Dec. 8, 1936. C. O. McINTOSH ET AL 2,063,260

METHOD OF PERMANENTLY WAVING HAIR

Filed May 18, 1936

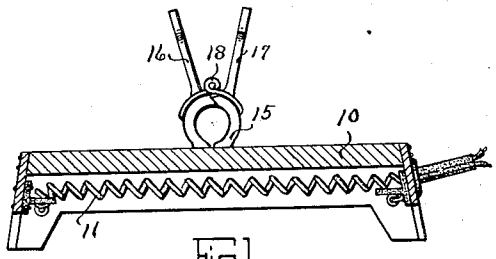


Fig. 1.

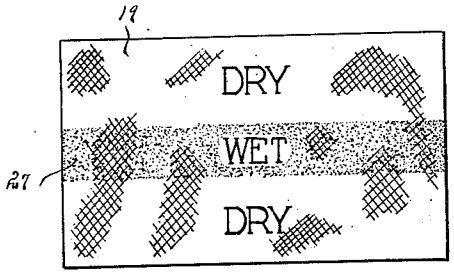


Fig. 2.

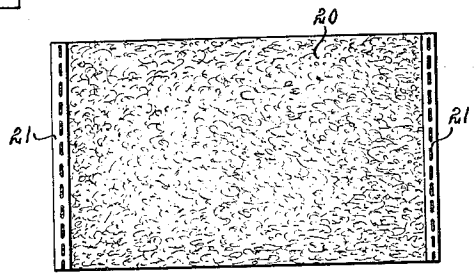


Fig. 3.

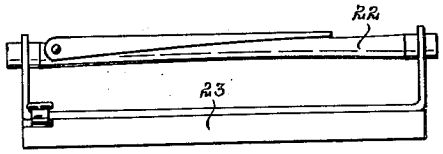


Fig. 4.

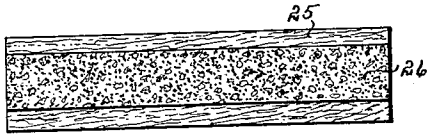


Fig. 6.

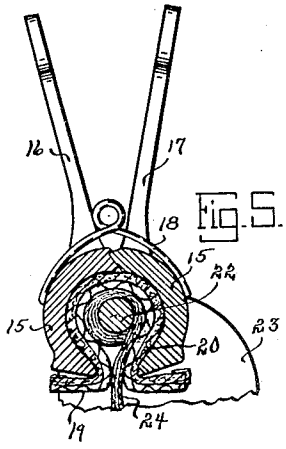


Fig. 5.

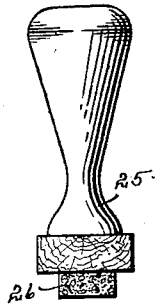


Fig. 7.

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UNITED STATES PATENT OFFICE

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METHOD OF PERMANENTLY WAVING HAIR

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10 Claims. (Cl. 132—36)

This invention relates to the permanent waving of hair and has for its principal object a rapid, safe, and successful process of waving hair whereby the hair after it is waved is soft, luxurious and of natural wave characteristics.

A further object of our invention is to provide a method of conditioning hair that not only successfully permanently waves the hair but also oil treats the hair.

A still further object of this invention is to provide a process of permanently waving hair that first permanently waves the hair and, secondly, neutralizes certain harmful ingredients in the permanent waving solution that surrounds the hair and/or has penetrated and been deposited in the cells of the hair.

A still further object of our invention is to provide a method of conditioning hair whereby the hair is first permanently waved and then treated by saponification and/or chemicalization for acid and alkali conditions.

A still further object of our invention is to provide a method and process of permanently waving hair and oil treating the hair substantially simultaneous with the hair waving phase that is sanitary and free from mussiness or oil drippings during the operation.

Still further objects of our invention are to provide a method of permanently waving hair and treating it that does not parch or burn the hair being waved nor leave heat-applicator marks on the hair, and is rapidly performed without burning or giving discomfort to the patron.

Still further objects of this invention are to provide an easily performed process or method of permanently waving hair that is economical and produces a natural wave of long lasting qualities.

Still further objects of this invention are to provide a means of permanently waving hair with oil pads that eliminates any necessity of wiping surplus oil or drippings from the pads or the pad engaging heat-applicators, and also eliminates any possibility of the pads accidently becoming detached from the coils of hair after they have been placed around the same.

A still further object of this invention is to provide a means for uniformly and properly saturating certain of the pads used in this method with the hair curling solution.

Our invention consists in the method or process or means hereinafter set forth, pointed out in our claims, and illustrated in accompanying drawing in which

Fig. 1 is an end view of one of our manually operated pad engaging heat-applicators loosely resting on an electrically heated plate.

Fig. 2 is a top plan view of our inner or curling solution pad.

Fig. 3 is a top plan view of our outer oil impregnated pad.

Fig. 4 is a side view of an ordinary spool rod and spool rod holding divider clamp.

Fig. 5 is a cross sectional view of a spool rod upon which is wrapped a strand of hair and which is surrounded first by the inner solution pad, secondly by the oil impregnated pad, and thirdly by one of our pre-heated pad engaging heat-applicators.

Fig. 6 is a bottom view of a hair curling solution applicator for uniformly distributing a quantity of hair curling solution on the inner pad before it is placed around the curl of hair to be waved.

Fig. 7 is an end view of the hair curling solution applicator.

There are two chief methods of permanent waving hair today, comprising the usual electric heat method, where the heaters are placed around the curl and then heated, and the comparatively new method of pre-heating the heat-applicators before they are placed on the hair. Our method and apparatus relates to that type of permanent waving of hair where the heat-applicators, which are usually of metal, are pre-heated and then applied to the wound coils of hair. One of the most common practices is to place the oiled pad inside the metal applicator and then pre-heat both the metal applicator and oiled pad before the same are placed around the hair. This is objectionable as the oil in the pad tends to become more liquid under heat, resulting in the dripping of the oil and necessitating the wiping of this surplus oil from the applicator and/or pad before the same are placed on the hair. Also, the pads must, by necessity be accurately made to fit the inside diameter of the metal applicators and not protrude below the same, for otherwise they would hold the applicators away from the heating plate or stove during the heating process. But by these pads not extending beyond the jaws of the metal applicator, the metal applicator when placed on the hair engages the hair below the winding, thereby causing a burned mark or line across each curl of hair close to the scalp, which, obviously, is highly objectionable.

Still another objection to the simultaneous preheating of the applicator and pad is that ex-

tremely high heated oil is a great shock to the hair, thereby damaging it and producing an undesirable, dry, harsh, and parched wave. We have overcome such objections by placing an inner oil retarding pad and an outer oiled pad both in a cold state around the hair, thereby making it possible for wider skirted pads to prevent the hot applicator from engaging any part of the hair of the subject and also permitting a more gradual raising of the temperature of the hair to permanent wave it. Our process also embraces the highly desirable feature of pre-heating the applicator in a dry state, free from oil or liquids, thereby eliminating any necessity of wiping or cleaning the applicator just previous to its application on the head. By eliminating any necessity of wiping or cleaning the applicator it can be immediately moved to the hair with substantially all of its useful heat and all of the applicators upon reaching the head will, therefore, be of a uniform, even temperature, resulting in a uniform and evenly waved head of hair. Also by placing the oil pads upon the hair in a cold state and not pre-heating them with the applicators as has been done herebefore, there is no tendency for the oil in the pads to be "cooked" out of the pads before they are placed on the head.

Referring to the drawing, we have used the numeral 10 to designate a hot plate for pre-heating our heat-applicators. This plate may be heated by any suitable means such as fired fuel of any nature, or it may be electrically heated, and in the drawing we show an electric resistance wire 11, suitably positioned below the plate 10 and designed to be in communication with a source of electrical energy. If desired either a thermostat or a rheostat may be employed to maintain the plate 10 at the desired temperature.

The numeral 15 designates a manually operated double jawed heat-applicator having the handles 16 and 17 and the spring 18 to yieldingly hold its jaws in closed positions. Obviously the specific construction and design of these heat-applicators are not important to our method of permanently waving hair and they may be of any suitable construction provided they operate successfully and will retain sufficient heat after they have been removed from the plate 10 to wave the hair. The numeral 19 designates our inner rectangular absorbent pad of cloth or other similar material. The numeral 20 designates our outer rectangular absorbent pad designed to be impregnated with a suitable oil or oils. The numeral 21 designates bendable, non-resilient metallic strips, stitched or otherwise secured to the marginal end portions of the pad 20 as shown in Fig. 3. The numeral 22 designates an ordinary spool rod generally used in the hair waving art and around which the hair to be waved is wound. As is well known, these spool rods are supported by a clamp divider 23, sometimes called a spacer. We have used the numeral 24 to designate the strand of hair to be waved. The numeral 25 designates the curling solution applicator having a sponge rubber or like strip 26 as shown in Fig. 6 and Fig. 7.

The practical operation of our method of permanently waving hair is as follows: The hair is prepared for receiving the permanent wave in the usual manner, i. e., it is first washed and then saturated with a suitable hair curling or softening solution after which it is wound or coiled around spool rods 22. After the hair has been thus prepared some of the curling or softening solution is placed in a vessel and by the use of the solution applying applicator 25 the absorbent pads 19 are moistened with this curling or softening solution along their longitudinal centers as shown in Fig. 2.

This operation is easily accomplished as the solution applicator 25 is placed into the vessel in such manner that its portion 26 will absorb some of the curling solution, after which it is withdrawn and pressed downwardly on each of the pads 19 to produce a wet area 27 as shown in Fig. 2. After the pads 19 are so treated they are placed over the respective winds of hair on the rods 22 and an oil pad 20 placed on top of each of them as shown in Fig. 5. By manually bending the metallic end portions 21 of the pads 20 around the pads 19 and the hair winds, the pads 19 and 20 will be secured against accidental detachment from the hair winds on the rods 22. By this specific arrangement of pads the inner pads 19 will have their longitudinally positioned wet area 27 directly above and over the hair wind, and this wet area and dry areas at each side thereof of each of the pads 19 will be positioned between the hair wind and the outer oil saturated pad 20. Obviously the outer pads 20 are saturated with a suitable oil before being placed on the head. We find that various kinds of oils are highly successful, such as olive oil, sweet oil, lanolin, etc., or if desired a combination of different kinds of oils may be used. When placing the pads 19 and 20 on the hair winds care should be taken that their side skirt portions should flare out as shown in Fig. 5 in order to prevent any direct contact of the heat-applicators on the hair 24 as shown in Fig. 5. After the pads have been so placed around the hair winds the heat-applicators 15 are removed from the hot plate 10 and are placed around the pads, respectively, in clamped relationship as shown in Fig. 5. Obviously the sensible heat in the applicators will immediately heat the pads around the hair winds and in turn this heat will be transferred to the hair winds for producing the permanent wave. This raising of the temperature of the hair, however, will be relatively gradual as compared to the method of subjecting the hair to previously high heated oil and when in such state applied instantaneously to the hair.

In our process of waving hair the inner pads 19 serve a double purpose. First they provide additional curling and softening solution to that residing in the hair proper, thereby increasing the steaming time and making for a better and tighter curl and, secondly, acting as a retarding agent to the flow of hot oil from the pads 20 into the hair winds. This latter phase is highly desirable and necessary for the reason that generally speaking oil retards rather than produces a permanent wave. Therefore, in our process, although the permanently waving of the hair and the oil treating of the hair is accomplished in one operation, nevertheless we first permanently wave the hair and then oil condition and treat the hair. As the curling and softening solution evaporates the oil in the pads 20 will pass though the pads 19 and into the hair. Most, if not all curling and softening solutions contail ammonia and are high in alkali content. Obviously there will be a certain amount of chemicalization and saponification that takes place when the oil contacts the curling solution and this saponification and chemicalization that takes place in the hair winds and especially in the pads 19 also aids in delaying the travel of the oil into the hair. By the time the oil from

the pads 20 has successfully contacted the hair the applicators 15 will have lost a considerable amount of their sensible heat and this oil will not be, therefore, at such a high temperature as to harm the hair and make it harsh, parched, or brittle. The curling and softening solution and the heat, conditions the hair to a state where it is particularly susceptible to the receiving of the oil. With the hair in this condition the oil readily passes into the shaft of the hair, thereby neutralizing the acids and alkali in the hair cells. From this it will be seen that after the curling and softening solution has served its purpose its harmful effects on the inside the hair will be neutralized by the free oil from the pads 20, and considerable of this neutralization will come about by saponification and/or chemicalization.

Much of this oil that penetrates the hair shaft and contacts the alkali and acid deposits will not be saponified nor chemicalized, and virgin oil by capillary action will reach all parts of the hair, including the medulla and the roots of the hair, thereby lubricating the hair and stimulating and feeding the sebaceous glands and vascular papilla of the hair. By the oil neutralizing, saponifying, or chemicalizing the acids that were in the hair our process makes possible the giving of a permanent wave without discoloring the hair. It will therefore be noted that the oil treating of the hair in our method is not only a conditioning of the hair but a definite and important part of the permanent waving process. The oil makes possible a superior permanent wave in the hair and on the other hand the softening of the hair with the curling solution and the heat from the heat applicators makes possible the successful oil treating of the hair. By the use of the solution applicator 25 the proper and uniform amount of solution is properly placed on the pads 19 which makes for accuracy and a successful permanent wave. The dry portions of each of the pads 19 at each side of the wet portion 27 aid in preventing the disordered flight of free steam, thereby eliminating steam burns on the scalp of the subject receiving the wave.

Obviously other retarding means than the pads 19 may be employed to retard and/or control the flow of the oil from the pads 20 to the hair winds.

The heat-applicators are left on the head until they have substantially cooled. This time period permits the oil in the pads 20 to properly contact the hair, treat and condition it and neutralize, chemicalize, or saponify the undesirable alkali and acids. After the heat-applicators have cooled, they are removed, the hair taken down and washed and then wave-set in the usual manner.

The number of heat-applicators, pads, rods, etc., used on a head of hair will, of course, depend upon the number of curls desired.

By heating the oil in the pads 20 from the sensible heat in the heat-applicators, there is less breaking down of the oils into soap acids than would be the case if the pads holding the oil were pre-heated to a high state before being placed on the hair. Also by placing the pads on the hair at atmospheric temperatures, obnoxious oil odors are eliminated. With the heat-applicators heated in a dry state and free from oil on the plate 10, they may be taken direct from the plate to the hair, resulting in their maximum efficiency and insuring a uniform temperature of all of the applicators at the time they are placed on the head, which could not be possible if it were necessary to wipe them off before they were placed on the head.

We claim as our invention:

1. The method of permanently waving hair, consisting in the subjecting of the hair to a curling solution, the coiling of the hair around an elongated member, the saturating of a pad member with the curling solution, the placement of the pad member around the coil of hair, the placement of a pad member impregnated with an oil around said first mentioned pad member, the pre-heating of a pad engaging and embracing member, applying the said last mentioned member over and around said oil impregnated pad while still hot from said pre-heating for raising the temperature of the pads, solution, and hair, to first steam the hair by virtue of the curling solution and secondly to drive the warm oil from the oil impregnated pad into the hair for neutralizing certain of the ingredients harmful to the hair in the curling solution after the said curling solution has served its purpose and lastly the removing of the pad embracing and engaging member, the pads, and the elongated member and wave-setting the hair.

2. The method of permanently waving hair, consisting in the subjecting of the hair to a curling solution, the coiling of the hair around an elongated member, the saturating of a pad member with the curling solution, the placement of the pad member around the coil of hair, the placement of a pad member impregnated with an oil around said first mentioned pad member, the pre-heating of a pad engaging and embracing member, applying the said last mentioned member over and around said oil impregnated pad while still hot from said pre-heating for raising the temperature in the pads and hair in order to first steam the hair with the curling solution and, secondly to drive the warm oil from the oil impregnated pad through the first mentioned pad and into the hair for neutralizing certain acids and alkali in the cells of the hair.

3. The method of permanently waving hair, consisting in the subjecting of the hair to a curling solution, the coiling of the hair around an elongated member, the saturating of a pad member with the curling solution, the placement of the pad member around the coil of hair, the placement of a pad member impregnated with an oil around said first mentioned pad member, the preheating of a pad engaging and embracing member, applying the said last mentioned member over and around said oil impregnated pad while still hot from said pre-heating for raising the temperature of the pads and hair to first steam the hair with the curling solution and to secondly force the warm oil from the oil impregnated pad into contact with the curling solution in the first mentioned pad and hair for purposes of saponification, and then the removal of the pad engaging and embracing member, the pads, and elongated member.

4. The method of permanently waving hair, consisting in the subjecting of the hair to a curling solution, the coiling of the hair around an elongated member, the saturating of a pad member with the curling solution, the placement of the pad member around the coil of hair, the placement of a pad member impregnated with an oil around said first mentioned pad member, the pre-heating of a pad engaging and embracing member, applying the said last mentioned member over and around said oil impregnated pad

while still hot from said pre-heating for raising the temperature of the pads and hair to first curl the hair by virtue of the curling solution and secondly to drive the warm oil from the oil impregnated pad through the first mentioned pad and into the hair for oil treating the hair after the said curling solution has served its purpose, and lastly the removing of the pad embracing and engaging member, the pads, and the elongated member.

5. The process of permanently waving hair comprising, the subjecting of the hair to a curling solution, the winding of the hair around a rod, the placement of an oil impregnated pad member around the coiled hair, the placement of an oil flow retarding agent between the said hair and the said pad, the pre-heating of a pad engaging and embracing member, the placement of the said last mentioned member around said oil impregnated pad whereby the sensible heat in the same will heat the curling solution, the hair, the oil flow retarding agent, and the oil impregnated pad, the removal of said pad engaging and embracing member after it is substantially cooled, the removal of the pad and oil flow retarding agent from the hair, and lastly, the wave-setting of the hair.

6. The process of permanently waving hair comprising, the subjecting of the hair to a curling solution, the winding of the hair around a rod, the placement of an oil impregnated pad member around the coiled hair, the placement of an oil flow retarding pad between the hair and the first mentioned pad, the heating by a suitable means of the curling solution, the hair, and both of said pads for causing said hair to be first permanently waved and then oil treated and conditioned.

7. A process of permanently waving hair comprising, the subjecting of the hair to a curling solution, the winding of the hair around a rod, the placement of an oil impregnated pad member around the hair having metallic bendable end portions, the placement of an oil flow retarding pad between the hair and the first mentioned pad, the heating by a suitable means of the curling solution, the hair, and both of said pads for causing the said hair to be first permanently waved and then oil treated and conditioned.

8. The method of permanently waving hair comprising, the subjecting of the hair to a curling solution, the coiling of the hair, the placement of the oil impregnated pad member around the coiled hair, the saturating of the longitudinal center portion of a pad member, the placement of said last mentioned pad member between said hair and said oil impregnated pad member, the preheating of a metallic member, and the placement of the said metallic member while still hot adjacent the outer side of said oil impregnated pad member.

9. A method of permanently waving hair comprising, the subjecting of the hair to a curling solution, the winding of the hair around a rod, the saturating of an applicator member with the curling solution, the placement of the saturated applicator member on the longitudinal center portion of an absorbent pad for uniformly and evenly wetting said pad along its longitudinal center, the placement of said pad on said hair, the placement of an oil impregnated pad over said last mentioned pad, and lastly the applying of suitable heat to the outer side of said oil impregnated pad for permanently waving said hair and causing the oil in said oil impregnated pad to pass through said first mentioned pad and saponify with said curling solution after said curling solution has served its purpose.

10. The method of permanently waving hair, consisting in treating the hair to be waved with a curling solution, winding the hair on a rod member, covering the wound hair with a pad saturated with said curling solution, placing a pad saturated with an oil over said first mentioned pad, and then applying a pre-heated element over both pads.

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