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METHOD AND MEANS FOR PERMANENT WAVING HAIR

Filed Feb. 17, 1955

Fig. 1

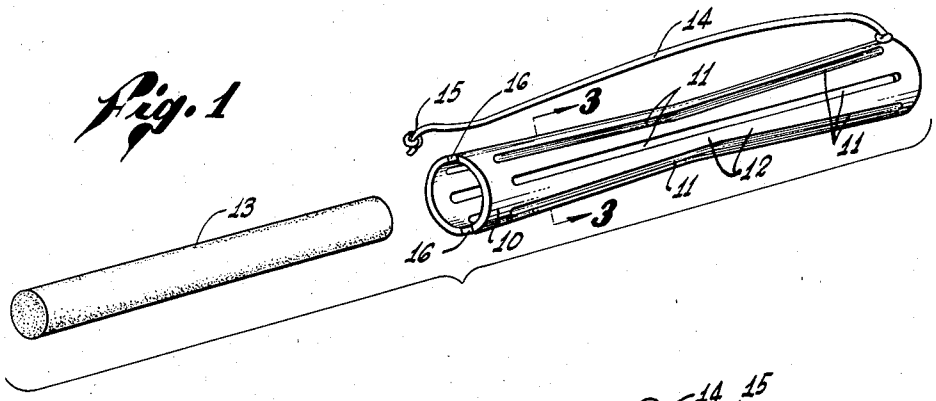


Fig. 3

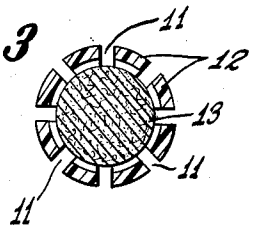


Fig. 2

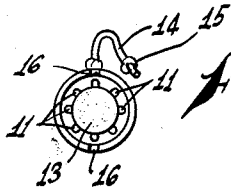


Fig. 4

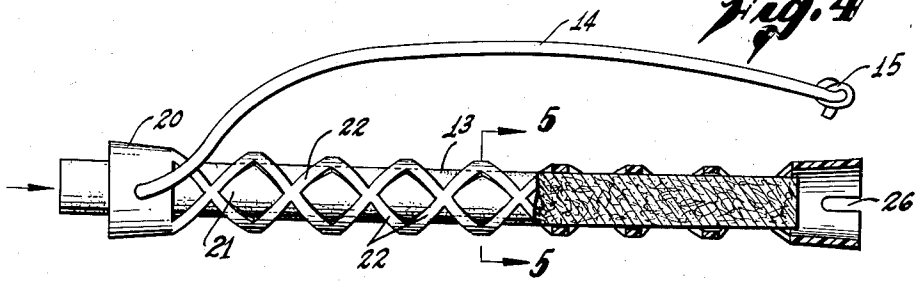




Fig. 5

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METHOD AND MEANS FOR PERMANENT WAVING HAIR

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12 Claims. (Cl. 132—7)

My invention relates generally to the art of permanent waving hair and more particularly to processes known generally in the art as "cold-waving."

In the production of so-called permanent waves by cold waving processes, strands or tresses of hair are wrapped around individual tubes or bars, usually referred to as rods, and various treating solutions are then consecutively applied to the hair to effect the desired changes in its structure, resulting ultimately in waves or curls after the hair is set.

In processes of this type one of the biggest problems has always been to get just the right amount of treating solution to all parts of the hair without having any excess fluid contact the scalp of the person being treated, since many of the solutions are irritating or injurious to the scalp.

It is a major object of my invention to provide a method of permanent waving hair and a novel means for use in that process which permits the direct application to the hair of the requisite amounts of treating solutions without danger of said solutions injuring the scalp of the person being treated.

Another object and distinct advantage of my invention is that adequate treating solution is readily applied to the ends of the hair to effectively treat the same, thereby avoiding the unsightly hair-ends often obtained with conventional processes.

A further object of my invention is to provide a process and apparatus of the character described which promotes the economical use of the treating solutions and prevents needless waste thereof.

It is well recognized in the art of permanent waving that it is first necessary to change the structure of the hair by softening it and converting it from a circular cross-section to a relatively flat cross- section so that the hair will retain a wave after it has been dried and combed out, and it is an important object of my invention to provide means for accomplishing this change of hair structure in a safe and satisfactory manner with a minimum of inconvenience to the person involved.

More specifically, it is an object of my invention to provide a novel rod for permanent waving which includes an absorbent core adapted to soak up any excess fluid from the hair and to promote thorough wetting of all parts of the hair with the fluid always under the control of the operator.

These and other objects and advantages of my invention will become apparent from the following description of preferred forms thereof and from the accompanying drawing illustrating those forms, in which:

Figure 1 is an exploded perspective view of a permanent waving rod made according to my invention showing the absorbent core ready for insertion into the rod;

Figure 2 is an end elevation of the rod shown in Figure 1;

Figure 3 is a cross-section taken on the line 3—3 of Figure 1;

Figure 4 is a side elevational partially sectioned view of a modified form of rod; and

Figure 5 is a cross-section taken on the line 5—5 of Figure 4.

Referring now to the drawing and particularly to Figures 1–3 thereof, the new rod is a tubular structure **10** having a reversed taper whereby the central section of the rod is of slightly smaller diameter than the ends thereof, the taper preferably merging into an easy curve at the central section to give a pleasing streamlined appearance. The hollow rod **10** is provided with a plurality of apertures which in the form shown in Figure 1 take the shape of longitudinal slots **11** in the wall of the rod whereby ready access is had between the interior and the exterior of the rod substantially throughout its length. An essential feature of the new rod **10** is its flexibility, which is derived from the slotted structure and the inherent resilience of the material from which the rod is made. Desirably, the rod **10** is made from an inert plastic material such as cellulose acetate butyrate. Many other related materials which are inert to waving solutions may be employed.

The flexibility of the rod **10** is an important characteristic because it allows the rod to yield when hair is wound tightly around it. The two great problems in cold waving are to control the amount of tension applied to the hair during winding, and to achieve proper distribution of the amount of liquid lotion. It is essential for the purposes of this invention that the transverse yielding of the flexible rod take place if the hair is wound around the rod too tightly. For, if the tresses of hair are wound too tightly around a rigid rod, they are subjected to great stress which tends to elongate, stretch and deform the individual strands of hair. The flexibility and resilience of the rod **10** alleviates the danger of improper winding by its yielding action, since it flexes under excessive tension and assures a substantially uniform and desirable degree of tension.

The second problem, that of proper distribution of the liquid on the hair, is controlled by the presence of an absorbent filler **13** within the rod **10**. Excess liquid is readily taken up by the filler **13**, penetrating through the rod **10** at the apertures or slots **11**.

An absorbent filler **13**, preferably of cylindrical shape, is provided with a cross-section approximately that of the inside of the central portion of the rod **10** and approximately the length of said rod so that the filler **13** will fit snugly in the rod and be normally held therein, but will be readily removable after use. The filler or insert **13** may be of any highly absorbent material, such as cellucotton, cloth of appropriate mesh and texture, sponge or the like which will readily absorb and retain the fluids used in treating the hair.

Suitable means is provided for holding the hair on the rod, one convenient holding means being in the form of a cord as illustrated in Figure 1 and designated by the numeral **14** which is secured to one end of the rod **10** and is provided with a knob or other protuberance **15** on the other end. One end of the rod **10** is provided with notches **16** to receive the cord **14** and the knot **15** on the end thereof to thereby hold a roll of hair in place on the rod.

In Figures 4 and 5 I show a modified form of tubular rod which I have designated by the numeral **20**. In this form of my invention the apertures **21** are diamond shaped and the solid portions **22** of the rod between the apertures form a lattice-work whereby to give maximum areas for the passage of liquid from outside to inside of the rod **20**. An absorbent filler **13** is shown partially within the shell **20** to illustrate the methods of assembling my apparatus. As in the first form described, I provide a holding cord **14** having a knob **15** on the end thereof adapted to be inserted in slots **26** in one end of the rod.

In the operation of my method and device the tresses of hair are wound around the tubular bars **10** containing absorbent fillers **13** therein and the hair is secured in place by operation of the holders **14**. When the requisite number of tresses have been wound ready for treatment, the cold-waving solution is applied to the exterior of each roll of hair until all portions of the hair including those closely adjacent the scalp and the hair ends are thoroughly saturated with the solution. Any excess of the solution is absorbed by the filler **13** in the rods **10** and **20** and thereby prevented from contacting the scalp. Also, as the fillers **13** become themselves saturated, they tend to promote interchange of fluid through the apertures **11** or **21** whereby to insure thorough wetting of the hair ends on the rods **10** and **20** respectively. By keeping a close watch of the moisture content of the filler pads **13** the operator can judge with a high degree of certainty the wetting progress of the hair and can accordingly better regulate the amount of fluid applied to the hair.

After the treating fluid has been on the hair the required time to effect the proper structural changes to permit the waving thereof, the hair is subjected to such neutralizers and rinses as may be required with the particular type of permanent waving solution employed. Here again the use of the rods **10** and **20** of my invention is a distinct aid in reducing and controlling the amount of liquid used and lowering the total time of treatment required.

From the foregoing it will be seen that I have provided a novel system of hair waving and a new and useful hair retaining rod whereby the amount of fluid used in the waving operation can be closely controlled and the hair conditioning steps carried out without injury or annoyance to the subject. It will be understood of course that the specific forms of my invention herein shown are merely illustrative of the principles thereof and are not to be taken as limitations except as set forth in the appended claims.

I claim:

1. A device of the character described for use in permanent waving hair which includes a uniformly apertured shell upon which tresses of hair can be wound, the walls of said apertured shell having a relatively high percentage of opening along its length so as to flex uniformly inwardly as the said tresses of hair are wound tightly therearound and absorbent means within said shell for absorbing excess fluid applied to the hair.

2. A device of the character described for use in permanent waving hair which includes a transversely yieldable apertured tubular rod having a reversed taper and adapted to have strands of hair wound thereon, said rod yielding inwardly as the said strands of hair are wound thereon, holding means mounted on said rod and adapted to engage the same to hold the hair thereon, and a removable absorbent filler inserted in said rod to absorb fluid applied to said hair which is not absorbed by said hair.

3. A permanent waving rod comprising a uniformly circumferentially yieldable tubular shell shaped to have strands of hair wound thereon and provided with a plurality of substantially uniformly spaced longitudinal slots in the wall thereof, said shell yielding uniformly inwardly as the said strands of hair are wound tightly thereon; a body of absorbent material disposed within said rod adjacent said apertures whereby to absorb fluid applied to said hair and passing to said rod; and means on said rod for attaching the hair thereto to hold the same under predetermined tension during the application of said fluid.

4. A permanent waving rod comprising a transversely yieldable tubular shell shaped to have strands of hair wound thereon and provided with a plurality of diamond-shaped apertures in the wall thereof, said apertures comprising a relatively high percentage of total wall area; a body of absorbent material disposed within said rod adjacent said apertures whereby to absorb fluid applied to said hair and passing to said rod; and means on said rod

for attaching the hair thereto to hold the same under predetermined tension during the application of said fluid.

5. A method of permanently waving hair, which comprises: winding a plurality of tresses of hair around a hollow tube yieldable in acccordance with pressure applied thereabout, said hollow tube containing an initially dry absorbent filler therein; winding said tresses around said yieldable tube thereby maintaining said tresses under resilient predetermined tension; applying a hair-conditioning solution to said tresses; and absorbing any excess of said applied hair-conditioning solution by means of said absorbent filler contained within said tube.

6. A hair waving device which includes: a first end support; at least three spaced longitudinal strips each having one of its ends affixed along the periphery of said end support; and a second end support peripherally affixed to the other ends of said strips, said strips being related so as to form longitudinal slots therebetween along substantially the entire length of the said hair waving device, and a removable absorbent filler inserted within said strips to absorb fluid applied to hair which is not absorbed by the hair.

7. A hair waving device which includes: a first end support; at least three spaced longitudinal strips each having one of its ends affixed to said end support; and a second end support affixed to the other ends of said strips, said strips being so related as to form longitudinal slots therebetween along substantially the entire length of the said hair waving device, said strips flexing inwardly as pressure is applied thereon; and a removable absorbent filler inserted within said strips to absorb fluid applied to hair which is not absorbed by said hair.

8. A hair waving device which comprises: a hollow reverse tapered rod having a plurality of parallel longitudinal slots formed along substantially the entire length of the walls thereof, said rod flexing inwardly as circumferential pressure is applied therearound; means on said rod for attaching the hair thereto to hold the same under predetermined tension during the application of hair-conditioning fluid; and a removable absorbent filler mounted within said rod to absorb fluid applied to hair which is in excess of that absorbed by said hair.

9. A permanent hair waving device which comprises: a uniformly apertured transversely yieldable hollow rod having at least three longitudinal slots formed in the walls of said rod; holding means mounted near one end of said rod and adapted to engage the same near the other end thereof to hold the hair thereon; and a removable absorbent filler inserted in said rod to absorb fluid applied to said hair which is not absorbed by said hair.

10. A device of the character described for use in permanent waving hair which includes: a transversely yieldable rod having a reversed taper, said rod adapted to have strands of hair wound thereon and provided with a plurality of longitudinal slots in the wall thereof whereby said rod yields inwardly as said strands of hair are wound thereon; holding means mounted on said rod and adapted to engage the same to hold the hair thereon; and a removable absorbent filler inserted in said rod to absorb fluid applied to said hair which is not absorbed by said hair.

11. A device of the character described for use in permanent waving hair which includes: a transversely yieldable apertured tubular rod having a reverse taper and adapted to have strands of hair wound thereon, said rod yielding inwardly as the strands of hair are wound thereon; holding means mounted on said rod and adapted to engage the same to hold the hair thereon; and a cylindrical removable absorbent filler having a diameter substantially the same as the smallest inner diameter of the reverse tapered rod whereby said absorbent filler is fixed relative to said rod while being removable therefrom, said filler absorbing excess fluid applied to said hair.

12. A method of permanently waving hair which comprises: winding a plurality of tresses of hair around a hollow inwardly yieldable apertured tube, said tube yield-

ing in conformance with circumferential pressure placed thereon and containing an initially dry absorbent filler therein; winding said tresses around said yieldable tube thereby maintaining said tresses under resilient predetermined tension; applying a hair-conditioning solution to said tresses; and absorbing any excess of said applied hair-conditioning solution by communication of excess solution with said absorbent filler through said apertures.

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