

Aug. 31, 1937.

P. L. MOULIN

2,091,738

PERMANENT WAVING

Filed June 27, 1936

2 Sheets-Sheet 1

Fig. 2.

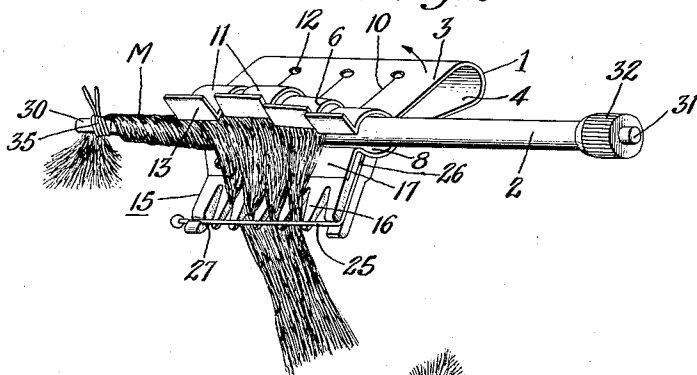


Fig. 1.

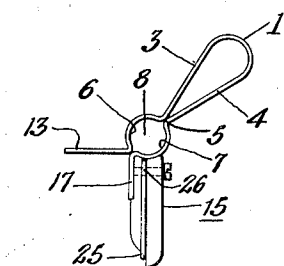
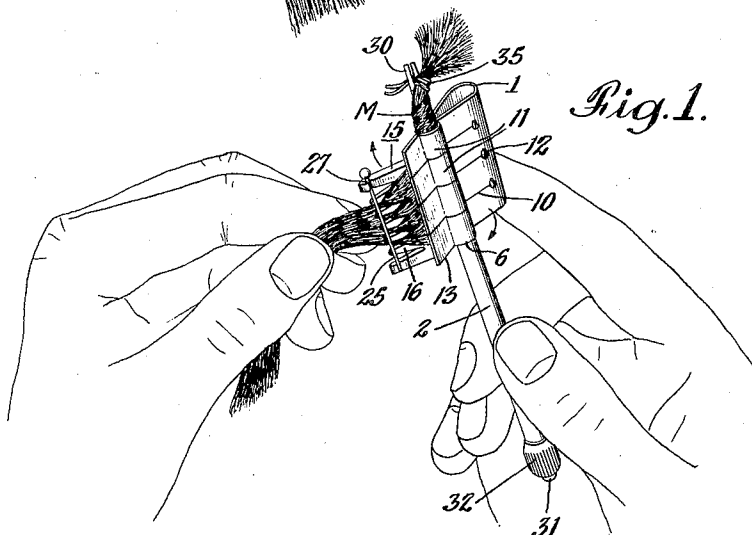


Fig. 3.

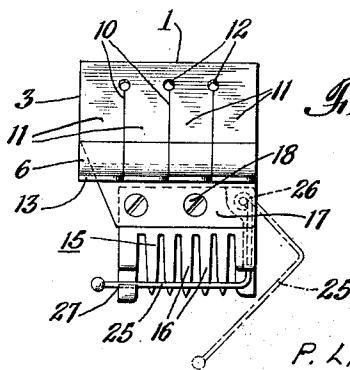


Fig. 4.

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2 Sheets-Sheet 2

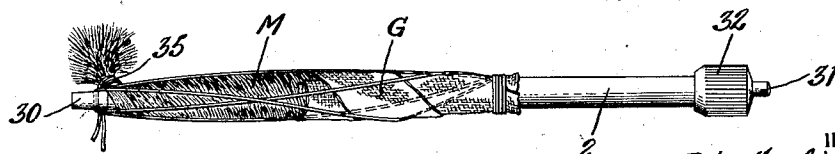
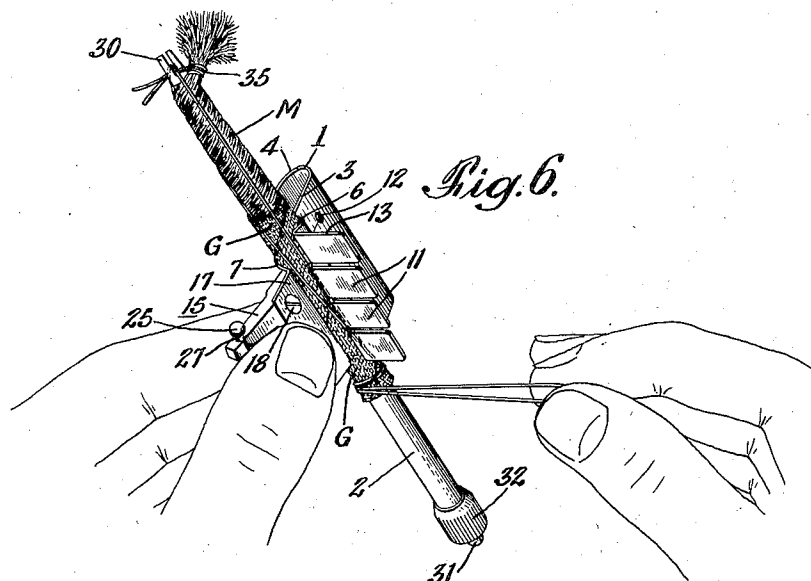
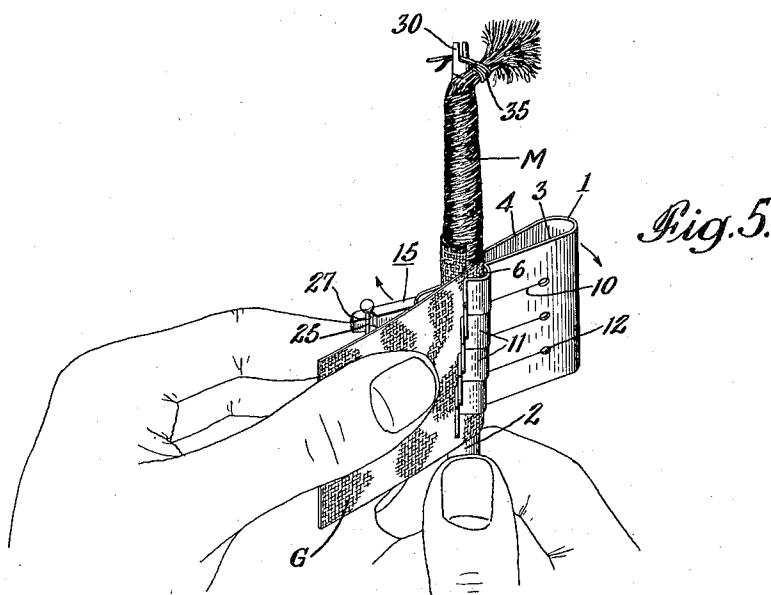


Fig. 7.

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UNITED STATES PATENT OFFICE

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PERMANENT WAVING

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21 Claims. (Cl. 132—33)

The invention relates to permanent waving and more especially to novel means for curling or winding tresses of living human hair about a curler preparatory to the usual subsequent steps of the permanent waving process.

Objects and advantages of the invention will be set forth in part hereinafter and in part will be obvious herefrom, or may be learned by practice with the invention, the same being realized and attained by means of the instrumentalities and combinations pointed out in the appended claims.

The invention consists in the novel parts, constructions, arrangements, combinations and improvements herein shown and described.

The accompanying drawings, referred to herein and constituting a part hereof, illustrate one embodiment of the invention, and together with the description, serve to explain the principles of the invention.

Of the drawings:

Fig. 1 is a perspective view showing the initial application to a tress of a winding device embodying the invention;

Fig. 2 is a similar view representing progress of the winding operation;

Fig. 3 is an end elevation of a winding device embodying the invention;

Fig. 4 is a side elevation of the device shown in Fig. 3; and

Figs. 5, 6 and 7 show successive steps in the winding and binding of the tress to the curler.

The invention is directed to providing a novel and useful device for assisting the hairdresser in winding or wrapping strands of hair about curlers or curling rods in the process of permanent waving. The invention especially applies to winding the hair in helical formation from the scalp outwardly about a cylindrical curler. An object of the invention is to avoid the need for the major care and skill and strength now employed in so winding hair by hand, while facilitating the production of a curl possessing the characteristics and quality of one wound by the most skilled hairdresser.

The invention provides a very simple, inexpensive and practical winding device which can be used to produce curls of the character desired without the necessity for long and arduous training and experience. By use of the device a relatively inexperienced hairdresser can produce smooth, flat, tightly wound curls having any desired configuration. The device possesses characteristics of flexibility and adaptability in use whereby it may be applied to curls of greatly

varying dimensions without any mechanical adjustment. Furthermore the device is adapted to wind hair of greatly varying strengths, length, fineness and other characteristics, without harming the hair or affecting its strength or vitality. The hair is wound smoothly and uniformly and without danger of being torn or pulled or rendered frizzy by the winding operation. The invention in its capabilities is substantially equivalent to the operation of the human fingers, especially in that the hair is not torn or forced into position by rigid members, but is given a smooth, flexible, wrapping action comparable to that from the fingers of a skilled operator, while exactly the required amount of tension or stretching may be imparted to the hair just as in hand winding. The hair may be wound either wet or dry and in some cases the invention is especially effective in winding previously moistened hair in that the hair treating liquid comes in contact with all of the hairs while the tress itself is wound into a very tight and compact curl.

In addition to the foregoing advantages, the device of the invention enables the hair to be maintained in a natural position throughout the entire winding operation, thereby conducing to proper winding and to the comfort of the customer. Moreover the operator can impart any desired degree of pitch or overlap to the curl, just as in winding by hand, in order to produce the desired conformation and to accommodate the curling action to the particular quality and characteristics of the hair and to the type of wave desired. The device also is usable with tresses of any practical length. Also the operator can utilize the device either for winding all or any selected part of the tress, it being possible to wind other portions thereof by hand if desired.

The invention further facilitates the fastening of the wound curl to the curlers and maintaining it in the wound and tensioned condition throughout the waving process. The winding device itself is usable successively on the several curls of a head, being readily removable from the tress and curler after the winding operation is finished. In accordance therewith the invention comprises a novel method of fastening or binding the wound tress to the curler to hold the curl in position after the winding device is removed.

Broadly described, the winding device comprises an integral U-shaped clamp of resilient material the jaws of which can be opened to rotatably grip the curler while extending transversely therefrom. One jaw or pressing arm of the

clamp is sub-divided to form a plurality of independently resilient tongues or fingers which act to smooth and wrap the tress about the curler and to accommodate the winding to the varying thicknesses and positions of the tress. The construction described gives to the winder an operating effect substantially identical with that of the fingers of a skilled hairdresser, while greatly reducing the skill, strength and care required in hand winding. The winder is readily detachable from the curler and may be applied thereto at any point. Preferably a comb or the like is connected to one jaw of the clamp and acts to straighten and prepare the hair for the wrapping and pressing operation of the winding fingers.

It will be understood that the foregoing general description and the following detailed description as well are exemplary and explanatory of the invention but are not restrictive thereof.

Referring now in detail to the present preferred embodiment of the invention illustrated by way of example in the accompanying drawings, the winder comprises a bifurcated clamp or gripper of substantially U-shape and formed of a single piece of flat, spring metal stock. The back or bent, axial portion 1 of the clamp is rounded and is of an interior diameter substantially equal to that of a curling rod 2 to which the clamp is to be applied. The two branches, arms or jaws 3 and 4 of the clamp converge almost to contact with each other along a line 5 substantially parallel to the back or axial edge 1 of the clamp. Beyond the line 5 the upper jaw 3 is recessed or bowed out at 6 to form a semi-cylindrical recess, while the lower jaw 4 is similarly recessed at 7 in the opposite direction. It will be clear that the complementary recesses 6 and 7 together form a tubular sleeve or cylinder 8 which is normally closed by the spring action of the jaws and when closed is of a diameter slightly less than that of the curling rod 2 at its narrowest point.

In accordance with the invention, at least one branch or jaw of the winder is subdivided to form a plurality of resilient wrapping and pressing fingers for the hair. As shown the upper jaw 3 is provided with a plurality of parallel slots 10 extending from the free edge of the jaw toward the back edge 1 of the clamp. As shown the upper jaw 3 is thus subdivided into four semi-independent spring fingers or tongues 11, although it will be understood that the invention is not limited to any specific number of said fingers nor need they be of equal widths or lengths. The slots 10 stop well short of the rear edge 1 of the clamp and may be formed with enlarged holes 12 at their ends to prevent tearing of the metal.

The leading edge of the upper jaw 3 preferably extends beyond the tubular recess 6 and as shown at 13 is flared upwardly and away from the curler channel 8. This construction facilitates the introduction of the curler 2 into the channel 8 and further provides the fingers 11 with hair engaging and smoothing surfaces which facilitate the wrapping action and prevent the escape of stray hairs from the jaws of the winder.

In accordance with the invention means are preferably, but not necessarily, provided for straightening, smoothing and guiding the hair just prior to its engagement by the wrapping and tensioning jaws of the winder. As embodied a comb 15 having parallel teeth 16 is mounted to extend from the sleeve edge of the lower jaw 4 of the clamp. As embodied said lower jaw has an extension 17 projecting beyond the tubular recess 7 and flared downwardly and outwardly in a di-

rection opposite to that of the portion 13 of the upper jaw. The comb 15 is fixed to said extension member 17 to lie therebeneath and project parallel therewith from the lower jaw. Suitable screws, rivets, or the like 18, may be used for attaching the comb to the member 17.

The invention provides means for releasably guarding or retaining the tress of hair within the confines of the comb teeth. As embodied, a bar 25 is adapted to lie across the leading edge of the teeth and to be movable therefrom to permit introduction and removal of hair. As shown, the bar 25 is an L-shaped piece of spring wire and the fixed end 26 thereof is pivotally mounted at the inner edge of one end of the comb. The free end of the bar is adapted to lie in a suitable recess along the end of the comb teeth and to be held behind an undercut tongue 27 formed at the end of the last comb tooth. The bar is formed of a fairly stiff resilient wire or the like so that it may be forced and held in position behind the tongue 27.

In use, the winder hereinbefore described is applied to a cylindrical curling rod or curler 2 which may be of any desired or known form used for helical, root-to-point winding of the hair. As shown the rod is provided with a forked head 30 which is rotatable relative to the main barrel 2 for purposes of tightening the hair after winding. The conventional tightening means is indicated by the axial rod 31 connected to the forked head 30 and the knurled tightening handle 32 by means of which the head 30 may be turned relative to the barrel 2 in either direction and held in the tightened position. However, the invention is not limited to use with such a curler as it will be found in practice that in many cases the winder itself will sufficiently stretch and tension the hair as to permit it to be used with a simple, one-part curler.

The successive operations in the use of the winder are indicated in Figs. 1, 2 and 5 to 7. The tress or strand of hair M is first bound tightly to the forked head 30 of the curler at a point close to the scalp by means of binding cord 35 or by any other suitable means. The operator then firmly grips the tress and gives it a half turn or more about the curler just above the head 30 in the usual manner. Having thus started the winding operation, the winder 1 may then be applied to the hair by forcing the curler and the hair thereon between the flared jaws of the winder so that the curler becomes seated in the tubular recess 8 where it is firmly gripped by the spring action of the jaws. The free portion of the tress may then be laid through the teeth of the comb 15 as indicated in Figs. 1 and 2, the bar 25 being temporarily released and then replaced for that purpose.

Fig. 2 represents the progress of the winding operation after several turns of the winder have been made. The winding action itself is performed very readily by the index finger of the right hand of the operator holding the curler as indicated in Fig. 1. As will be seen the side-by-side fingers or tongues 11 of the winder carry the hair around the curler wrapping it tightly and smoothly thereagainst. The pitch or taper of the helical curl may be determined entirely by the operator so that the winder may be permitted to progress outwardly along the curler relatively rapidly or may be caused to rotate in place so as to give a full or partial overlap to the hair. It will be clear that one part of the tress may be wound with a considerable pitch

while another part, for example the ends, may be wound circularly to give a full ringlet end. With some hair it may even be desirable to reverse the direction of the helix near the end of the curl and the winder permits that operation to be carried out because of its complete freedom from mechanical connection to the curler.

It will be clear that the initial pitch of the curl may be controlled to considerable extent by the positioning of the free portion of the tress in the comb teeth. Thus if a closely wound curl with little pitch is desired the hair will be placed in the comb teeth near the scalp, while a greater pitch or lead will be provided by placing the tress farther along in the comb. It will be observed that the spring fingers 11 not only place and wrap the free part of the tress about the curler, but act thereafter to smooth and flatten the wound hair. As shown in Fig. 2, for example, the fingers 11 nearer the scalp act to override and flatten out and compress the wound tress to give a smooth and continuous wrap thereto, while the central fingers are performing the major work of wrapping the tress about the curler as it feeds in from the comb, while the upper or right hand finger tends to keep the tress from creeping up along the curler and to thereby prevent stray hairs from escaping or being unevenly wound. Thus the independent spring action of each of the winding fingers enables the device to give a smooth, continuous and effective winding action to an even greater extent than the thumb and fingers of a skilled hairdresser, as the spread and "follow-through" of the relatively flexible metal fingers permits them to perform the successive operations on the different parts of the curl. The winder is thus adapted to a great variety of shapes and sizes of tresses, handling long delicate hair or short, stiff clubby locks with equal facility.

After the tress has been substantially completely wound the winder is adapted to complete the rolling up and fastening in of the ends and stray pieces of hair by intertwining with the hair a piece of gauze, tape, crepe wool or the like. As indicated in Fig. 5, a piece of gauze G is laid between the jaws of the winder overlying the comb and extending along the curler at either side of the winder. The operator firmly grips the outer end of the tape against the curler with the thumb of the right hand, while the other end is held against the curl by the fingers of the left hand. Upon rotating the winder the gauze is wrapped in and around the curl and thus firmly binds the upper part of the hair and completes the wiping and wrapping action of the device so that the terminal portions of the hair are given a final wrap which prevents their escape or straightening out.

As the final step in fixing the wound and wrapped curl to the curler so as to retain the stretch and conformation imparted to it by the winding operation, the invention embodies a novel method of so fixing the curl. As shown in Fig. 6 an endless band, preferably a rubber band, is looped or caught at the scalp end of the curler. The band is then stretched the length of the curl between the open jaws of the winder and wrapped tightly several times around the curler just above the upper edge of the winder. The free end of the band is then drawn down along the curl again, between the jaws of the winder, and looped about the scalp end of the curler. Thus both ends of the curl and the entire length thereof are firmly and resiliently bound by a single con-

tinuous binding member. The winder may then be slipped off the curl by forcing apart the jaws and used to wind succeeding tresses. The completely wrapped and bound curl is shown in Fig. 7 ready for the application of the sachet and heater and/or other usual steps in the permanent waving process.

The invention in its broader aspects is not limited to the specific mechanisms shown and described but departures may be made therefrom within the scope of the accompanying claims without departing from the principles of the invention and without sacrificing its chief advantages.

What I claim is:

1. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising an integral bifurcated member of resilient material, the branches thereof being separable to receive and grip the curler while extending transversely thereof.

2. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising an integral bifurcated member of resilient material, the branches thereof being separable to receive and grip the curler while extending transversely thereof and a tubular recess formed between said branches and extending along the curler whereby the curler is substantially enclosed between said branches.

3. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising an integral bifurcated member of resilient material, the branches thereof being separable to receive and grip the curler while extending transversely thereof, at least one of said branches being recessed beyond its free end to form a substantially tubular seat for the curler between the branches.

4. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising an integral bifurcated member of resilient material, the branches thereof being separable to receive and grip the curler while extending transversely thereof, at least one of said branches being recessed beyond its free end to form a substantially tubular seat for the curler between the branches and extending axially of the curler.

5. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising an integral bifurcated member of resilient material, the branches thereof being separable to receive and grip the curler while extending transversely thereof, one of said branches being divided to form a plurality of resilient fingers lying side-by-side along the curler.

6. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising an integral bifurcated member of resilient material, the branches thereof being separable to receive and grip the curler while extending transversely thereof, one of said branches being divided to form a plurality of resilient fingers extending transversely to the curler and lying side-by-side along the curler.

7. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising an integral bifurcated member of resilient material, the branches thereof being separable to receive and grip the curler while extending transversely thereof, at least one of said branches being recessed beyond its free end to form a substantially tubular seat for the curler between the branches, one of said branches being

divided to form a plurality of resilient fingers lying side-by-side along the curler.

8. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising an integral bifurcated member of resilient material, the branches thereof being separable to receive and grip the curler while extending transversely thereof, at least one of said branches being recessed beyond its free end to form a substantially tubular seat for the curler between the branches, one of said branches being divided to form a plurality of resilient fingers extending transversely to the curler and lying side-by-side along the curler.

9. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising an integral bifurcated member of resilient material, the branches thereof being separable to receive and grip the curler while extending transversely thereof and a comb for the hair extending from one of said branches.

10. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising an integral bifurcated member of resilient material, the branches thereof being separable to receive and grip the curler while extending transversely thereof, one of said branches being divided to form a plurality of resilient fingers lying side-by-side along the curler and a comb extending from the other of said branches.

11. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising a sleeve for embracing the curler and movable around and axially of the curler to wrap and compress a strand of hair in a helical curl thereupon, said sleeve comprising a plurality of gripping fingers disposed side-by-side and extending transversely to the curler.

12. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising a sleeve for embracing the curler and movable around and axially of the curler to wrap and compress a strand of hair in a helical curl thereupon, said sleeve comprising a plurality of resilient gripping fingers disposed side-by-side and extending transversely to the curler.

13. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising a resilient, U-shaped sleeve for embracing the curler and movable around and axially of the curler to wrap and compress a strand of hair in a helical curl thereupon, said sleeve comprising a plurality of resilient gripping fingers disposed side-by-side and extending transversely to the curler.

14. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising a sleeve for embracing the curler and movable around and axially of the curler to wrap and compress a strand of hair in a helical curl thereupon, said sleeve comprising a plurality of gripping fingers disposed side-by-side and extending transversely to the curler and a comb connected to the side of the sleeve opposite said fingers.

15. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising a plurality of resilient fingers adapted

to lie side-by-side against the curler to press the hair thereagainst and a comb attached to the device for engaging the hair before it passes beneath said fingers.

16. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising a plurality of resilient fingers adapted to lie side-by-side against the curler to press the hair thereagainst and a comb attached to the device for engaging the hair before it passes beneath said fingers, said comb having a releasable guard for holding the hair between the teeth of the comb.

17. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising a U-shaped, integral clamp of resilient metal having jaws normally urged together and forceable apart to receive and grip the curler to press and wind a strand of hair thereupon, one jaw of the clamp being divided to form a plurality of side-by-side tongues having limited independent resilient movement toward and away from the opposite jaw.

18. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising a U-shaped, integral clamp of resilient metal having jaws normally urged together and forceable apart to receive and grip a curler to press and wind a strand of hair thereupon, the axis of said jaws extending in the same direction as the curler, one jaw of the clamp being divided to form a plurality of side-by-side tongues having limited independent resilient movement toward and away from the opposite jaw.

19. As an article of manufacture, a device for winding growing hair about a cylindrical curler comprising a U-shaped, integral clamp of resilient metal having jaws normally urged together and forceable apart to receive and grip a curler to press and wind a strand of hair thereupon, one jaw of the clamp being divided to form a plurality of side-by-side tongues having limited independent resilient movement toward and away from the opposite jaw, and a comb projecting from said opposite jaw.

20. In the method of winding a tress on a curler for permanent waving the steps of binding the tress to the base of the curler adjacent the scalp, winding the free portion of the tress helically from the scalp, holding the wound tress temporarily from unwinding, fixing a binding member at the base of the curler, extending said member the length of the curl, fixing it at the top of the curl and reversing it to pass the length of the curl and fixing its free end at the base.

21. In a device for winding growing hair about a curler in combination means rotatively gripping the curler and movable axially therealong to wrap and compress a strand of hair in a helical curl thereupon and a plurality of separately acting members disposed axially along the curler to independently resiliently press different parts of the wound strand thereagainst whereby the device is enabled simultaneously to compress different thicknesses of the strand with substantially equal force.

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