March 8, 1938. S. FREEMAN 2,110,550

HAIR CURLING DEVICE

Filed Oct. 16, 1935

Fig. 1.

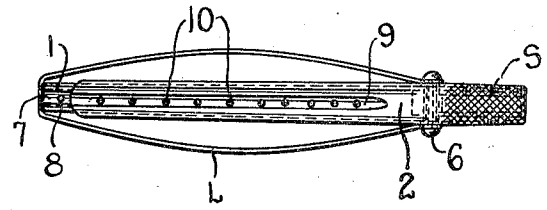


Fig. 2.

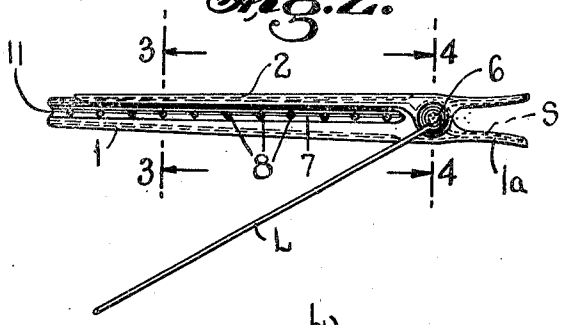


Fig. 3.

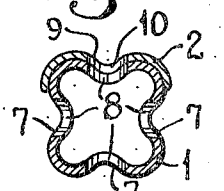
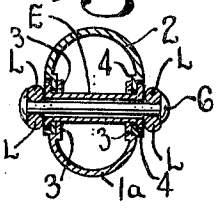


Fig. 4.



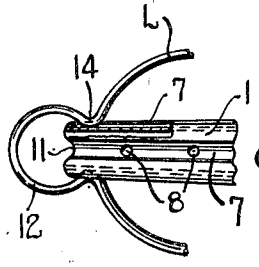


Fig. 5.

Fig. 6.

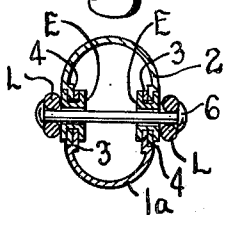
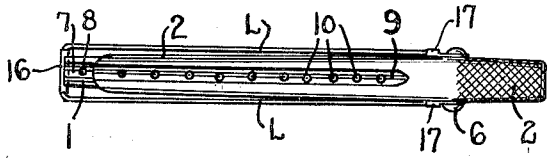


Fig. 7.



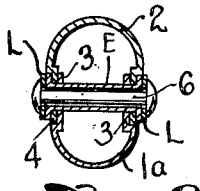


Fig. 8.

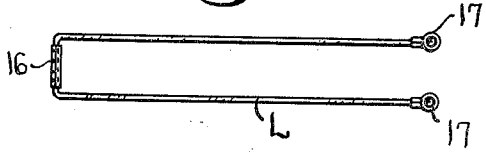


Fig. 9.

INVENTOR.
Samuel Freeman
BY Mock & Blum
ATTORNEYS.

Patented Mar. 8, 1938 2,110,550

UNITED STATES PATENT OFFICE

2,110,550

HAIR CURLING DEVICE

Samuel Freeman, New York, N. Y.

Application October 16, 1935, Serial No. 45,207

2 Claims. (Cl. 132—41)

My invention relates to a new and improved hair curling device.

One of the objects of my invention is to provide a hair curler or waver of simple and improved construction.

Another object of my invention is to provide a hair waver having a body which is provided with longitudinal recesses, the inner walls of said recesses being perforated so that the hair can be readily detached from the body of the waving device.

Another object of my invention is to provide a device of this kind having a loop which is turnably mounted so as to make it possible to provide a secure and reliable pivotal connection between the body of the device and the clamping member which is pivotally connected to the body of the device.

Other objects of my invention will be set forth in the following description and drawing which illustrates preferred embodiments thereof, it being understood that the above statement of the objects of my invention is intended to generally explain the same without limiting it in any manner.

Fig. 1 is a top plan view of the improved device.

Fig. 2 is a side elevation, the loop being shown below the body of the device.

Figs. 3 and 4 are respectively sectional views on the lines 3—3 and 4—4 of Fig. 2.

Fig. 5 illustrates a modification of the means for holding the wire loop in position.

Fig. 6 is a view similar to Fig. 4 but showing a modification thereof.

Fig. 7 illustrates a modification of the invention, in which the loop is made of extensible or elastic material.

Fig. 8 is a top plan view of the loop which is used in the embodiment shown in Fig. 7.

Fig. 9 is a view similar to Fig. 4, and showing a second modification thereof.

The embodiment shown in Figs. 1–3 shows a tubular body 1 which may have any desired shape or cross section. The clamp 2 is pivotally connected to the body 1. The body 1 can be made from a single sheet of any suitable metal, and said sheet of metal may be stamped into U-shaped cross section, and the edges of a part of said sheet of metal can be bent inwardly so as to form a butt joint, thus forming the tubular body 1.

At the rear of said tubular body 1, a shank 1*a* is provided and said shank 1*a* has a U-shaped cross section which includes perforated lugs 3.

The clamp 2 has a general double-channel cross section as shown in Fig. 3 and it is provided intermediate the ends thereof with perforated lugs 4. As shown in Fig. 3, the cross-section of clamp 2 comprises side channel-portions of general convexo-concavo contour, having an intermediate concavo-convexo portion which has the same general shape as the adjacent longitudinal groove 7 of the body 1.

The loop L is preferably made of wire, and the inner ends of said loop are bent so as to form eyelets.

The body 1 and the clamp 2 are pivotally assembled by means of an eyelet E having enlarged ends. These enlarged ends are formed after the tubular body of the eyelet has been passed through the perforations of the lugs 3 and 4. Hence the body 1 and the clamp 2 are assembled independently of the loop L.

After the body 1 and the clamp 2 have been thus assembled, the loop L is assembled with the device by means of a rivet pin 6, having the usual enlarged heads, and which passes through the hollow eyelet E. The ends of the loop L are bent so as to form eyes which are turnably mounted on the shank of the rivet 6. This provides for a secure and reliable assembly of the parts, and the pivotal mounting of the loop does not interfere with the pivotal connection between the body 1 and the clamp 2. Likewise, the clamp 2 can be rocked or tilted relative to the body 1, by turning clamp 2 around the axis of eyelet E, without rocking or tilting the loop L relative to the body 1.

The body 1 is formed with one or more recessed portions 7. These recessed portions 7 are preferably longitudinal although I do not wish to be limited to any particular relation between the directions of the grooves 7, and the axis of the body 1.

In this particular embodiment I have shown four longitudinal grooves 7 and their inner walls are provided with perforations 8.

The clamp 2 is provided with a single longitudinal recess 9, having perforations 10, so that the perforations 10 of the clamp 2 register with the corresponding row of perforations 8, of the body 1.

A spring S of any suitable type normally holds the clamp 2 abutting the body 1. The outer ends of the clamp and body may be knurled, this knurling being shown in Fig. 1.

In order to use this device, the end of a lock of hair is clamped between the tubular body 1 and the clamp 2. The members 1 and 2 are then turned in unison so as to wind the lock of hair

spirally around the waving device. After this has been done, the loop L, which is resilient, is sprung into position, so that it is engaged in the grooves or recesses 11 which are formed in the outer end of the tubular member 1. The resilient loop L is thus held reliably in position.

The device can be used by merely moistening the lock of hair and holding the hair in curled form until the hair has dried. If the lock of hair is wound tightly around the device, it is sometimes difficult to slip the device out of the lock of hair, without disturbing the curl. The device should be slipped longitudinally out of the curl, without disturbing the curl in any manner whatever.

It has been customary to perforate devices of this type, in order to hasten the drying of the curl, by permitting free access of the air to the hair, through the perforations of the device. However, in prior devices of this type, the hair could be caught in the walls of these perforations. According to the improved device, the perforations are all countersunk in grooves of sufficient depth so that the edges of said perforations cannot engage the hair, when the device is withdrawn from the lock of hair.

In the modification shown in Fig. 5, the loop L is provided with an arcuate extension 12, thus providing lugs 14 which can engage a pair of the grooves 7. The arcuate extension 12 makes it possible to readily manipulate the loop L, which is made of the usual springy wire.

I do not wish to be limited to any particular shape of the loop L or of the extension 12, although I have shown preferred shapes in Fig. 5.

In the embodiment shown in Fig. 6, I have used separate eyelets E, instead of using one eyelet as illustrated in Fig. 4. Otherwise, the device shown in Fig. 6 is the same as that shown in Fig. 4.

Figs. 4 and 6 also show how the perforated lugs 3 and 4 are located inwardly of the side edges of the members 1 and 2, so that the outer flanges of the eyelets E are flush with the side edges of the clamp 2.

Fig. 8 shows a loop L made of any suitable covered elastic material such as covered rubber or the like. The outer end of the elastic loop L is provided with a rigid member 16, made of metal or the like, which can engage the end grooves 11 of the tube 1. The rigid metal bar 16 may be replaced by a plug of the usual construction, which can fit into the outer end of the tube 1. Fig. 8 also shows how the inner ends of the elastic loop L are connected to metal eyelets 17, which are engaged by the rivet pin 6.

In the embodiment shown in Fig. 9, the inner ends of the wire loop L are flattened and perforated by a hammering or stamping operation, so that it is not necessary to bend the inner ends of the loop L so as to form eyes.

The construction shown in Fig. 9 is somewhat less bulky than the construction shown in Fig. 4.

The configuration of the members 1 and 2 provides guards for the outer surface or outer edges of the walls of the perforations 8 and 10. That is, referring to Fig. 3, when the hair is curled around the body 1, the hair does not contact with the edges of the openings 8, and said hair is not bent inwardly so as to enter the bottom and side grooves 7. When the end of the lock of hair is clamped between body 1 and clamp 2, the clamp 2 is spaced from the position shown in Fig. 3, since the lock of hair has some thickness. Hence, even though the end of the lock of hair may enter the top groove 7 to a slight extent, the end of the lock of hair does not enter the holes 8 of the groove 7. The groove or grooves 7 (including or excluding the holes 8) constitute surface irregularities in the body of the curler. Since this part of the invention is broadly new, I do not wish to be limited to any particular type of guard for the walls of the perforations. In particular I do not wish to be limited to the shaping of the parts of the device, so as to provide said guards.

The assembled members 1 and 2 and the pivot pin 6 can be readily assembled by passing the shank of the pivot pin 6 through the eyelet means, and then enlarging the ends of said pin 6. The pin 6 can be provided with one enlarged head before the shank of said pin is passed through the eyelet means.

The pivotal connection between the body 1 and the clamp 2 is independent of the pivotal connection between the device and the holding loop, and the invention is not to be limited to the specific means shown for securing this result. Instead of passing the loop through the eyelet means, I provide a supplemental member which is located in and which extends beyond said eyelet means. When I refer to such supplemental member 6, I wish to exclude a member which is integral with the loop.

I do not wish to be limited to the use of any particular number of grooves 7, as I can use one or more such grooves. Whenever I refer to groove means in the claims, I include the use of one groove, or the use of a plurality of such grooves.

The clamping device can be provided with one or more perforated grooves, and it is not necessary that the groove or grooves of the clamping device should register with the grooves of the body of the device. Likewise, I do not wish to be limited to the use of a clamping device of any particular type for holding the hair on the body of the curler.

It is not necessary in all cases, to provide the body of the device with perforations. By providing said body with grooves or recesses, the air can contact with the hair, because said grooves or recesses will permit the air to contact with the interior of the spirally wound lock of hair and the air can therefore dry the hair more quickly than if the interior of said spiral lock contacted with a tubular body. Said body may be tapered, if desired.

It is to be understood that the end of the lock is engaged between the body and the clamping device, and the clamping device is then turned until the lock of hair is wound spirally around the body and the clamping device.

The loop then engages the spiral curl and the loop locks the spiral longitudinally to the curler, so that the spiral cannot be unwound until the loop has been slipped off the end of the device after curling has been completed.

I have shown preferred embodiments of my invention, but it is clear that numerous changes and omissions can be made without departing from its spirit.

I claim:

1. A hair curler comprising an elongated hollow body provided with a plurality of longitudinal grooves therein and a plurality of perforations in the bottoms of said grooves, a spring-pressed clamping member pivotally secured to said body, said clamping member having a longitudinal groove engageable within a groove of said body and said clamping member having perforations

registerable with the perforations of the adjacent groove of said body.

2. A hair curler comprising an elongated hollow body provided with a plurality of longitudinal grooves therein and a plurality of perforations in the bottoms of said grooves, a spring-pressed clamping member pivotally secured to said body, said clamping member having a longitudinal groove engageable within a groove of said body and said clamping member having perforations registerable with the perforations of the adjacent groove of said body, and a yieldable loop carried by said body and engageable over an end thereof, said body having a slot in an end thereof to receive said loop.

SAMUEL FREEMAN.