May 1, 1934. D. LAKENBACH 1,957,046

APPARATUS FOR WAVING HAIR

Filed Dec. 14, 1932 2 Sheets-Sheet 1

Fig. 1.

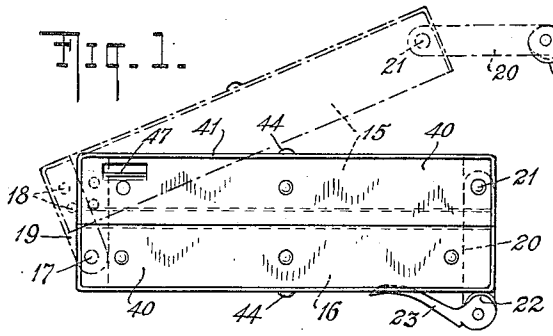


Fig. 2.

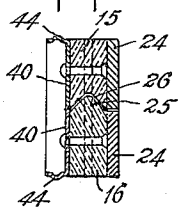


Fig. 3.

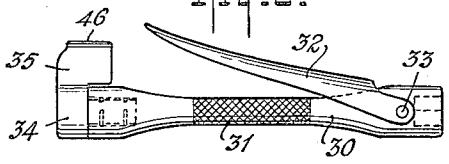


Fig. 4.

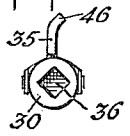


Fig. 5.

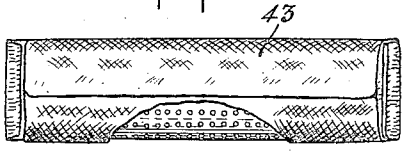


Fig. 6.

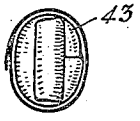


Fig. 7.

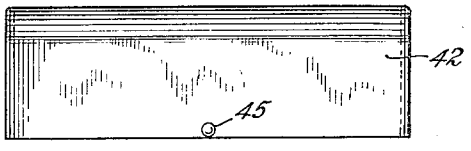


Fig. 8.

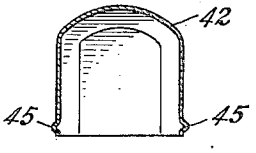
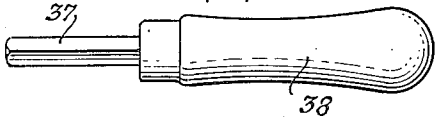


Fig. 9.



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May 1, 1934. D. LAKENBACH 1,957,046

APPARATUS FOR WAVING HAIR

Filed Dec. 14, 1932 2 Sheets-Sheet 2

Fig. 10.

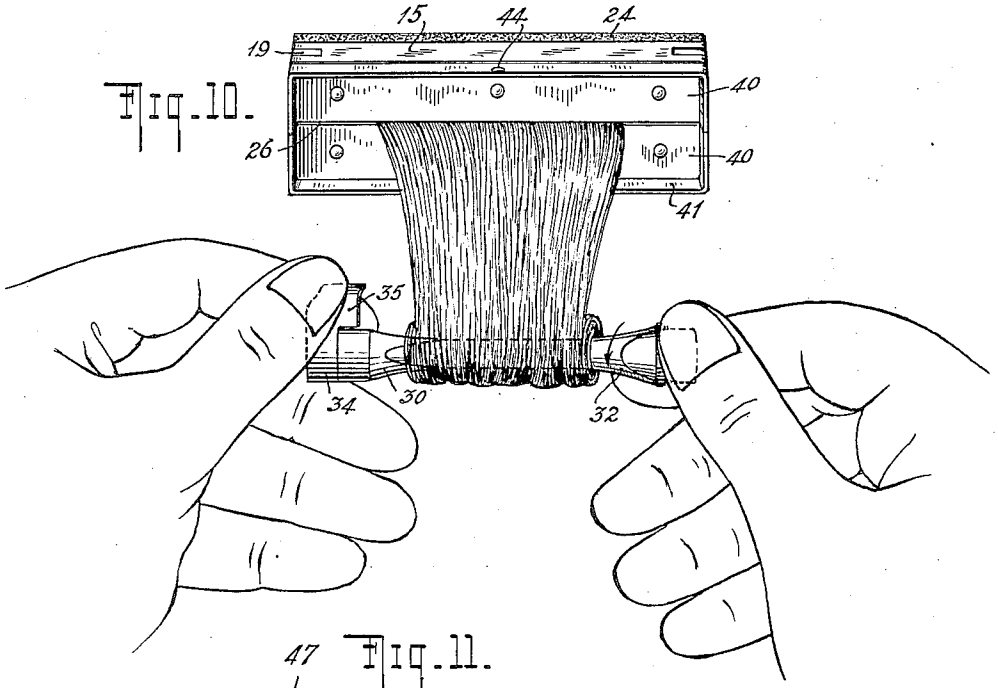


Fig. 11.

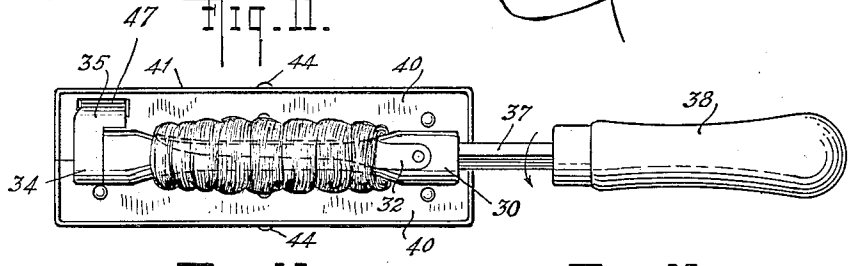


Fig. 12.

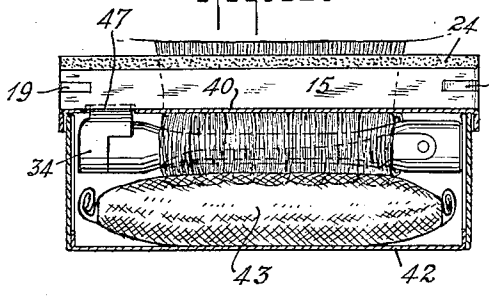
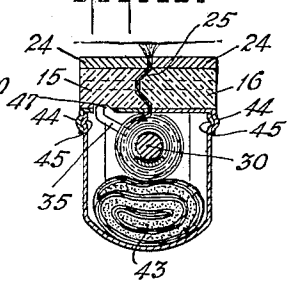


Fig. 13.



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UNITED STATES PATENT OFFICE

1,957,046

APPARATUS FOR WAVING HAIR

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Application December 14, 1932, Serial No. 647,128

5 Claims. (Cl. 132—33)

The invention relates to apparatus used in the art of imparting a so-called "permanent wave" to human hair, and more particularly to mechanism designed to facilitate the winding of strands of hair to be waved upon a spindle or curling rod preparatory to the treatment of the hair by exposing it to the action of steam produced by an exothermic composition, for instance, a mixture of certain chemicals. The invention also contemplates the provision of apparatus whereby the heat treatment of the hair is accomplished more effectively than has been possible with devices of the prior art.

Among the objects of the invention is the simplification and greater effectiveness of the methods used in permanent waving of hair by means of the improved apparatus and devices forming the subject-matter of this specification. The method of imparting permanent waves to the hair to which the present invention relates and which results in a more effective and positive action in the heating treatment of the hair by means of my novel apparatus is particularly designated in the art as the Croquignole method of permanent waving. Particular objects of the present invention are the following:

To facilitate the winding of the hair on the spindle or curling rod; to obtain a more even distribution and proper and even stretching of the hair in the course of its winding on the curling rod; to reduce the time required for the operator to prepare the hair for heat treatment; to reduce the necessity of care and expertness required in effecting the winding of the hair on the curling rod; to make more certain the proper winding of the hair on the curling rod for obtaining the best possible wave as a result of the heat treatment; to make possible the waving of hair practically throughout the length of the tress, including the portion thereof nearest the scalp; and to effect a tightening of the hair wound on the curling rod by a single operation while holding the curling rod in position.

In prior art devices employed in the Croquignole method of waving hair, the strands of hair are clamped at the end of the tress comprising the strands, such clamping being effective to secure the end of the tress firmly upon the curling rod, the curling rod being then held at the two ends thereof by the fingers of the operator and the hair wound on the curling rod by moving the curling rod, at the same time that it is rotated, towards the scalp. I have found that in performing this operation, unless the operator is an expert and well skilled in performing the operation, the hair that is being wound on the curling rod will not be evenly distributed thereon and the stretching of the hair on the curling rod, an important condition in the determination of the final results, will not be so even as to yield a proper wave after heat treatment. This disadvantage of the devices of the prior art may be attributed to the fact that as the operator is required to manipulate the curling rod while revolving the same, and at the same time move it towards the scalp, by the use of both hands without the ability to hold at least one hand steady so as to guide the curling of the hair on the rod and simultaneously tighten the same on such rod, the hair will become loose along some portion of the rod.

A further disadvantage of the devices of the prior art is that as the curling rod, after the hair has been wound thereon, is supported upon the clamping bracket positioned adjacent to the scalp by means of supporting slides on either side of the clamping structure, the curling rod, when secured on the clamping bracket, is separated from the surface of such clamping bracket, and therefore, from the scalp, by a distance of anywhere from an eighth to a quarter of an inch. Thus, the very portion of the hair tress, i. e., that nearest the scalp, which requires the greatest amount of heat treatment in order to impart thereto a proper wave, is outside the ambit of the heat treating medium. By means of my novel device I am enabled to bring the curling rod in practically contactual contiguity with the surface of the clamping bracket so that a wave by means of my device can be imparted to the hair to a point practically adjacent to the scalp.

The devices of the prior art are further characterized by the absence of any means capable of retaining the steam or other heat treating medium within a confined space, so that all of the heat value of such medium can be utilized in the permanent waving process. Furthermore, it is a distinct disadvantage of the devices of the prior art that steam from the devices is enabled to reach the scalp of the person to whose hair the permanent wave is being imparted, so that it has been necessary with prior art devices to provide some means to prevent the escaping steam from coming into contact with the scalp. By means of my novel device I am enabled to dispense with the use of such protective devices which are necessary, particularly with prior art devices which have, through continued use, become deteriorated by reason of the fact that the

clamping bracket of such prior art devices utilized such material as rubber and wood without compensating for the deterioration of such materials in the course of use, which deterioration destroys the insulating character thereof. The apparatus of the present invention is so designed that the cooperating units of the clamping bracket will retain their insulating property and function even after prolonged use thereof.

My new and novel device is further characterized by the provision of a complete closure for retaining the curling rod and the hair wound thereon while the heat treatment is being given, so that the steam which is formed as a result of such heat treatment is retained entirely within such closure and is prevented from escaping therefrom and coming into contact with the scalp.

The combined effect of my novel clamping device and my novel curling rod when the latter is secured and placed upon the former is that with a single manipulating operation the curling rod may be held in position at the same time that it is capable of an additional rotation, so as to tighten the hair wound thereon.

A particular embodiment of my invention is illustrated in the accompanying drawings forming part of this specification in which Fig. 1 is a plan view of my novel clamping device showing the same in the closed position of its parts and showing in dotted lines the manner of the separation of the component parts thereof; Fig. 2 is a side elevation, partly in section, of the clamping device; Fig. 3 is a plan view of the curling rod; Fig. 4 shows the end of the curling rod into which the handle for tightening the curling rod may be inserted; Fig. 5 is a plan view of a roll containing the exothermic chemical mixture used in the "machineless" method of permanent waving; Fig. 6 is a side view of the roll shown in Fig. 5; Fig. 7 is a front view of the casing to be applied to the clamping device to confine the roll or envelope of exothermic heating medium illustrated in Figs. 5 and 6; Fig. 8 is a side elevation of the casing; Fig. 9 shows the tightening handle suitable for insertion into the end of the curling rod to effect rotation thereof to tighten the hair wound thereon; Fig. 10 illustrates the manner of winding the hair to be waved upon the curling rod with the hair clamped within the clamping device; Fig. 11 shows the curling rod with the hair wound thereon in position upon the surface of the clamping device and the tightening handle inserted into the end of the curling rod to effect a tightening of the hair wound thereon; Fig. 12 shows, in longitudinal section, the assembled device as the heat treatment of the hair is being effected; and Fig. 13 shows the assembled device in lateral section.

Referring now more particularly to the drawings, in which similar reference characters identify similar parts in the several views, 15 designates one of the clamping elements of the clamping device embodying certain features of my invention, the other of said clamping portions, 16, being pivotally connected to the member 15 at 17 through pivots 18 by the link 19. A link 20 is pivotally connected at 21 to the member 15, said link being of a length sufficient to straddle the end of the member 16 when the clamping device is closed. An eccentrically mounted cam 22 is pivotally connected to link 20, said cam having a handle 23 whereby after the members 15 and 16 have been brought together, the handle 23 may be swung around to substantially the position shown in Fig. 1 so as to cause the clamping device to firmly grip the strands of hair making up the tress which is secured between such clamping members.

Each of the clamping members 15 and 16 is preferably provided with a pad of felt 24 on the surfaces thereof facing the scalp. One of the clamping members (16 in the particular embodiment illustrated) is provided with a wedged clamping surface 25 adapted to cooperate, when the clamping members are brought together, with the grooved surface 26 of the other clamping member (15 in the embodiment illustrated). The body of the clamping device is made of a material which is highly heat resistant, for instance, hard rubber or a condensation product, such as a phenolic resin. In applying the portion of the tress of hair to be waved to the clamping device, the portion thereof immediately adjacent the scalp is placed over the side of one of the clamping members and the other clamping member is then brought into position. When the link 20 has been brought to the position where it straddles the end of the clamping member 16 and the handle 23 swung to the position where it effects a tight closure of the two members of the clamping device, the clamping device will firmly grip the strands of hair by means of the wedge surface of one of the members engaging the cooperating groove in the other clamping member.

The curling rod of my apparatus comprises a rod 30 of a configuration illustrated in Fig. 3, the central portion of which is of reduced diameter and is provided with knurled surface 31. A tongue or gripping strip 32 is pivotally mounted at 33 on the rod 30, the other end of such rod being provided with a head 34 rotatable in only one direction and having a holding member 35. The head 34 is attached to the rod 30 in such a manner that by gripping the member 35 and the end of the rod opposite that at which the head 34 is attached thereto, the curling rod 30 may be rotated in one direction without rotating the head 34 or the member 35. The end of the curling rod 30 opposite from that at which the head 34 is attached is provided with a preferably square aperture 36 into which may be inserted the operative portion 37 of a tightening handle 38 shown in Fig. 9.

The clamping members 15 and 16 are provided with surface lining 40 preferably of metal and having walls extending outwardly from said members throughout their peripheral edges with the exception of their meeting edges, so as to form a tray 41 completely bounding the clamping members when they are in their closed position. Within the confines of this tray is adapted to be positioned a cover member 42 shown in Figs. 7 and 8 which may have any desired configuration having sufficient height to accommodate a roll of a heating unit 43 or an electrical heating element (not shown). The cover 42 is provided on its two longitudinal edges with indentations 45 cooperating with correspondingly positioned projections 44 in the sides of the tray 41 to secure the cover in place within such tray by the snapping cooperation of such projections with said indentations.

While it will be understood that any type of heating unit may be used with my apparatus, I have illustrated a type of heating unit known as the "machineless type" as it requires no cumbersome electrical heating elements. The unit comprises an envelope containing a mixture of chem-

icals which, when moisture is brought into contact therewith, will produce heat of sufficient temperature and amount to effect the necessary heat treatment of the hair to be waved. The necessary moisture for contact with the chemicals is supplied by means of a strip of flannel or felt saturated with permanent waving solution. Such "machineless' permanent waving pads are now well known in the art and they will therefore not be described herein in greater detail, except that for utilization thereof in my novel apparatus, they should be formed in the shape of a roll, as shown, instead of in the conventional flat pad form.

As will be noted from Figs. 3, 4, 10 and 13, the gripping plate 35 of the curling rod has its free end bent slightly at 46 which bent end is adapted to be inserted into the slot 47 in the clamping member 15, when the curling rod has been brought to its position on the surface of such member. The anchoring of the plate 35 within the slot 47 permits the tightening of the hair wound upon the curling rod by giving an additional rotational movement to the rod.

The manner of using my novel hair waving apparatus is as follows:

A tress of hair to be waved is prepared in the usual manner by combing and the tress is clamped between the members 15 and 16 of the clamping device as clearly shown in Fig. 10. The end of the tress is then wound upon the reduced body portion of the curling rod and secured thereon by means of the tongue 32. The operator then grips the clamping rod with two fingers of one hand by means of the gripping plate 35 and imparts a rotation to the rod in the direction of the arrow shown in Fig. 10 with two fingers of the other hand in a manner clearly illustrated in such Fig. 10. The winding of the entire tress of hair upon the curling rod is thus accomplished while the rod is held steadily by means of the gripping plate 35 of the head 34.

When substantially the entire tress has been wound upon the curling rod, the latter will be in close proximity to the surface of the clamping device, the end of the gripping plate 35 being inserted into the slot 47 provided in the surface of the clamping member 15, whereby one end of the curling rod is securely anchored upon such clamping member, as will be obvious from the showing in Fig. 11. When the curling rod and the hair wound thereon has thus been firmly secured in position, the operative end 37 of the tool 38 may be inserted into the square aperture 36 in the free end of the curling rod, the latter having imparted thereto an additional movement in order to tighten the winding of the hair thereon.

It will be noted that the clamping member 15 is of slightly greater width than the clamping member 16 in order that the curling rod be centrally located upon the clamping device when it has been anchored thereon in the manner indicated.

When the tress of hair has been thus positioned, the heating unit 43 is placed over the hair and the cover 42 put in position within the tray 41. The heating unit 43 will then commence its action of producing heat by the exothermic effect of the chemical mixture therein. As pointed out hereinabove, the steam produced by the heating unit, which is effective to impart the waves to the hair, is prevented from escaping from the confined space formed by the clamping device and associated cover so that no effective heat value is dissipated and no steam can possibly come into contact with the scalp.

While I have described a specific embodiment of my invention, it is to be understood that various modifications therein, particularly in the arrangement and configuration of the several parts thereof, may be made without departing from my invention.

I claim:

1. In a hair waving appliance, the combination of a clamping device comprising a pair of clamping members hingedly connected at one end, which clamping members, when brought together, clamp between them the tress of hair to be waved, said clamping members being provided with a surface lining having walls extending outwardly from said members throughout their peripheral edges with the exception of their meeting edges, so as to form a tray completely bounding the closed clamping device, and a cover having walls of a resilient material positioned upon said tray for effecting a closure of the hair to be waved, clamped within and upon said clamping device by yielding engagement between the walls of said cover and tray.

2. In a hair waving device, the combination of a clamping device comprising a pair of clamping members hingedly connected at one end, one of said members being provided on one of its sides with a wedged clamping surface and the other of said members being provided on its side adapted to cooperate with the side of said first clamping member, with a grooved surface, whereby said clamping members, when brought together, clamp between them the tress of hair to be waved, and in which the clamping members are provided with a surface lining having walls extending outwardly from said members throughout their peripheral edges with the exception of their meeting edges, so as to form a tray completely bounding the clamping members when they are in their closed position, and a cover having walls of a resilient material adapted to be positioned upon said tray for effecting a closure of the hair to be waved, clamped within and upon said clamping device by yielding engagement between the walls of said cover and tray.

3. In the combination claimed in claim 1, a cover member having sufficient height to accommodate therein a heating unit, said cover being provided on its two longitudinal edges with indentations cooperting with correspondingly positioned projections in the sides of the tray to secure the cover in place within such tray by the snapping cooperation of such projections with said indentations.

4. In a hair waving appliance, the combination of a clamping device comprising a pair of clamping members hingedly connected at one end, which clamping members, when brought together, clamp between them the tress of hair to be waved, said clamping members being provided with walls extending outwardly from said members throughout their peripheral edges with the exception of their meeting edges, so as to form a tray completely bounding the closed clamping device, and a cover having walls of resilient material positioned upon said tray for effecting a closure of the hair to be waved, clamped within and upon said clamping device by yielding engagement between the walls of said cover and tray.

5. In a hair waving device, the combination of a clamping device comprising a pair of clamping members hingedly connected at one end, one of said members being provided on one of its sides

with a wedged clamping surface and the other of said members being provided on its side adapted to cooperate with the side of said first clamping member, with a grooved surface, whereby said clamping members, when brought together, clamp between them the tress of hair to be waved, and in which the clamping members are provided with walls extending outwardly from said members throughout their peripheral edges with the exception of their meeting edges, so as to form a tray completely bounding the clamping members when they are in their closed position, and a cover having walls of resilient material adapted to be positioned upon said tray for effecting a closure of the hair to be waved, clamped within and upon said clamping device by yielding engagement between the walls of said cover and tray.

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