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2,624,349

PERMANENT WAVING ROD

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FIG.1

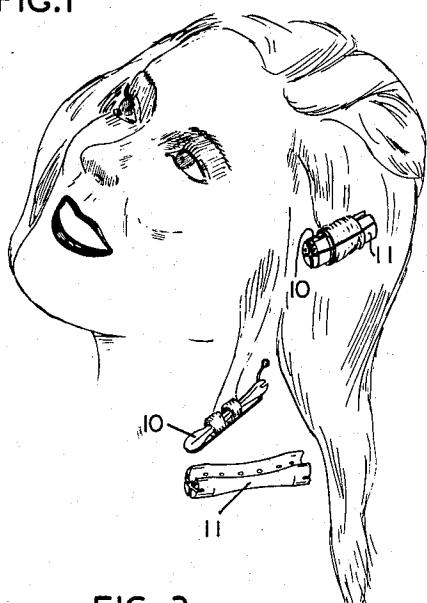


FIG. 2

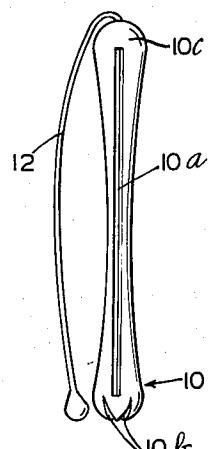


FIG. 3

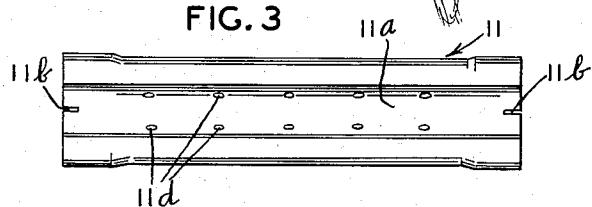


FIG. 4

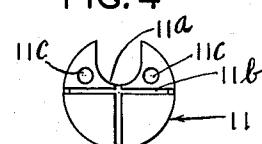


FIG. 7

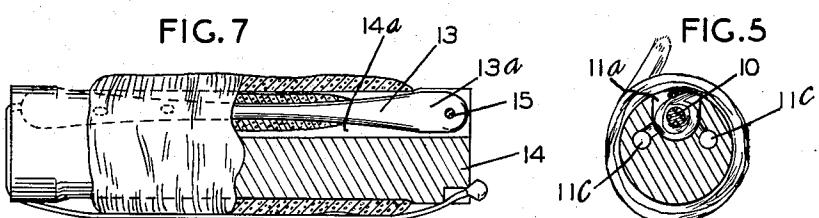


FIG. 5

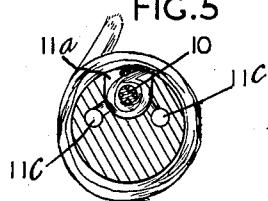
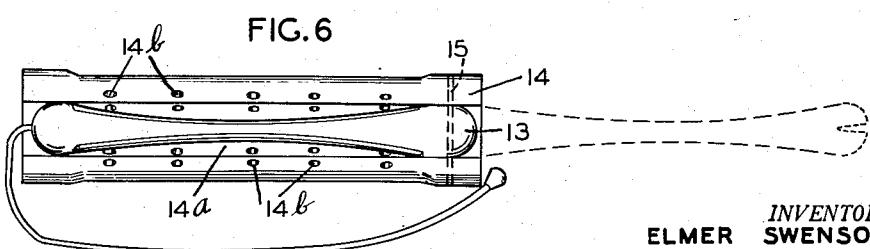


FIG. 6



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UNITED STATES PATENT OFFICE

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PERMANENT WAVING ROD

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5 Claims. (Cl. 132—42)

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This invention relates to curling devices or rods for beauty parlors and home use in giving permanent waves and in forming curls in human hair.

My improved curler is particularly adapted for use in the Croquignole method of curling or permanently waving human hair. In this method, the hair on a human head is divided into locks and the locks are separately wound upon a curling device by securing the strands at the end of the lock to the curling elements and progressively winding the lock from the ends towards the scalp. In permanent waving, a hair softening solution or lotion is applied to the locks of hair before winding on the curler. After the hair is properly wound upon the curler, a fastening device such as an elastic element or clamp, is used to retain the curled lock in place against the scalp and to prevent unwinding.

In permanent waving, the actual composition or bony hair structure is softened and the maintenance of the individual strands in a rather tightly wound position upon the curler rods over a period of time, produces a flattening of the individual hair structure which remains in the hair treated and produces a permanent curl or wave. Hair which is flattened assumes a curl in the inherent manner of a shaving which has an oblong, cross sectional shape.

In rods and curler devices heretofore employed, no provision has been made for producing a greater curling effect upon the ends of the hair or tips of the locks and consequently, in most coiffures after a permanent wave has been given, the hair tips or ends do not conform nicely and harmoniously with the intermediate portions of the locks and project outwardly or depend sometimes, in an unsightly manner.

It is an object of my invention to provide a simple and comparatively inexpensive curler structure wherein the extremities or ends of the individual strands and locks are more closely curled than the other portions of the hair and locks, to eliminate the objections previously recited which are common in most hair waving and curling processes.

More specifically, it is an object of my invention to provide a multielement curling device wherein a curling rod of relatively small diameter is employed for receiving and winding the extremities or end portions of a lock of human hair and wherein a second or additional rods of larger diameter are employed to receive and retain the first smaller rod with convolutions of the hair wound thereon and thereafter, are employed for

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winding on a larger periphery, the remaining portions of the lock of hair.

A further object is the provision of practical curling devices of the class described which are particularly adaptable for commercial manufacture; which may be readily and easily applied in home use as well as beauty parlors and which provide for distribution of vapors and fluid from the external portion of the outer or larger curling rod to the portions of the hair wound upon the inner or smaller rod.

These and other objects and advantages of my invention will more fully appear from the following description made in connection with the accompanying drawings wherein like reference characters refer to similar parts throughout the several views and in which:

Fig. 1 is a perspective view showing one of my devices applied and retained upon a lock of human hair and showing a second of my curler devices in the process of application;

Fig. 2 is a side elevation of the smaller or inner curler rod detached;

Fig. 3 is a side elevation of the outer or larger curler rod;

Fig. 4 is an end elevation of the same;

Fig. 5 is a cross section taken centrally of the assembled device with the lock of hair wound thereby;

Fig. 6 is a side elevation of a somewhat different form of the invention, the dotted lines indicating the winding position of the inner or smaller curler; and

Fig. 7 is a view mostly in side elevation with portions broken away and others shown in section, illustrating the second form of my invention operatively applied to a lock of human hair.

In the form of the invention illustrated in Figs. 1 to 5 inclusive, I provide a pair of closely cooperating, disconnected curler rods indicated as entireties by the numerals 10 and 11, so constructed as to closely interfit with convolutions of hair wound upon the inner or smaller rod 10. The smaller rod 10 may be of more or less conventional construction, provided however, that the mean diameter thereof is less than that of the ordinary curler rod, the periphery of rod 10 preferably tapering from its ends towards the center and being fluted or longitudinally roughened at 10a to provide a surface to facilitate winding of the tips or end portions of a lock of hair. Curler rod 10 as shown, is provided at one end with intersecting, rather deep retaining grooves 10b which are adapted to grip and retain a stretchable elastic element 12 such as a rubber cord

secured to the opposite end 10c of the curler.

Curler rod 11 is of materially greater diameter than rod 10, ranging from nine-sixteenths of an inch to an inch in diameter and is provided, as shown, with a rather deep longitudinal channel 11a formed therein, from end to end, of a width and contour to nicely accommodate and house the smaller curler 10, with several convolutions of the end portion of a flat lock of hair wound thereon. The outer curler rod 11 is provided at its ends, as shown, with intersecting retaining grooves 11b which are adapted to retain a flexible elastic cord or an ordinary rubber band applied after the full lock has been wound upon the rod 11 for the purpose of clamping the lock to the rod and retaining the rod and curl in proper place, closely against the scalp during the period of time for functioning of the permanent waving solution.

Rod 11 is preferably provided with passages to permit distribution and permeation of vapors and fluid from outside of rod 11 to the convolutions of hair wound upon the rod. As shown in Figs. 3 and 4, these apertures comprise longitudinal passages 11c extending from end to end through the rod and disposed at the respective sides of the large rod-receiving channel 11a. A multiplicity of transverse communication ports 11d extend from the interior of channel 11a into communication with the respective longitudinal passages 11c.

In the use of my curling device for permanent waves, a flat lock of hair is divided from the other hair and first smoothly combed and the permanent wave solution or lotion applied in the usual manner, to the separated lock. The tips or end portions of the lock are then engaged upon the smaller curler rod 10 in conventional manner, usually with the use of a curling paper to assure the proper initial engagement and curling of the extremities of the strands and the flat lock is then wound for a few inches (depending of course, upon the length of the hair) upon the central portion of curler 10. The several convolutions of the end of the lock are then secured to the inner rod 10 by tensioning the flexible elastic element 12 and retaining the free end thereof in one of the grooves 10b. The smaller rod 10 is then compactly disposed within the channel 11a of the larger curler rod and the winding of the lock is continued upon the enlarged periphery of rod 11. Ordinarily the winding is continued throughout substantially the full length of the lock as close to the scalp as is possible and thereafter, with the lock quite tightly wound upon the closely cooperating rods 10 and 11, an elastic member is tensioned and applied longitudinally to the larger rod 11, clamping the wound lock thereon and retaining the curler device in proper position against the scalp.

In this operation, it sometimes may be desirable for certain coiffures, to reverse the winding of the hair or lock after the smaller rod is wound and applied in the larger rod. This of course, may be readily accomplished with my improved structure.

Permanent waves or temporary curls effected by my apparatus are more natural and beautiful than those obtained through use of conventional curler apparatus now in use. The ends of the locks and hair are curled more closely than the other portion of the locks with the result that no unsightly tips or ends fall down or project in the finished coiffure. The mean diameter of the

smaller inner rod preferably ranges from an eighth to a quarter of an inch.

In the form of the invention shown in Figs. 6 and 7, the inner curler rod 13 is hingedly connected at one of its ends 13a with one end of the outer or larger curler rod 14. As shown, rod 13 is substantially identical in shape and size to the rod 10 previously described, being accommodated in the longitudinal channel 14a provided by the outer rod and being pivotally connected to said outer rod by a transverse pin 15 which extends diametrically through the end 13a of the inner rod and through the portions of one end of rod 14 defining the channel 14a. With this connection, the inner rod 13 may be swung to the dotted line position shown in Fig. 6 for receiving and winding several convolutions of the tips or outer end of a flat strand of hair. Thereafter, the larger rod 14 may be swung inwardly upon rod 13, receiving the same, as shown in Fig. 7 and the winding of the intermediate and major portion of the lock continued upon the periphery of the larger rod. Fig. 7 illustrates a full lock of hair wound cooperatively upon the two rods 13 and 14 with some portions of the hair and curl broken away to show the internal construction.

In this form of the invention, vapor passages from the periphery of the larger rod 14 to the interior of channel 14a are formed by a multiplicity of lateral ports 14b communicating from the exterior of rod 14 with the respective sides of channel 14a.

From the foregoing description, it will be seen that I have provided a simple but highly efficient multi-element curling device adapted to produce temporary curls as well as beautiful permanent waves without requiring highly skilled teaching or substantial departure from the general methods utilized.

It will of course, be understood that various changes may be made in the form, details, arrangement and proportions of the parts without departing from the scope of my invention.

What I claim is:

1. A curling device for human hair comprising a thin rod circular in cross section and straight throughout its length and about which the outer end portion of a lock of hair is adapted to be coiled and form a tight curl, and a second rod circular in cross section and of a great deal greater diameter than the first rod, the second rod being also straight throughout its length and formed with a recess in one side portion extending longitudinally thereof and open along its outer side, the said recess being of a depth less than a radius of the large rod and of a width adapting the first rod and hair wound thereabout to be fitted into the recess and the remainder of the said lock of hair wrapped about the second rod and the enclosed first rod and form a large curl, and an elastic binder strand fixed to one end of one rod and constituting means for securing hair curled about the said rods.

2. The structure of claim 1 wherein the first rod has end portions of a thickness adapting them to fit snugly in end portions of the recess in the second rod, the said first rod being gradually reduced in thickness from its said end portions toward its central portion.

3. The structure of claim 1 wherein an elastic binding strand is connected to one end of the first rod, the second rod being formed at an end with a slit to releasably secure the free end portion of the second rod.

4. The structure of claim 1 wherein the first rod is pivoted at one end within the recess of the second rod.

5. A hair curler for permanent waving, comprising an elongated core having a central section of tapering thickness about which the end portion of a strand of hair is adapted to be wound to impart thereto a curl of relatively small radius, a single, unitary, one-piece rod having an elongated interior of constant cross-sectional area from end to end and of greater cross-sectional area than the maximum cross-sectional area of said core and of a width and depth receiving and substantially completely enclosing the core with the hair wound thereon, 15 said rod having a side opening through which the strand may extend to wind the strand about the rod and an exterior surface curved on a radius larger than the maximum radius of said core, the ends of the rod being provided with 20 enlarged portions to retain the wound tress and

means attached to one end of the device for securing the wound tress.

ELMER SWENSON.

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