

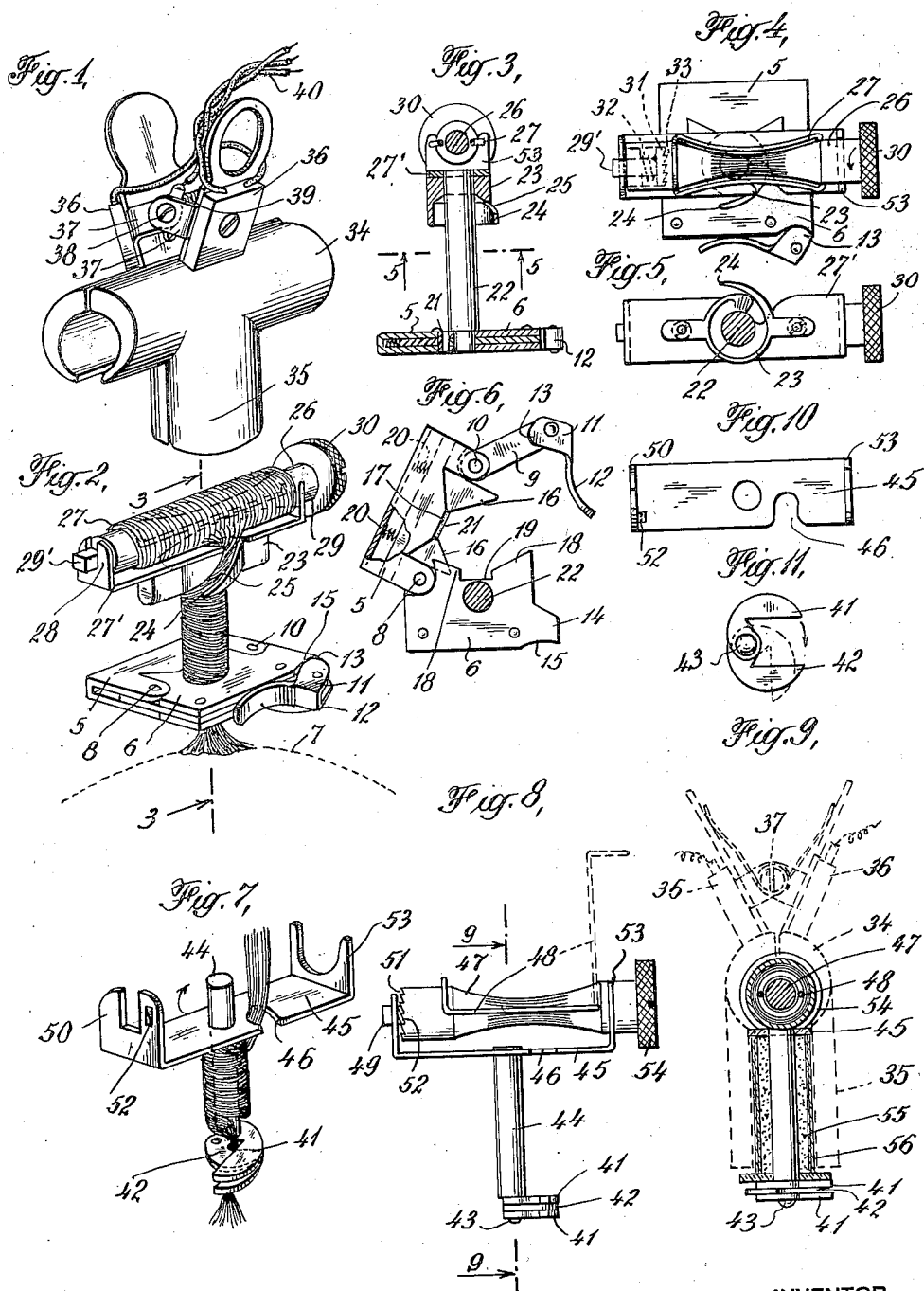
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METHOD AND APPARATUS FOR PERMANENT WAVING

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METHOD AND APPARATUS FOR PERMANENT WAVING

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15 Claims. (Cl. 132—36)

This invention relates to a method and an apparatus for treating hair on the human head to produce so-called "permanent waves".

In the practice of waving hair, it is the customary practice to wind a strand of the hair helically from the roots upon a spindle, or to wind the strands spirally from their ends upon a roller. After moistening the strand with a suitable "lotion" and wrapping in a more or less moisture-tight pad, heat is applied for a sufficient time to set the wave. An electrical heater adapted to surround the spindle or roller is usually employed. The so-called "spindle" and "croquignole" methods have been applied with considerable success. They afford, however, waves of different types, and neither is completely satisfactory in all cases.

It is the object of the present invention to provide an improved method and apparatus in which the advantages of both of the older methods are preserved and which affords a more perfect wave. The use of the method and apparatus results in a smooth undulating wave near the roots of the hair, and curls or ringlets at the ends, thereby enhancing the appearance of the hair and of the individual treated.

Other objects and advantages of the invention will be apparent as it is better understood by reference to the following specification and accompanying drawing, in which

Fig. 1 is a view in perspective of a heater adapted to be applied to the hair after it has been wound as hereinafter described;

Fig. 2 is a view in perspective of a device for clamping and winding a strand of hair;

Fig. 3 is a section on the line 3—3 of Fig. 2;

Fig. 4 is a plan view of the device as illustrated in Fig. 2;

Fig. 5 is a section on the line 5—5 of Fig. 3;

Fig. 6 is a plan section of the device illustrating particularly the clamp;

Fig. 7 is a view in perspective illustrating a modified form of the device;

Fig. 8 is an elevation of the device as illustrated in Fig. 7;

Fig. 9 is a section on the line 9—9 of Fig. 8, showing the heater in position;

Fig. 10 is a plan view of the winder as shown in Fig. 7; and

Fig. 11 is a plan section illustrating the clamp as shown in Fig. 7.

Referring to the drawing, and particularly to Figs. 2 to 5 thereof, 5 and 6 indicate the jaws of a clamp which is adapted to grip and securely hold a strand of hair adjacent the scalp 7. The

jaws 5 and 6 are pivoted at 8 and are adapted to be held in closed position by a link 9 pivoted at 10 and carrying a pivoted cam lever 11 having a finger piece 12 and a cam 13. The link 9 is adapted to pass between projections 14 on the jaw 6. The cam 13 then engages a cam surface 15, and when the finger piece 12 is turned the clamp is securely locked.

The jaw 5 slidably supports a plate having projections 16 and a recess 17, the projections 16 being adapted to pass between wings 18 on the jaw 6. A recess 19 in the jaw 6 co-operates with the recess 17 on the jaw 7, and springs 20 cause the projections 16 and a connecting edge 21 to resiliently grip the strand of hair in the recess 19.

A spindle 22 is rigidly supported on the jaw 6 and is adapted to receive the strand of hair which is wound helically thereon as indicated in Fig. 2. The winding is accomplished by a winder 23 which is rotatably supported on the spindle and has a projecting arm 24 affording a slot 25 in which the strand of hair is held. Thus when the winder 23 is disposed adjacent the clamp, the strand of hair may be engaged in the slot 25. By turning the winder on the spindle, the hair is wound helically and the winder is advanced along the spindle until it reaches a point near the top thereof as indicated in Fig. 3.

The end of the strand of hair is then engaged by a roller 26 having a clip 27 pivotally mounted thereon to grip the end of the strand, which is wound from its end spirally upon the roller until the roller is closely adjacent the plate 27', which is supported on the winder 23. The plate 27' has upstanding ends 28 and 29 which are slotted to receive the ends of the roller 26, one end being squared as indicated in 29' and the other having a knurled head 30.

To facilitate the winding, and particularly the maintenance of desired tension upon the hair, the roller 26 may be provided with an internal ratchet 31 (Fig. 4) connected to the squared end 29' and adapted to be pressed by a spring 32 against corresponding ratchet teeth 33 within the roller. Thus, as the knurled head 30 is rotated in the direction indicated by the arrow in Fig. 4, tension is applied to the hair wound thereon, and the ratchet prevents the roller from rotating in the reverse direction.

When the strand of hair has been wound as indicated in Fig. 2, it may be moistened with a suitable lotion and wrapped with any suitable material, preferably moisture-proof. For example, strips of flannel moistened with lotion may be

disposed about the hair on the spindle and roller, and a wrapping of parchment or moisture-proof paper may be applied over the flannel. The hair is then ready for the application of heat.

The heater comprises two arcuate members 34 with depending sections 35 and handles 36, the latter being preferably of insulating material. Lugs 37 connected to the handles 36 are pivoted at 38, and a spring 39 normally holds the heater in closed position. It will be understood that within the arcuate members 34 and the extensions 35 are heating elements consisting of suitable resistance material adapted to provide heat when an electrical current passes therethrough. Conductors 40 are connected to the heating elements within the arcuate members 34 to permit the supply of current. When the heater is disposed about the spindle 22 and roller 26, with the strand of hair wound thereon as hereinbefore described, heat may be applied to the strand for a sufficient period to effect the desired treatment and the setting of the wave.

When the heating is completed, the heater and wrappings are removed, the strand of hair is disengaged from the roller 26 and spindle 22, the clamp is released, and the hair may be washed and dressed. In the operation of the method, the hair upon the head is divided into a number of strands, and these strands may be wound and treated simultaneously so that at the completion of the operation the permanent wave is effectively produced over the entire head.

In Figs. 7 to 9, inclusive, a slight modification of the apparatus is illustrated. In this case, the clamp comprises jaws 41 and 42 pivoted at 43 to a spindle 44. The pivot 43 may threadedly engage the spindle 44 so that by turning the spindle the jaws 41 and 42 may be locked after they grip the strand of hair adjacent the scalp.

A winder 45 is rotatably mounted on the spindle 44 and is provided with a slot 46 which is adapted to engage the strand of hair so that the strand can be wound helically upon a spindle 44. When the winder 45 reaches the top of the spindle 44, the end of the strand of hair is secured to a roller 47 by means of a clip 48. The roller has a squared end 49 to engage the up-turned end 50 of the winder 45 and carries ratchet teeth 51 to engage a pawl 52 which is struck inwardly from the body of the upturned end 50. An upturned end 53 is adapted to support the other end of the roller 47, which is provided with a knurled head 54 to facilitate the winding operation.

The operation is as previously described, that is, the strand of hair is gripped adjacent the scalp by the jaws 41 and 42 and is wound helically on the spindle 44. The end of the strand is then engaged by the roller 47 and is wound spirally thereon until the roller 47 is engaged with the winder 45. The roller may be adjusted then to provide the desired tension upon the hair. When the hair has been wound thus it may be moistened with a suitable lotion and enclosed in wrappings 55 and 56, the former being preferably of flannel or other similar material, and the latter a wrapping of parchment or like material impervious to moisture. The heater as illustrated in Fig. 1 is then applied, and current is supplied to produce the required heat. At the conclusion of the treatment, the heater and wrappings may be removed, the hair may be disengaged from the roller 47 and spindle 44, and thereafter treated in any desired manner.

Among the advantages of the method and

apparatus as described are the simplicity of the procedure, the winding being easily accomplished with the devices and the hair being held firmly by the clamp adjacent the scalp. The tension applied to the ends of the hair does not produce any pull at the scalp because of the clamp and of the braking action of the hair on the spindle. The clamp affords a steam-proof closure which prevents escape of steam or hot water to the scalp, which may be protected further, if desired, by a layer of felt or other insulating material disposed beneath the clamp and in engagement with the scalp.

The effect of the combined helical and spiral winding is particularly desirable since it affords an undulating wave in that portion of the hair which is adjacent the scalp and causes the ends of the hair to assume the form of ringlets, thus producing a particularly striking and beautiful wave.

Various changes may be made in the details of arrangement and construction of the parts and in the procedure as described, without departing from the invention or sacrificing any of the advantages thereof.

I claim:

1. The method of waving hair on the human head which comprises dividing the hair into strands, clamping each strand adjacent the scalp, winding a portion of each strand helically outwardly from the scalp and the remaining portion of each strand spirally inwardly from the free end, moistening and wrapping the wound strands and applying heat thereto to fix the wave.
2. The method of waving hair on the human head which comprises dividing the hair into strands, clamping each strand adjacent the scalp, winding a portion of each strand helically outwardly from the scalp and the remaining portion of each strand spirally inwardly from the free end, applying tension to the strands, moistening and wrapping the wound strands and applying heat thereto to fix the wave.
3. In an apparatus for waving hair on the human head, a clamp to grip a strand of hair adjacent the head, spindle means on the clamp, a winder rotatably supported on the spindle to engage the strand whereby the strand is wound helically on the spindle when the winder is rotated, and roller means supported by the winder and adapted to grip the end of the strand and to wind the strand spirally thereon when the roller is rotated.
4. In an apparatus for waving hair on the human head, a clamp to grip a strand of hair adjacent the head, spindle means on the clamp, a winder rotatably supported on the spindle including a projecting finger forming a slot to engage the strand whereby the strand is wound helically on the spindle when the winder is rotated, and roller means supported by the winder and adapted to grip the end of the strand and to wind the strand spirally thereon when the roller is rotated.
5. In an apparatus for waving hair on the human head, a clamp to grip a strand of hair adjacent the head, spindle means on the clamp, a winder rotatably supported on the spindle to engage the strand whereby the strand is wound helically on the spindle when the winder is rotated, roller means supported by the winder and adapted to grip the end of the strand and to wind the strand spirally thereon when the roller is rotated, and means to prevent reverse rotation of the roller.

6. In an apparatus for waving hair on the human head, a clamp to grip a strand of hair adjacent the head, spindle means on the clamp, a winder rotatably supported on the spindle including a projecting finger forming a slot to engage the strand whereby the strand is wound helically on the spindle when the winder is rotated, roller means supported by the winder and adapted to grip the end of the strand and to wind the strand spirally thereon when the roller is rotated, and means to prevent reverse rotation of the roller.

7. In an apparatus for waving hair on the human head, a clamp to grip a strand of hair adjacent the scalp and means associated with the clamp to wind the portion of the strand adjacent the scalp helically and the remaining portion spirally, including a spindle, a winder rotatable thereon and having a support for a roller, and a roller adapted to be mounted on the support.

8. In an apparatus for waving hair on the human head, a clamp to grip a strand of hair adjacent the scalp and means associated with the clamp to wind the portion of the strand adjacent the scalp helically and the remaining portion spirally, including a spindle, a winder rotatable thereon and having a support for a roller, a roller adapted to be mounted on the support, and means for preventing reverse rotation of the roller.

9. In an apparatus for waving hair on the human head, means for winding a strand of hair, helically adjacent the scalp and spirally near the ends of the strand, and an electrical heater having arcuate members pivotally connected with arcuate projections depending therefrom to embrace the strand when it is wound.

10. In an apparatus for waving hair on the human head, a clamp to grip a strand of hair adjacent the scalp, a spindle on said clamp about which a portion of the strand may be helically

wound, and a roller means adapted to grip the end of the strand and to wind another portion of the strand spirally thereon when the roller is rotated.

11. In an apparatus for waving hair on the human head, a clamp to grip a strand of hair adjacent the scalp, a spindle on said clamp about which a portion of the strand may be helically wound, and a roller mounted on said spindle about which another portion of the strand may be spirally wound.

12. In an apparatus for waving hair on the human head a clamp to grip a strand of hair adjacent the scalp, a spindle on said clamp about which a portion of the strand may be helically wound, and a roller removably mounted on said spindle about which another portion of the strand may be spirally wound.

13. The method of imparting to a strand of hair in a single heating operation a combined spiral and croquignole curl, comprising steps of first helically coiling the portion of the strand next the head, coiling the outer portion of the strand in croquignole fashion, tensioning uniformly the strand between said coiled portions, maintaining said uniform tension, and applying heat to the coiled hair to wave the same.

14. In hair-waving apparatus, a curler having an enlarged end portion and a second curler removably mounted on the enlarged end portion of the first-mentioned curler with its axis extending transversely to that of said first-mentioned curler.

15. In hair-waving apparatus, a curler having an enlarged end portion, a clamp engaging said curler to hold hair thereon, and a second curler removably mounted upon one end of the first mentioned curler with its axis extending transversely to that of said first mentioned curler.

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