Feb. 13, 1934. W. G. SHELTON 1,946,813

HAIR WAVING APPARATUS

Filed Jan. 6, 1933

Fig. 1.

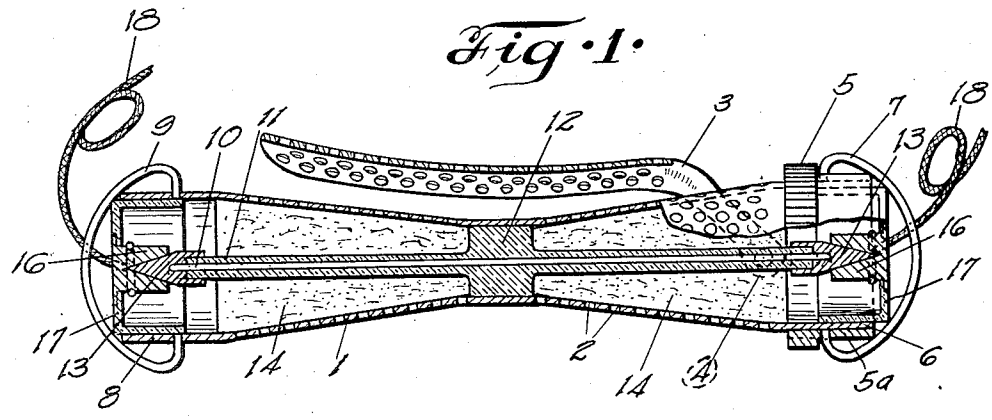


Fig. 2.

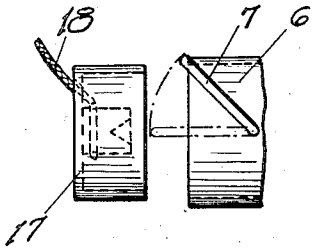


Fig. 4.

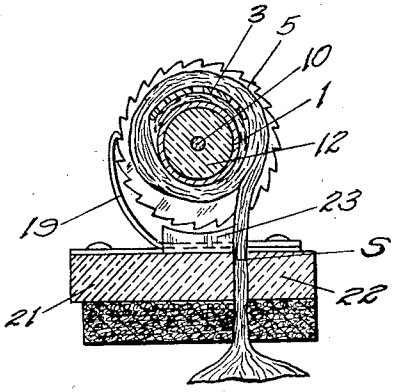
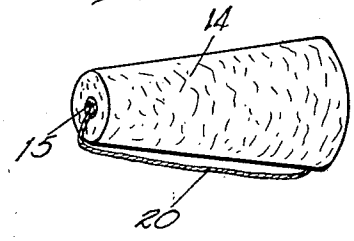


Fig. 3.



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HAIR WAVING APPARATUS

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16 Claims. (Cl. 132—33)

This invention relates to the hair waving art and consists in novel means for applying heat and moisture to the wound strand in producing the so-called permanent wave.

Heretofore it has been the usual practice to apply a moisture-absorbent supply member directly to the wound hair either between the hair and the rod, as where the supply is wrapped directly upon the rod, or to the outer surface of the hair. Heat is then applied either from the interior of the rod or from an external heater to vaporize the moisture in the supply and produce a change in the structure of the hair, resulting in a wave which will maintain its shape for a long time.

Where the supply pad is wrapped about the curling rod before winding of the hair, it is difficult to make the supply conform to the contour of the rod and the added layer undesirably thickens the rod. The application of the supply member to the outer surface of the hair involves a separate step in the waving operation which must be effected after the hair is wound and, accordingly, lengthens the period of time during which the waving apparatus is applied to the head of the customer.

The main objects of the present invention are to simplify the hair waving operation and shorten the time during which the waving apparatus is applied to the head of the customer.

Another object is to provide a novel combination curling rod and internal heater, the rod having a hollow interior for receiving a supply member.

Another object is to provide a moisture-absorbent supply member which may be assembled with the above curling rod and which is suitably recessed to accommodate the enclosed heater.

These objects and others are attained substantially by the apparatus illustrated in the accompanying drawing, in which—

Figure 1 is an enlarged longitudinal section through the apparatus assembled and readly for use.

Figure 2 is a detailed side view of the end portion of the apparatus.

Figure 3 is a view of the renewable supply member disassociated from the curling rod and heater.

Figure 4 is a vertical transverse sectional view taken at the center of the rod and showing a hair clamp and segregated strand during winding.

The novel apparatus constitutes, broadly, a combination curling rod, heater, and supply member, and in external shaping is in general similar to that of curling rods well known in the art and used in croquignole waving in which the hair is wound in flat strands from the outer end towards the scalp. As shown in Figure 1, the curling rod part comprises a hollow body portion 1 with walls perforated as at 2 and restricted at the center for forming the desirable ringlets in the end of the hair. A perforated clip 3 is pivoted at 4 to the body 1 and serves to secure the end of the hair to the rod in starting the wind.

Near one end of the rod is provided a ratchet 5 for cooperation with an upstanding finger or pawl 19 at an end of a protector clamp device referred to hereafter. The rod at each end is shaped cylindrically to form hollow cups 6 and 8 to which are pivoted bails 7 and 9 to be gripped by the operator in winding the hair. The structure at the ratchet end may be conveniently formed, as shown, of a separate ring member 5a, including the ratchet 5, which is pressed upon or otherwise secured to the extremity of the body 1 over cup 6.

Extending longitudinally within the hollow interior of the rod is a heating element comprising a resister shown as a single wire 10, preferably of small gauge, having a rigid casing 11 of insulating material such as Isolantite, which has the property of withstanding high temperatures without losing its rigidity and insulating value and which will not unduly retard the radiation of heat from the resister. At the center the insulation casing is enlarged at 12 and engages the restricted central part of body 1. Frictional engagement between enlargement 12 and the wall of body 1 is preferable to permanent connection in order to maintain the apparatus properly assembled during operation, while at the same time to permit the heating element to be readily removed for repair or renewal. At each end of the heating element is a metal contact 13 for a purpose to be described hereafter.

The supply members 14 are preferably formed of compact moisture-retaining material such as felt, and are of frusto-conical shape to closely fit within the rod, and each has a central orifice 15 for receiving one of the elongated arms of the heating element. In Figure 3 I show a string 20 extending through orifice 15 and around the outside of the plug for facilitating withdrawal thereof from the rod. However, a suitable tool may be provided for gripping or catching the fibrous material of the plug to attain the same result.

Detachably fitting within each of the hollow cups 6 and 8 at the ends of the rod are caps 17, cup-shaped and preferably of insulating material. Projecting from the inner surface of each cap at the center is a metal contact 16 recessed to receive the contact 13 on the adjacent end of the heating element. Electric cords 18 extend through caps 17 and are secured to contacts 16 and may have suitable plugs (not shown) at their remote extremities for connecting the device with a source of electric current. The bails 7 and 9 when disposed longitudinally as in Figure 1 are adapted to maintain the caps 17 in position and prevent severing of the current

connection. The bails may be swung sidewardly, as indicated in Figure 2, to permit removal of the caps and withdrawal of the supply plugs 14.

In order to permit proper tensioning of the hair without discomfort to the customer, a protector clamp is applied to the base of the strand before the winding is begun. The clamp shown, which in itself does not constitute the present invention, has relatively movable jaws 21 and 22 with a connecting link at one end and a latch at the other end (not shown). An arcuate hair seat projects about jaw 21, and finger 19 is provided for cooperating with ratchet 5 to prevent unwinding of the hair after final tightening. A similar protector clamp is illustrated and claimed in Patent No. 1,820,763, issued to the present inventor. The clamp is well adapted to be used with the apparatus of the present invention, but it will be understood that any suitable protector clamp may be substituted therefor.

In the use of the novel apparatus, the supplies 14 will preferably be moistened with a suitable solution before insertion into the hollow rod. The hair is then wound upon the rod in the usual manner and seated against the protector clamp, the engagement of pawl 19 with ratchet 5 preventing unwinding. If desired, a moisture-repellent sheet of foil or other impervious material may be applied over the curl during steaming, but this is not essential as the heat and moisture passing outwardly through the hair will properly set the wave.

The application of caps 17 to the ends of the apparatus serves to connect the heater with a source of electric current and also closes the ends of the hollow rod, forcing the heat and vapor to pass out through perforations 2. The caps may be made deeper so that the inner edges thereof will abut supplies 14 to maintain the same in position. The apparatus is intended to be used with currents of such low voltage as to be imperceptible to the human touch and, accordingly, insulation of the various electrical conductors and connections other than for strengthening purposes and as protection against corrosion is not of particular importance.

The principles of the invention are not limited to use in forming croquignole waves but may be advantageously utilized in corkscrew waving in which the hair is wound from the scalp outwardly upon a regular cylindrical rod. In such case, the supply pads would be suitably shaped to fit the particular rod. Also various other details of the apparatus shown are not essential to the broadest phases of the invention and these may be modified in various respects without departing from the spirit thereof, and the exclusive use of all such modifications as come within the scope of the appended claims is contemplated.

What is claimed is:

1. A hair-waving heater comprising a shell for receiving a wound strand of hair, heating means inside said shell, and moisture absorbent solid material between said means and shell.

2. Apparatus of the class described comprising a member forming a curling rod, and heating means and moisture absorbent material inside said member.

3. Apparatus of the class described comprising a perforated shell shaped to receive a wound hair strand, heating means and moisture retaining solid material inside said shell, and insulation between said means and material.

4. Apparatus of the class described comprising a hollow curling rod, self-contained heating means within said rod, and a moisture absorbent supply member inside said rod and adjacent said means.

5. Apparatus of the class described comprising a hollow perforated curling rod, a heating resister extending through said rod, and a moisture-retaining supply pad also inside said rod and recessed to accommodate said resister.

6. In apparatus of the class described, a hollow perforated curling rod, an insulated heating resister extending centrally through said rod, and a moisture-retaining supply pad inside said rod and with a central orifice receiving said resister.

7. In apparatus of the class described, a hollow perforated curling rod, a heating resister within said rod, a removable cap for an end of said rod and having an electrical connection for detachably connecting said resister with a source of electric current, and removable moisture-retaining solid material between said resister and said rod.

8. Apparatus of the class described comprising a hollow curling rod, a resister extending longitudinally through said rod and spaced from the walls thereof, removable caps for the ends of said rod, and moisture-retaining plugs insertable through said ends and recessed to accommodate said resister.

9. In apparatus of the class described, a hollow curling rod, a heating resister inside said rod with an electric terminal at an end thereof, a detachable cap for said end arranged to connect said terminal with a source of electric supply, and a movable finger grip at said end for facilitating rotation of said rod in winding a hair strand, said grip in one position serving to hold said cap on the rod, and in another position permitting removal of said cap and access into the interior of said rod.

10. A supply member for waving hair comprising a moisture-absorbent mass shaped to be readily inserted into the hollow interior of a curling rod and recessed to accommodate a heating element.

11. A supply member for waving hair comprising a compact moisture-absorbent mass having frusto-conical external contour and an orifice for receiving a heating element.

12. A moisture-absorbent supply member for hair waving comprising a compact mass of substantial thickness for insertion into the interior of a hair-curling rod.

13. In combination, a hollow hair-curling rod and a moisture retaining supply of solid material inside said rod.

14. In combination, a hollow curling rod, a moisture-absorbent supply of solid material inside said rod, and heating means inside said supply.

15. In apparatus of the class described, a hollow curling rod and an internal heating member comprising an insulated resister extending longitudinally of said rod, and a restricted enlargement engaging the wall of said rod and serving to space said resister from said wall.

16. In apparatus of the class described, a hollow curling rod, an internal heater member having an enlargement engaging the wall of said rod and serving to space the remainder of said heater member therefrom, and a moisture-retaining supply adapted to be inserted between said member and said rod wall.

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