Feb. 28, 1939.

M. DENIS

2,149,134

PERMANENT WAVING

Filed July 28, 1937

Fig. 1.

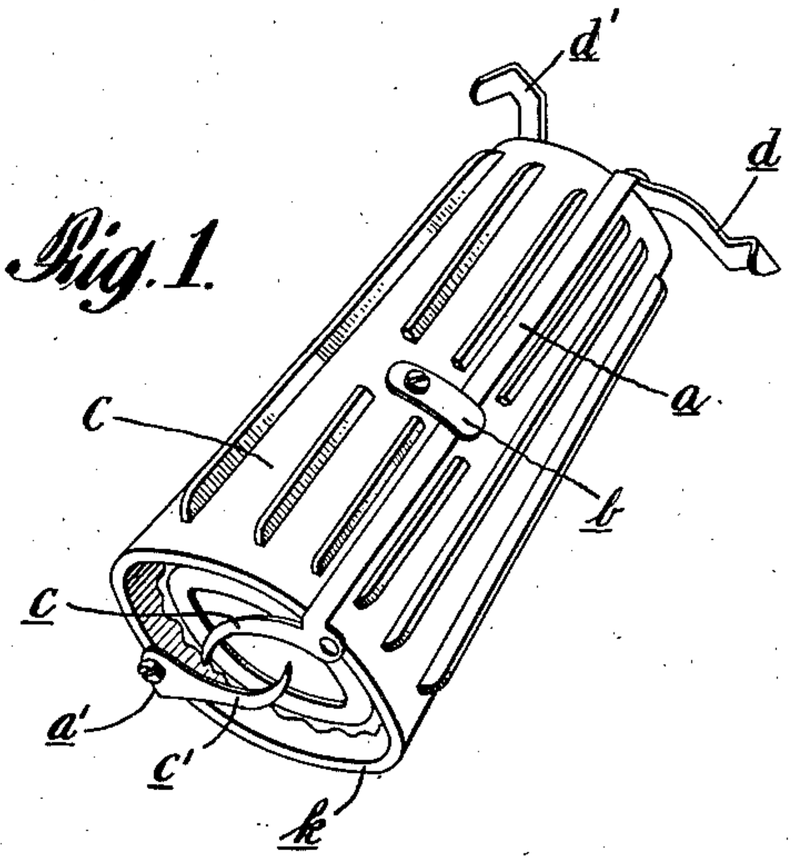


Fig. 2.

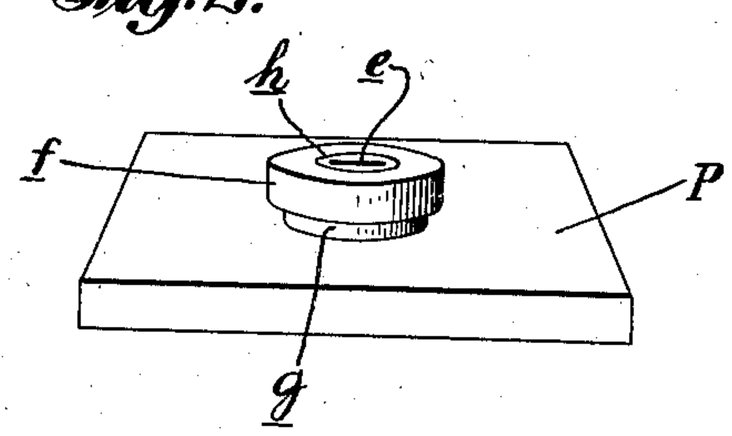
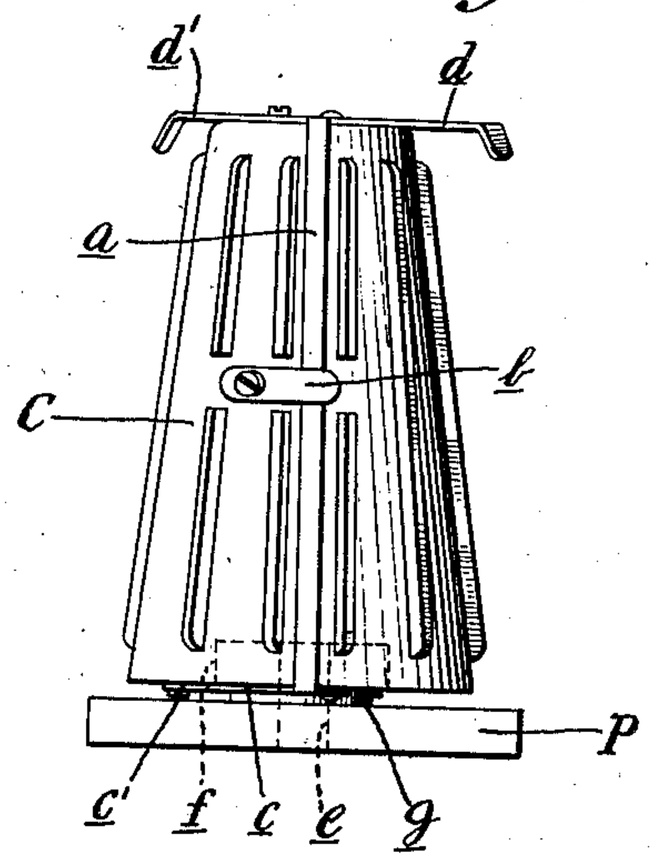


Fig. 3.



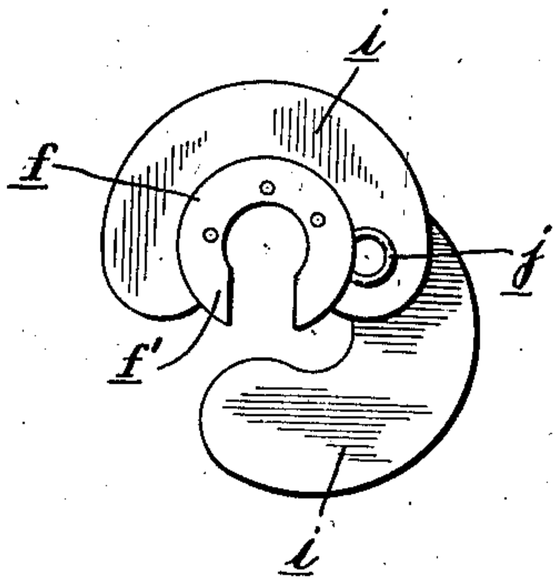


Fig. 4.

INVENTOR
MARCEL DENIS.
BY
Morgan Finnegan & Durham
ATTORNEYS

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PERMANENT WAVING

Marcel Denis, Paris, France

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2 Claims. (Cl. 132—36)

The invention relates to the permanent waving of hair and more particularly to improved means for supporting the weight of heaters and other equipment when applied to the head of the subject.

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 drawing, 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 drawing:

Fig. 1 is a perspective of a heater embodying one form of gripping means used in the invention;

Fig. 2 is a perspective of a protector designed to cooperate with the heater shown in Fig. 1;

Fig. 3 is an elevation of the heater and protector connected together in accordance with the invention; and

Fig. 4 is a top plan of a modified form of protector.

The invention is directed to providing novel and useful means for supporting permanent waving heaters on the head of the subject without the use of overhead suspension devices and while preventing the occurrence of undesirable gaps between the heater and the parts of the hair to be treated. The invention is intended to increase the comfort and safety of the subject and to improve the facility with which the hairdresser may apply and use the various devices required in giving a permanent wave. The invention also provides superior means for insuring a proper and uniform waving effect on the hair.

The invention is particularly intended for use with the so-called "spiral" waving process wherein a strand of hair is fixed to the end of a tubular curler near the hair root, the strand then being wound helically outwardly along the curler and fastened thereto at the other end. The hair is then wrapped in a suitable sachet or wrapper containing the hair waving chemical and is then subjected to a heating operation to heat and steam the hair. Ordinarily, the wound and wrapped hair about the curler rod is surrounded with a tubular heater which is commonly heated by electrical resistance wires, or in another common method the heater may be raised to the proper temperature by preheating before it is applied to the wound hair. It is usual practice to protect the scalp adjacent the curl being waved by surrounding the hair where it issues from the scalp with an insulating member, commonly called a protector, which shields the scalp from the heat and vapors issuing from the heater and curl. Such protectors are frequently formed of rubber or other resilient material which may grip the tress it embraces to form a hermetic seal thereabout.

In previous practice it has been found necessary to support the heater above the scalp of the subject by overhead suspension means, to prevent the heater from falling against the scalp or sliding off the wrapped curler. Such suspension means are particularly necessary for those curls projecting from the steep side and back surfaces of the subject's head. In the case of heaters carrying electrical wire connections, the suspension has normally been effected by adjustably connecting the electrical wires to electrical outlets formed in an overhead support or chandelier in various manners well known in the art. By suitable suspension means the outer ends of the heater are thus held up away from the scalp and thereby remain in position on the scalp and against the protector. With heaters of the preheater type, however, wires for serving as the suspension means are lacking and, consequently, the heaters tend to separate from the protectors and slide away from the scalp, thereby endangering the subject to burning and also exposing and cooling a portion of the hair near the protector. The invention, therefore, is especially directed to providing means for holding heaters of the preheated type in proper position with respect to the subject's head and the wound curl being treated, although it is useful with other types of heaters as well.

Broadly described, the invention comprises means for firmly but removably connecting the scalp end of a tubular heater directly to the protector about the base of the curl. The protector is formed with suitable means cooperatively engaging with the contiguous end of the heater so that the weight of the heater is directly transmitted to and sustained by the protector. In this manner the weight of the heater and the elements contained therein are transmitted to the protector and distributed over a relatively large area of the

scalp, instead of being applied to the very small scalp surface covered by the tress itself.

By fixing the protector and the heater solidly together even slight separation of these two parts is eliminated so that no space can form between the two even when the heater is not supported by any suspension means and may be on a steep or vertical part of the head so as to throw its entire weight on the tress.

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

Referring now in detail to the present preferred embodiment of the invention in Fig. 1 is shown a tubular heater C of generally conventional construction adapted for the waving of helically wound curls. As shown, the heater is of the preheated type, although the principles of the invention are applicable to electrically heated heaters or any other type, including those heated by exothermic chemical reactions. The heater as shown is adapted to encase a curler which has been wound with a tress of hair and wrapped with the usual sachet and other accoutrements with which a wound tress is encased before the application of the heat. The tress, curler, sachet and other parts are not shown for sake of clearness.

In Fig. 2 is shown a rectangular scalp protector P preferably formed of soft rubber or other resilient heat insulating material. A suitable opening *e* for the passage of hair through the central portion of protector P is provided, said opening being in the form of a slit, or it may be formed by crossed or star-shaped slits so that the resilient material will close about the hair and form a fairly tight hermetic seal therewith. It will be understood that the protector P is to be applied to the scalp before the tress is wound about the curler, the unwound tress being drawn through the opening *e* and then attached just above the opening to the lower end of the curler.

In accordance with the invention, means are provided for effecting a firm and removable supporting connection between the protector P and the heater C. As embodied, the upper surface of protector P is provided with an upstanding projection *f*, preferably formed as a short cylinder of the same material as that composing the protector. A suitable gripping channel or groove *g* is formed about the base of the cylinder *f* as shown. The upper end surface of the cylinder *f* may be depressed or made concave at *h* to permit easy attachment and movement of the end of the curler which lies thereagainst.

The heater C is provided with suitable means for making firm removable attachment thereof to the protector. As embodied, a manually operable gripper mechanism may be mounted on the heater for cooperation with the annular gripping groove *g*. Diametrically opposed gripping jaws *c*, *c'* are pivotally mounted at diametrically opposed points at the bottom of the peripheral casing of the heater C. Means for swinging said jaws from closed to open position and vice versa comprise upstanding arms *a*, *a'* which extend vertically along the cylindrical surface of the heater, said arms being rotatable with the jaws *c*, *c'* respectively. Suitable blade springs *b* extending along the sides of the heater are adapted to hold the arms *a'* resiliently in the closed position as shown. Handles *d*, *d'* extending from the upper ends of arms *a*, *a'*, respectively, comprise means for manipulating the gripping jaws *c*, *c'* so that they may be moved apart against the action of the springs *b*. It will be understood that the means shown for actuating the gripping jaws are merely illustrative and same may be performed in any number of suitable ways as will be obvious to those skilled in the art. In practice the arms *a*, *a'* and the springs *b* will be partially or entirely concealed within the surface of the heater for safety and appearance.

As shown in Fig. 3, the heater C may be applied to the protector and there maintained during the waving operation so that no space can form between the protector and the heater. The springs *b* hold the jaws *c*, *c'* tightly gripped in the groove *g* of the protector. The hairdresser may release the jaws at any desired time by manipulation of the handles *d*, *d'*.

In Fig. 4 a modified form of protector is shown in which the projection *f* is non-circular and is cut away at its center in the form of a broken ring *f'*, while the protector disc itself is formed in two crescent-shape pieces *i*, pivotally connected by the eyelet *j*. This construction permits the protector to be placed laterally on the head after the tress has already been wound on the curler. This protector may be made of cardboard, fiber or similar material, and the projection *f* may be either metal or any other rigid material. The construction shown in Fig. 4 may be modified by forming a screw-threading on the outer surface thereof which may be adapted to coact with a threaded member on the surface *k* at the bottom of the heater C so that the heater may be screwed onto the projection *f* of the protector P. In such case the cylindrical member *f* will have a greater diameter than that shown in Fig. 4 so as to conform to the interior diameter of the wall *k* of heater C.

A fastening of the heater C to a similar protector may also be made by a bayonet locking arrangement. In these latter modifications of the invention, the gripping means *a*, *b*, *c*, *d* described and shown in Fig. 1 will be unnecessary.

The various features of the invention described above are capable of many modifications. For example, the protector P and its projection *f* may be made in other form instead of being square and circular or oval as shown. The springs *b* may be replaced by equivalent devices such as one or more sliding rings about the heater. The handle members may be made of any convenient form and the jaws of the gripper will be designed to conform to the shape of the projection *f*. Any suitable means for tightly locking the heater to the protector, in lieu of gripping devices may be provided.

By virtue of the invention the wound and wrapped curl on a curler will no longer support along the weight of the heater when same is placed on a steep or vertical part of the head, but the entire surface of the protector will transmit and distribute the weight and pull to the scalp.

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. Permanent waving apparatus including in combination a protector for surrounding a tress of hair at the scalp, a relatively long and narrow tubular heater for surrounding said tress when

wound helically outwardly from the scalp and protector to form a long and narrow helical curl about a curler projecting longitudinally outwardly from the scalp, an upstanding projection on the upper surface of the protector for closely engaging the scalp portion of the tress by means of an opening therethrough for passage of the tress, and means formed on the heater for grippingly attaching the bottom end thereof to abut the projection on the protector to attach the protector and heater together and tightly compress the protector about the tress, the attachment of the heater and protector being such that the heater will extend outwardly from the scalp without external support.

2. Permanent waving apparatus including in combination a protector for surrounding a tress of hair at the scalp, a relatively long and narrow tubular heater for surrounding said tress when wound helically outwardly from the scalp and protector to form a long and narrow helical curl about a curler projecting longitudinally outwardly from the scalp, an upstanding projection on the upper surface of the protector for closely engaging the scalp portion of the tress by means of an opening therethrough for passage of the tress, and means formed on the heater for grippingly attaching the bottom end thereof to abut the projection on the protector to attach the protector and heater together and tightly compress the protetcor about the tress, the attachment of the heater and protector being such that the heater will extend outwardly from the scalp without external support, and means at the outer ends of the heater for controllably engaging and releasing said gripping means to and from the protector.

MARCEL DENIS.