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W. POHL ET AL
HAIR CURLING DEVICE

2,432,585

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Fig. 1.

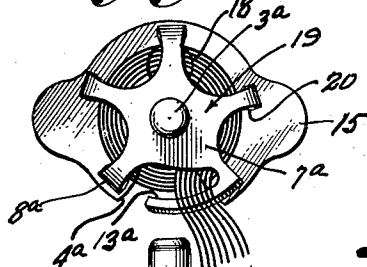


Fig. 5.

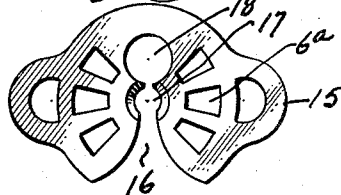


Fig. 7.

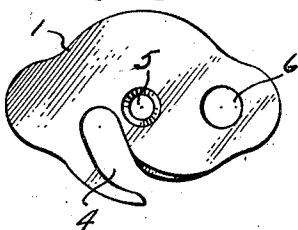


Fig. 2.

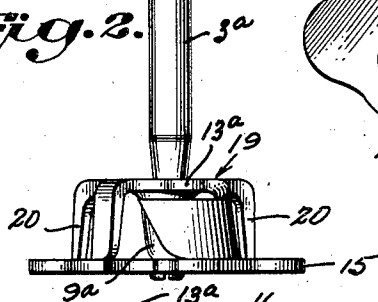


Fig. 4.

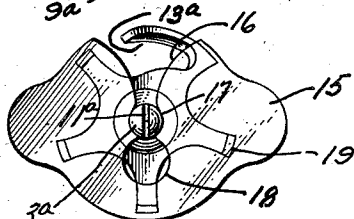
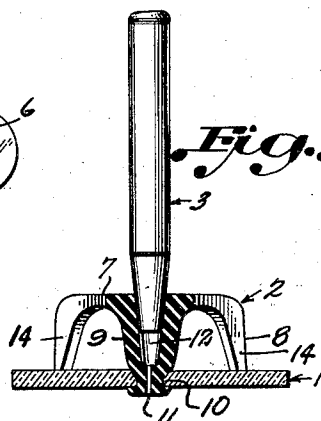


Fig. 3.

Fig. 6.

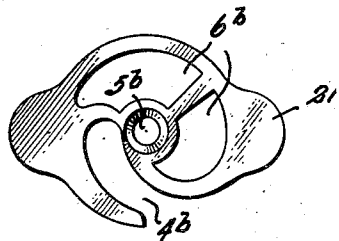
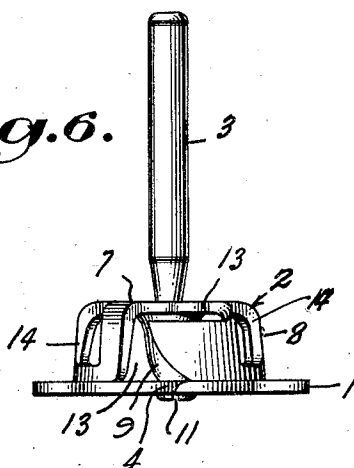


Fig. 8.

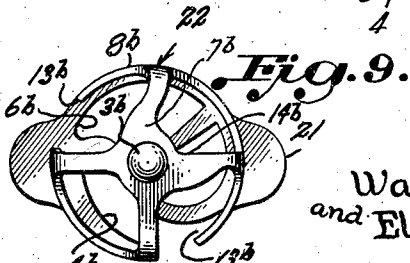


Fig. 9.

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UNITED STATES PATENT OFFICE

2,432,585

HAIR CURLING DEVICE

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8 Claims. (Cl. 132—33)

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The present invention relates to a device for curling hair, and more particularly to a device for forming the so-called flat dress curls, such as pin curls, finger curls, sculptor curls or ringlet curls.

Hitherto, the only efficient way of making dress curls has been by the use of the human fingers. In this method, the hair is first moistened with water, or permanent wave lotion, and then placed by trained operators in the proper position to form a curl, starting from the roots of the hair and proceeding towards the ends. This curl is kept in place by hair pins or various types of clamps, until the curl has been properly dried, and then the pins or clamps are removed and the hair combed out as desired.

The greater part of the hair dressing trade has followed this painstaking method of making curls in preference to the devices that have been provided to do this work. These devices are "end curlers" which are designed to grip the tress of hair near its extremities resulting in the formation of a so-called "fish hook," and the hair is then wound on the device towards the roots of the tress. This method of winding the hair results in producing a curl having fuzzy ends and causes the extremities of the hair to dry and eventually break.

One of the objects of our invention is to overcome the above-mentioned difficulties of the prior art.

Still another object of our invention is to provide a hair curling device which may be positioned directly over the roots of the tress of hair that is to be curled.

Yet another object of our invention is to provide a hair curler which is so constructed that by its use a smooth flat dress curl may be produced by curling a tress of hair from the roots of the hair outwardly.

Still another object of our invention is to provide a hair curling device which is so constructed that without mechanical adjustment varying amounts of hair may be formed into a curl, and by which the curl may be kept in position without the use of clamps or pins.

Yet another object of our invention is to provide a hair curler by means of which hair may be rapidly curled without injuring the health of the hair.

Still another object of our invention is to provide a hair curling device which will produce a uniform curl.

A further object of our invention is to provide a device which may be operated by untrained persons, and which is provided with finger tip control.

With these and other objects in view, which will become apparent from the subsequent description, our invention embraces the concept of pro-

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viding a curler for making flat dress curls, such as pin curls, finger curls, sculptor curls or ringlet curls. This device is so constructed that it can be positioned directly over the roots of a tress of hair and is provided with means to curl the tress of hair from the root outwardly to the extremity of the hair to form a helical wave.

In the three illustrated forms of the invention, tresses of any size may be curled without adjustment of the device, and the short ends of the tress are not allowed to escape from the curler, thereby preventing the creation of a fuzzy appearance. Furthermore, the use of this device eliminates the so-called "fish hook," which is caused by curling a tress inwardly from the ends of the hair towards the roots.

The curlers are so constructed that a series of them can be placed on the head and will fit easily under a hair net. After the curl is formed, it is not necessary to use clamps or pins to hold the curl in position.

In the drawings:

Figure 1 is a top plan view of one form of the invention.

Figure 2 is a side elevational view of the same device.

Figure 3 is a bottom plan view of the same device.

Figure 4 is a transverse sectional view of the same form of the invention showing a pin in side elevation.

Figure 5 is a view of the disc forming the bottom of this first form of the invention.

Figure 6 is a view in side elevation of the second form of the invention.

Figure 7 is a view of the disc forming the bottom of the second form of the invention.

Figure 8 is a view of the disc forming the bottom of the third form of the invention.

Figure 9 is a top plan view of the third form of the invention after assembly.

As shown in Figures 4, 6 and 7, one form of our curling device comprises a plate 1, upon which is mounted a rotor 2 which can be rotated by the pin 3. One portion of the plate 1 is cut away to form a slot 4, designed to encompass the tress of hair. The sides of this slot are shaped to form a curved edge. Positioned in the center of the plate 1 adjacent the slot 4 is an aperture 5 in which the rotor 2 may be rotatably mounted. The plate 1 may be lightened by an additional aperture 6 which also enables the enclosed tress to dry more rapidly.

The rotor 2 is a circular member having a top portion 7 and side wall 8, the lower periphery of which rests against the plate 1 after the device is assembled. The tress is wound upon a spindle 9 which is centrally positioned with respect to the side wall 8 and extends downwardly from the inner surface of the top 7. The spindle is

designed to extend through the aperture 5 of the plate 1.

This extremity of the spindle 9 is provided with an undercut portion 10, which engages the sides defining the aperture 5 to prevent the rotor 2 from unintentionally being separated from the plate 1 during the curling operation, but the extremity is provided with a slot 11 to provide facile means for intentionally withdrawing the spindle from the aperture 5. The upper portion of the spindle 9 contains a channel 12 which extends through the top 7. This channel is of the proper size to frictionally engage the removable pin 3.

The side wall 8 of the rotor 2 contains an opening which communicates with a circumferentially extending cut away portion of the top 7 to form the slot 13 which extends in the opposite direction to that of the slot 4 and through which the tress extends after passing through the slot 4. The side wall may be further lightened by apertures 14 which also serve as drying aids.

The form of the invention shown in Figures 1, 2, 3, and 5 is of similar construction to that described with the exception of the plate 15, and identical parts will be identified by the same numerals with an *a* added. In this form of the invention the slot 16 through which the tress of hair passes, extends through a centrally positioned aperture 17, which is designed to engage the spindle 9a of the rotor 19, and terminates in a circular portion 18 which is designed to encompass the tress of hair. If desired, the lower periphery of the side wall of the rotor can be completely cut through to form open slots for the purpose of assisting to dry the hair, as shown at 20. The plate 15 may also be provided with one or more drying apertures 6a.

In the third form shown in Figures 8 and 9, parts identical in structure to previously described parts will be given the same numbers with a *b* added. In this form of the invention the plate 21 has a slot 4b and is otherwise identical in construction to the plate 1, except that the drying apertures 6b are larger. The rotor 22 is also identical in construction to the rotor 2, except that it contains a pair of slots 13b instead of the single slot 13. This enables the rotor 21 to be operated in either direction when curling a tress of hair. It is necessary, however, to position the plate 21 in assembling the device so that the slot 4b will extend in a direction opposite to that of the slot 13b which is to be used in curling the tress. This can be accomplished by reversing, if necessary, the plate 21.

In operation, the rotor 2, 19 or 22 is mounted on the selected plate 1, 15 or 21 and a tress of hair is moved forwardly or backwardly, until it is positioned within the slot 4, 13 or 4b of the selected plate 1, 15 or 21. The remainder of the tress extends upwardly and outwardly through the corresponding slot 13, 13a or the selected slot 13b in the rotor. The curler is then moved to a position in which the plate rests against the scalp at the roots of the tress.

The rotor is then revolved in the direction in which the slot 13, 13a or 13b extends, thereby causing the hair to be wound around the bottom of the spindle, between this spindle and the inner surface of the side wall to form a flat helical curl. This operation is continued until the tress is completely wound around the spindle. The pin may then be removed and the curler is left in position until the tress has dried. As the rotor

22 of the third form of the invention is provided with a pair of slots 13b which extend in opposite directions, the rotor as previously set forth, may be revolved in either direction.

After the curl has dried the plate and rotor are separated by removing the end of the spindle from the plate. This operation necessitates the withdrawal of the undercut portion through the opening. The slot in the spindle renders the extremity of the spindle sufficiently elastic to enable this operation to be accomplished.

In the formation of curls with the help of water, the curler may be made of any suitable material, such as plastic. In the event that the curler is used for making permanent waves, either by the cold chemical or hot process, it is necessary to make the curler of a suitable material to resist chemical reaction and high temperatures, respectively.

It will be apparent from the above description, that the described curler due to its fingertip control, can be operated very easily and quickly. It is intended that a series of these curlers be used and when used in groups, a roll or wave effect is given to the hair. It will also be appreciated that this device enables the curl to be centrally located with respect to the roots of the tress and that a flat helical curl is produced. The devices also enable the tress to be curled from the roots outwardly thereby eliminating the so-called "fish hook."

While, for purposes of illustration, only three forms of the invention have been disclosed, it is obvious that various modifications in the positioning of the slot and the general design of the rotor and pin can be made without departing from the invention.

We claim:

1. A device for making flat dressing curls comprising a plate member containing an aperture, an inwardly extending slot in the plate, a rotor having top and side portions, a slot extending through the side wall and into the top portion of the rotor, the said slots being designed to encompass a tress of hair, and a downwardly extending spindle projecting from the inner side of the top portion of the rotor and centrally positioned with respect to the side walls, said spindle rotatably engaging by friction the aperture in the plate member and forming means to wind the tress of hair from the roots outwardly to the end of the tress when the rotor is revolved.

2. A device for making flat dressing curls comprising a plate member containing an aperture, an inwardly extending slot in the plate, a rotor having top and side portions, a slot extending through the side wall and into the top portion of the rotor, the said slots being designed to encompass a tress of hair, a spindle projecting downwardly from the inner side of the top portion of the rotor and centrally positioned with respect to the side walls, said spindle rotatably engaging by friction the aperture in the plate member and forming means to wind the tress of hair from the roots outwardly to the end of the tress when the rotor is revolved and means to revolve the rotor.

3. A device for making flat dressing curls comprising a plate member containing an aperture, an inwardly extending slot in the plate, a rotor having top and side portions, a slot extending through the side wall and into the top portion of the rotor, the said slots being designed to encompass a tress of hair, a spindle projecting

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downwardly from the inner side of the top portion of the rotor and centrally positioned with respect to the side wall, said spindle rotatably engaging by friction the aperture in the plate member and forming means to wind the tress of hair from the roots outwardly to the end of the tress when the rotor is revolved, and extending through the aperture in the plate, means associated with the spindle to prevent the rotor from being unintentionally separated from the plate, a channel in the spindle extending through the top portion of the rotor, the surfaces of said channel being adaptable to frictional-engagement with a detachable rotating means.

4. A device for making flat dressing curls comprising a plate member containing an aperture, in inwardly extending slot in the plate, a rotor having top and side portions, a slot extending through the side wall and into the top portion of the rotor, the said slots being designed to encompass a tress of hair, a spindle projecting downwardly from the inner side of the top portion of the rotor and centrally positioned with respect to the side wall, said spindle rotatably engaging by friction the aperture in the plate member and forming means to wind the tress of hair from the roots outwardly to the end of the tress when the rotor is revolved, and extending through the aperture in the plate, a flange on the lower end of the spindle to prevent the rotor from being unintentionally separated from the plate, a channel in the spindle extending through the top portion of the rotor, the surfaces of said channel being adaptable to frictional-engagement with a detachable rotating means.

5. A device for making flat dressing curls comprising a plate member having an aperture positioned substantially in the center of the plate, an inwardly extending slot in the plate, a rotor having top and side portions, a series of apertures in the side wall of the rotor which extend into the top portion, a slot extending through the side wall and into the top portion of the rotor, the said slots being designed to encompass a tress of hair, a spindle projecting downwardly from the inner side of the top portion of the rotor and centrally positioned with respect to the side wall, said spindle rotatably engaging by friction the aperture in the plate member and forming means to wind the tress of hair from the roots outwardly to the end of the tress when the rotor is revolved and extending through the aperture in the plate, a channel in the spindle extending through the top portion of the rotor the surfaces of said channel being adaptable to frictional-engagement with a detachable rotating means.

6. A device for making flat dressing curls comprising a plate member having an aperture positioned substantially in the center of the plate, an inwardly extending slot in the plate, a rotor having top and side portions, a series of apertures in the side wall of the rotor which extend into the top portion, a slot extending through the side wall and into the top portion of the rotor, the said slots being designed to encompass a tress of hair, a spindle projecting downwardly from the inner side of the top portion of the rotor and centrally positioned with respect to the side wall, said spindle rotatably engaging by friction the aper-

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ture in the plate member and forming means to wind the tress of hair from the roots outwardly to the end of the tress when the rotor is revolved and extending through the aperture in the plate, said spindle having an expanded portion adjacent its lower end to engage the plate to prevent the rotor from being unintentionally separated from the plate, a slot in the end of the spindle to provide facile means for intentional removal from the plate, a channel in the spindle extending through the top portion of the rotor the surface of said channel being adaptable to engagement with a detachable rotating means.

7. A device for making flat dressing curls comprising a plate member having an aperture positioned substantially in the center of the plate, an inwardly extending slot in the plate communicating with the aperture and terminating in a circular portion, a rotor having top and side portions, a plurality of apertures in the side wall of the rotor extending into the top portion, a slot extending through the side wall and into the top portion of the rotor, a spindle projecting downwardly from the inner side of the rotor and centrally positioned with respect to the side wall, said spindle rotatably engaging by friction the aperture in the plate member and forming means to wind the tress of hair from the roots outwardly to the end of the tress when the rotor is revolved and extending through the aperture in the plate, a channel in the spindle extending through the top portion of the plate, the surface of said channel being adaptable to engagement with a detachable rotating means.

8. A device for making flat dressing curls comprising a plate member having an aperture positioned substantially in the center of the plate, an inwardly extending slot in the plate communicating with the aperture and terminating in a circular portion, a rotor having top and side portions, a plurality of apertures in the side wall of the rotor extending into the top portion, a slot extending through the side wall and into the top portion of the rotor, a spindle projecting downwardly from the inner side of the rotor and centrally positioned with respect to the side wall, said spindle rotatably engaging by friction the aperture in the plate member and forming means to wind the tress of hair from the roots outwardly to the end of the tress when the rotor is revolved and extending through the aperture in the plate, a flange on the lower end of the spindle to prevent the rotor from being unintentionally separated from the plate, a slot in the extremity of the spindle to provide facile means for intentional removal from the plate, a channel in the spindle extending through the top portion of the plate, the surface of said channel being adaptable to engagement with a detachable rotating means.

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