shaft 21 whereby rotation imparted to the shaft is directly communicated to the spool disk.

A second spool disk 24 is disposed on the shaft 21 and is preferably removable therefrom. The disk 24 has a hub 25 provided with a non-circular opening 26, in this instance, square, for cooperation with the shaft 21.

A knob 27 has a hub 28 rotatably secured in the cover 12 substantially centrally thereof. The hub 28 has a recess 29 therein adapted to admit

the end of the shaft 21 and square in section, whereby torque applied to the nob is transmitted directly to the shaft.

With the parts assembled as shown in Fig. 2, it will be apparent that the spool disks 22 and 24 and the ratchet wheel 16 rotate with the shaft 21 and that the shaft may be turned by turning the knob 27 manually. The pawl 18 permits the ratchet wheel to turn only in the clockwise direction as viewed in Fig. 3 and prevents rotation thereof in the reverse direction.

Space is provided between the disk 24 and the cover 12 for an annular chemical heating pad 30. The heat generated by chemical action in the pad is delivered directly to the spool disk 24 and thence to the strand of hair coiled between the disk 24 and the disk 22.

The box 10 is provided with retainer lugs 31 having notches 32 therein. The cover 12 has lips 33 extending radially from its inner edge, in spaced portions of its periphery. The cover 12 may thus be assembled with the box after insertion of the spool disks and the heating pad, by disposing the cover relative to the box so that the lugs 31 are in alignment with those portions of the inner edge of the cover on which the lips 33 are not present. By a partial rotation of the cover, the lips 33 enter the notches 32 and securely fasten the cover on the box.

In using the device described above in the permanent waving of hair on the human head, I gather the hair from a small area of the scalp into a strand 34, as shown in Fig. 10, and dampen it with a suitable solution. Preferably the strand 34 is formed of hair gathered from a generally triangular area of the scalp as disclosed and claimed in copending application Ser. No. 327,805, filed April 4, 1940, by James E. Snyder for Method of waving hair. When the hair has been gathered into a strand by hand, it is confined within a suitable spacer 35 disposed adjacent the scalp which is indicated at 36. The spacer may be of any suitable type. I have illustrated in outline only a spacer such as that disclosed in copending application Ser. No. 327,008, filed March 30, 1940, of James E. Snyder, which comprises generally a pair of wings pivoted together and forming, when closed, a substantially equilateral triangle, the wings having notches in their co-operating edges and resilient facing strips whereby the strand is so gripped as to maintain it substantially circular in section and, in any case, without the pronounced flattening which is produced by spacers used heretofore for waving hair.

When the spacer 35 has been applied to the strand, the latter is twisted slightly and the extreme end formed into a few spiral turns. This starting spiral is then placed over the shaft 21 and the hub 23 of the disk 22, the cover 12 and disk 24 having been removed. The uncoiled portion of the strand is disposed in the slot 15. When the starting spiral has been placed on the hub 23, the disk 24 is replaced and a heating pad 30 placed thereagainst after being suitably dampened. The cover 12 is then placed on the box and locked as already described. It will be understood that in replacing the disk 24 and the cover 12, the parts are assembled in proper relation so that driving engagement exists between the hub of the knob 27, the shaft 21 and the disk 24.

When the operations described so far have been completed, the end of the strand 34 has been started on the spool 11, as generally indicated in Fig. 10. By holding the box 10 in one hand and turning the knob 27 with the other, the

uncoiled portion of the length of the strand may be wrapped on the spool 11 in a pancake spiral, i. e., one in which the successive turns are superposed and lie in substantially the same plane. It will be understood, of course, that the starting spiral is so disposed on the hub of the disk 22 that rotation of the spool in the direction in which rotation is permitted by the ratchet and pawl, will continue to wind the starting spiral and not unwind it.

In winding up the strand on the spool 11, suitable tension is applied to the strand manually. The box 10, furthermore, is rotated about a diameter thereof through the opening 15 from time to time as the winding-up operation proceeds, as indicated by the successive positions of the box shown in dotted lines in Fig. 10. When the winding-up operation is completed, the several turns of the resulting spiral are disposed on the spool 11 as indicated generally in dotted lines in Fig. 2. The ratchet and pawl prevent unwinding of the spiral or coil of hair on the spool. The coiling may be carried only so far that the box is permitted to lie flatwise against the scalp as shown in Fig. 10, or alternatively, may be continued until the box is held on edge by the tension in the strand, in generally the position shown in Fig. 2.

I prefer to rotate the box about a diameter thereof through the opening 15, when it has been brought to a position adjacent the scalp, in order to produce a reverse curl as disclosed in the copending Snyder application Ser. No. 327,805 above-mentioned.

The heat generated by chemical action in the pad 30 is, as stated previously, transmitted directly to the strand of hair coiled on the spool, through the disk 24 thereof. The heat causes partial vaporization of the waving solution and the combined effect of the heat and vapor is to impart a permanent curl to the strand. Additional strands are formed by gathering hair from small areas on the scalp, in the manner already described, and coiling on the spools of additional boxes similar to that shown at 10. When all the hair from the area of the scalp which is to be curled has been disposed in pancake coils in the boxes, and a suitable interval of time has elapsed, the boxes may be removed and the curls combed out. On so doing, it will be found that a permanent wave is imparted to the hair which differs from the "corkscrew" curl produced by coiling the hair in a helix on a spindle or rod and also from the so-called Croquignole wave produced by winding a flat strand on a rod commencing at the outer end of the strand. The wave produced by my invention is best described as a rolling wave, because it partakes of the general character of both the "corkscrew" curl and the Croquignole wave and, in fact, represents a combination thereof. In other words, the strands are curled and waved at the same time. This type of wave makes it possible to achieve a variety of attractive effects in styling the hair, particularly if finger waved after the treatment described herein, according to the method of the aforementioned Snyder application Ser. No. 327,805. The improved results accomplished by the present invention may be readily appreciated by a comparison between the appearance of the hair when treated as described herein and its appearance when treated by either of the methods previously known.

The invention has numerous advantages in addition to the attractive appearance of the roll-

ing wave mentioned above. The operations involved are quite simple and may readily be learned by the average hairdresser. The device is simple in construction and easy to manipulate. The number of parts which it is necessary to handle is small, compared with the number of elements required in the permanent waving apparatus used previously. The box enclosing the wind-up spool, being tightly closed except for the opening through which the strand is drawn in, confines the vapor in the immediate neighborhood of the coiled strand. As already stated, furthermore, the heating pad is so located that heat is transmitted directly therefrom to the coiled strand.

Although I have illustrated and described herein but a preferred embodiment and practice of the invention, it will be understood that changes in the manipulative procedure and the construction of the apparatus may be made without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. A hair-waving device comprising a box having a removable cover, a shaft journaled in the box and cover for rotation axially thereof, and a pair of spool disks mounted on said shaft for rotation therewith, at least one of the disks being removable from the shaft.

2. A hair-waving device comprising a box, a wind-up spool rotatably mounted in said box, means accessible from the exterior of the box for turning the spool and means for preventing reverse rotation of the spool.

3. A hair-waving device comprising a box, a wind-up spool rotatably mounted in said box, an opening in the box through which a strand of hair may be drawn to wind it on said spool, means accessible from the exterior of the box for turning the spool, and means for preventing reverse rotation of the spool.

4. A hair-waving device comprising a box having a removable cover, a shaft journaled in the box and cover, and a pair of spool disks mounted on said shaft, a ratchet wheel rotating with said shaft, and a pawl on said box engaging said wheel.

5. A hair-waving device comprising a box having a removable cover, a shaft journaled in the box and cover, a pair of spool disks mounted on said shaft, and means on said cover removably engaging the shaft whereby it may be turned from the exterior of the box.

6. A hair-waving device comprising a box having a removable cover, a ratchet wheel rotatable in said box and a knob rotatable in said cover, a non-circular shaft removably received in suitably shaped openings in said wheel and knob, whereby they rotate together, a wind-up spool on said shaft, and an opening in the box through which a strand of hair may be drawn to wind it on said spool.

7. A hair-waving device comprising an enclosure, a spool rotatably mounted therein, an opening in the enclosure located radially of the spool, and means accessible from the exterior of the enclosure for turning the spool.

8. A hair-waving device comprising a box having a removable cover thereon, a spool rotatably mounted in said box, an opening in a wall of the box, said opening being located radially of the spool, and a knob accessible on the exterior of the box for turning the spool.

9. In a method of waving hair, the steps including gathering the hair into a generally round strand, coiling the strand from the outer end toward the scalp in a single spiral extending radially within a relatively narrow enclosed winding zone and subjecting the wound spiral coil to the action of heat.

10. In a method of waving hair, the steps including gathering the hair into a strand, so confining the strand that it is generally round in section, coiling the strand from the outer end toward the scalp in a single spiral extending radially within a relatively narrow enclosed winding zone, periodically twisting the uncoiled portion of the strand about its longitudinal axis, as the coil is wound, and subjecting the wound spiral coil to the action of heat.

11. In a method of waving hair, the steps including gathering the hair into a generally round strand, coiling the strand from the outer end toward the scalp in a single spiral extending radially within a relatively narrow enclosed winding zone turning the spiral to twist the strand as it is coiled, and subjecting the wound spiral coil to the action of heat.

12. In a method of waving hair, the steps including gathering the hair into a generally round strand, coiling the strand from the outer end toward the scalp on a spool in a generally pancake spiral extending radially within a relatively narrow enclosed winding zone, twisting the strand as the spiral is coiled, and subjecting the wound spiral coil to the action of heat.

13. A hair waving device comprising an enclosure, a spool formation defining a substantially narrow winding zone journaled for rotation, an opening in the enclosure located radially of the spool formation and in line with the winding zone of the spool formation, and means for turning the spool.

14. A hair waving device comprising a box having a shaft journaled therein for rotation with respect thereto, a pair of spool discs of curved surface contour mounted on said shaft for rotation therewith, the said spooled discs having their convex surfaces in adjacency, and an aperture in said box radially of said spool discs and in line with the zone defined between the adjacent convex surfaces of said spooled discs through which a strand of hair may pass, and means for rotating the shaft thereby to wind hair spirally in the zone defined between the spools.

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