Oct. 14, 1941. G. YATES 2,258,920

HAIR CURLER

Filed Oct. 14, 1940

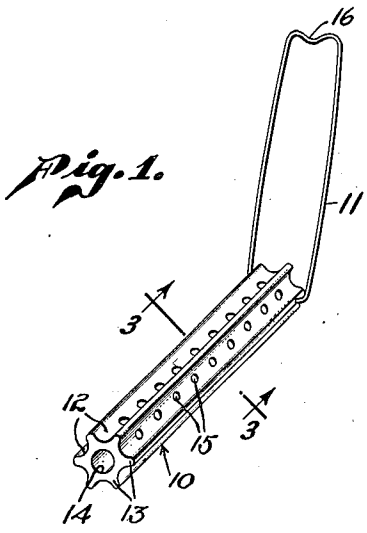

Fig. 1.

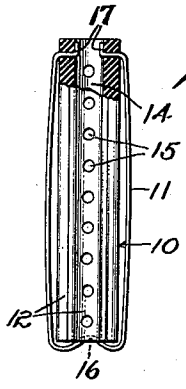

Fig. 2.

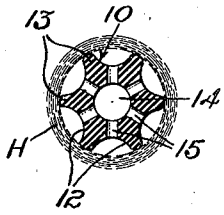

Fig. 3.

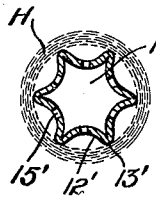

Fig. 4.

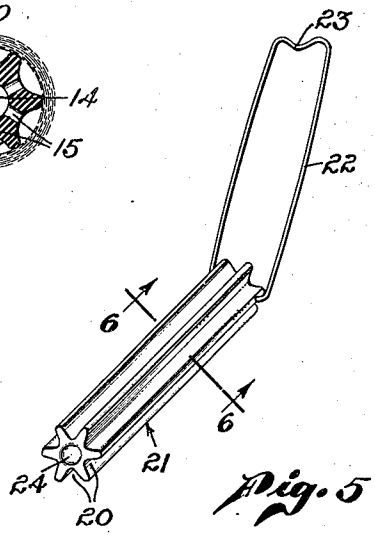

Fig. 5

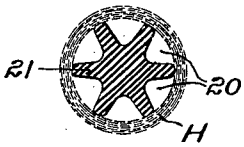

Fig. 6

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HAIR CURLER

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2 Claims. (Cl. 132—41)

This invention relates to hair curlers of the type wherein the hair is dried by air contact. Curlers of this type are often applied to the hair while the hair is moist and removed when the hair is dry. As this takes considerable time even when artificial drying means are utilized, it is desirable to provide a curler which will allow as rapid drying of the hair coiled thereon as is possible.

Due to the nature of human hair and its tendency to split and crack when subjected to mechanical abuse, as by being kept tightly coiled and moist over too long a period, or by being nicked or scratched by sharp edges or corners on the conventional type of hair curlers, it is also desirable to provide a curler which will minimize such cracking or splitting.

Curlers which are in the form of cylinders having perforations therein have a tendency to catch the hair of the innermost layer wound thereon, so that when the curler is removed by sliding it axially of the curl the innermost layer tends to stick to the curler and thus pull out of the interior of the curl, the result being that the configuration of the curl is spoiled.

It is, therefore, a further object of this invention to provide a curler in which the inner layer of hair does not separate from the outer layers during removal from the curl.

It is a further object of this invention to provide a curler which exposes a relatively large amount of hair to the circulation of air.

It is a further object of this invention to provide a curler in which the coil of hair thereon has a substantial portion of its inner surface exposed to circulation of air.

It is a further object of this invention to provide a curler which obtains the above advantages and at the same time causes a minimum of discomfort to the wearer.

It is a further object of this invention to provide a curler which may be readily removed from the curl.

It is a further object of this invention to provide a curler of resilient construction which is characterized by the above objects.

This invention possesses many other advantages and has other objects which may be made more easily apparent from a consideration of several embodiments of the invention. For this purpose there are shown a few forms in the drawing accompanying and forming part of the present specification. These forms will now be described in detail, illustrating the general principles of this invention; but it is to be understood that this detailed description is not to be taken in a limiting sense, since the scope of the invention is best defined by the appended claims.

Referring to the drawing:

Figure 1 shows a curler embodying the present invention, with the clamp in open position;

Figure 2 is a view of the curler shown in Figure 1 with the clamp in closed position;

Figure 3 is an enlarged transverse section taken on line 3—3 of Figure 1;

Figure 4 is a section similar to Figure 3 of a modified form of the invention;

Figure 5 shows a further modification of the curler contemplated by the invention; and,

Figure 6 is an enlarged transverse section taken on line 6—6 of Figure 5.

The curler shown in Figures 1 to 3 consists of a body member 10 and a clamp member 11 pivoted together. This is to allow the clamp member to be pivoted to a position engaging the coil of hair on the body member in a manner well understood in the art. The body member 10 is preferably formed of resilient material such as rubber or the like and has longitudinal grooves 12 therein, thus forming ridges 13. These ridges have been shown as having a rather small area in contact with the hair H wound upon the body of the curler. It has been found that when the body is made of rubber or some similar material the friction between the body of the curler and the hair has a tendency to cause disarrangement of the curl as the curler is removed by axial movement. The use of ridges having a comparatively small surface in contact with the hair wound on the body of the curler decreases the likelihood of such disarrangement as the curler is removed. If desired, the body portion 10 may be formed by any well known extrusion process. It is not absolutely necessary that the body portion 10 be formed of resilient material, a rigid material such as aluminum or any of the numerous rigid plastics may be employed, although resilient material is preferred for reasons which will presently appear. The body portion 10 has a longitudinal bore 14 formed therein and a plurality of holes or openings 15 extending through the walls of the body portion 10 to the exterior thereof. As shown in Figure 3, these holes or openings are present only in the valleys of the grooves in the body. This is because it has been found that the holes or openings if present in portions engaged by the hair of the user have a tendency to cause splitting thereof, and further these holes as mentioned above have a tendency to catch the hair wound over them and cause the curl to pull out

of shape when the curler is removed. By providing the holes or openings 15 in the valleys of the grooves 12 they will be clear of hair wound on the body 10 as shown in Figure 3 and thus will not cause such splitting, cracking, or disarrangement of the curl upon removal of the curler. At the same time, placing the openings 15 in the bottom of the grooves 12 prevents the hair wound upon the body portion 10 from closing the openings and thus preventing circulation except through a very small restricted portion of the hair. It will be noted that the grooves extend the entire length of the body portion 10. With this construction there is no possibility of hair blocking circulation along the grooves and thus an increased drying rate is obtained by reason of this circulation under all conditions of use.

The clamp member 11 may be formed of a piece of wire having a sinuous portion 16 intended to engage the body portion 10. This sinuous portion 16 is intended to enter one end of the bore 14 of the body 10. The end of the clamp member which is pivoted to the body 10 may be secured thereto in any suitable manner. In the form shown in Figure 2 the ends of the clamp are formed with offset portions 17 passing through the walls of the body member 10 and secured therein. These offset portions 17 engage the inner surface of the bore 15 of the body member and thus prevent the withdrawal of the ends of the clamp member from the body member. If the body member be made of resilient material, these offset portions engaging the inner walls of the bore will tend to resiliently hold the legs of the clamp member in place. It has been found that when an attempt is made to close the clamp member over too large a coil of hair wound upon the body member, the legs of the clamp tend to spring out of place. On the other hand, when the resilient side walls of the body member are employed the clamp can be closed with a considerable amount of hair and will merely cause the resilient body member to stretch at the end and permit the clamp to be closed over the hair. It is not necessary that the sides of the clamp be bowed when the bore portion 10 is made of resilient material, nor that a resilient roller be employed, for instead of bending the sides of the clamp when inserting the portion 16 in the bore of the body 10 the same operation can be performed by bending the body portion 10 so that the portion 16 may be inserted in the bore. In fact, it is not even necessary that the clamp member be formed of wire or other resilient material and it could be readily formed of a single piece of plastic or the like, considerably larger in cross-section but having the same functions as a wire clamp member would have. The use of such plastic material avoids the necessity of providing a lacquer coating or the like to prevent rust from affecting the hair on the curler.

If the body of the curler is formed of rigid material, it may have a cross-section similar to that shown in Figure 4. Such a body member may be extruded or drawn in the shape shown, or may be formed by rolling grooves 12' into a cylindrical tube, to give it the cross-section shown. This form may also have openings 15' communicating between the bottoms of the grooves 12' and the hollow interior 14' of the body member.

Figures 5 and 6 show a further form or modification of this invention. The characteristic which differentiates this form from that of Figure 1 is the lack of a central bore. When this bore is omitted the grooves 20 in the body member 21 may be considerably deeper as shown by comparing Figures 3 and 6, which allows a greater circulation of air along the length of the grooves. Of course, the holes 15 are absent in this form as there is no central bore to which they may be connected. The form of pivot connection between the clamp 22 and the body 21 cannot be as shown in Figure 2 but will necessarily be simply a right-angled bend on each leg of the clamp member 22. It may be necessary to employ considerably heavier wire with this form in order that the clamp may be securely held in place. In order to provide a recess for the portion 23 of the clamp member a depression 24 has been indicated in the free end of the body member to serve the function of the bore 14 in retaining the clamp member in place.

The grooves 20 extend entirely along the body 10, thereby permitting the free circulation of air underneath the coil of hair on the curler.

I claim:

1. In a hair curling device, an elongated body member adapted to receive hair wound thereon, said member having a plurality of concavities in its periphery extending along its entire length, whereby to permit circulation through said concavities and on the inner side of a coil of hair wound thereon.

2. In a hair curling device, an elongated body member adapted to receive hair wound thereon, said member having a plurality of concavities in its periphery extending along its entire length, said member having a bore extending through its entire length, and a plurality of openings extending transversely of the length of the body member from the bottom of said concavities to the bore, whereby the edges of said openings are out of contact with hair wound upon the body member and air is free to circulate through the bore and the concavities.

GEORGE YATES.