Sept. 3, 1940. R. E. SWANSON 2,213,231

HAIR CURLER

Filed Aug. 30, 1939

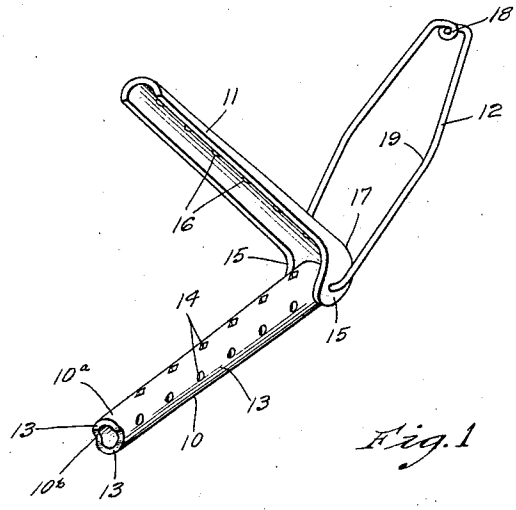


Fig. 1

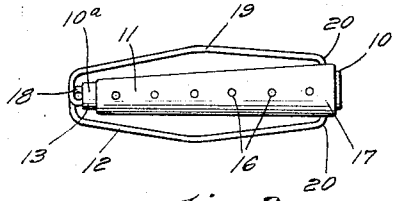


Fig. 2

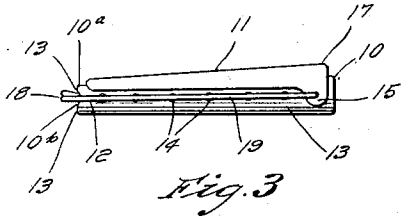


Fig. 3

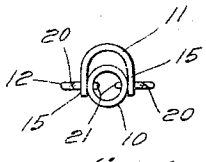


Fig. 4

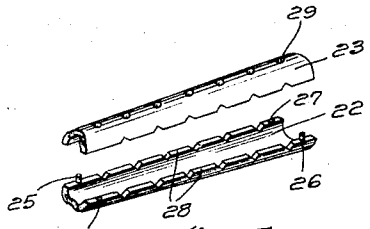


Fig. 5

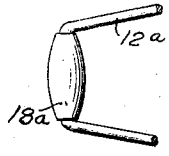


Fig. 6

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Patented Sept. 3, 1940 2,213,231

UNITED STATES PATENT OFFICE

2,213,231

HAIR CURLER

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Application August 30, 1939, Serial No. 292,625

7 Claims. (Cl. 132—41)

My present invention relates to hair curlers, and has particular reference to a novel construction of hair curler and a novel method of making the same.

It is the principal object of my invention to provide a hair curler which is readily colored to blend with the color of the wearer's hair.

Another object of my invention is to provide a hair curler which is non-metallic and which is readily molded from resilient material.

A further object of my invention is to provide a hair curler which is simple in construction and is easy and economical to manufacture and assemble.

An additional object of my invention is to provide a hair curler which is light and which has a minimum number of operative parts.

With the above and other objects and advantageous features in view, my invention consists of a novel arrangement of parts and a novel method of manufacture and assembly more fully disclosed in the detailed description following, in conjunction with the accompanying drawing, and more specifically defined in the appended claims.

In the drawing:

Fig. 1 is a perspective view of a hair curler embodying my invention;

Fig. 2 is a top plan view of the same;

Fig. 3 is a side elevation of the same;

Fig. 4 is an end view of the hinge end;

Fig. 5 is a perspective view of a modified construction of the barrel; and

Fig. 6 is a modified form of lock element.

The conventional form of hair curler includes a main barrel portion to which a clamp arm is hinged adjacent one end, and a lock element. The operation is simple; the end of the hair is placed between the barrel portion and the clamp arm and the hair is curled over both. After the end of the curl is reached, the lock element is snapped over both the curled hair and the other end of the barrel, and is worn on the hair for a sufficient length of time to set the hair in curled position. If the hair is wetted before being placed in the curler, it will retain the curl when dry. The barrel and the clamp arm are therefore provided with spaced hair holes to facilitate the drying operation.

The conventional hair curlers on the market are made of metal, preferably aluminum for lightness, and have their original metallic color. The hair curler is therefore a bright, shiny, silver color and is hard and unyielding, and can only be put in use in private, as it is unsightly. Furthermore, women usually put their hair up in the evening; it would be of great advantage, therefore, if the woman could sleep with the hair curler on her head. Hard metal curlers, however, are very uncomfortable and the edges tend to scratch the scalp, as from eight to twelve curlers are used at the same time.

To overcome the disadvantages of metal curlers, I have devised a hair curler comprising a main barrel portion 10, a clamp arm 11, and a lock member 12, the barrel 10 being generally cylindrical in form and opening at both ends. To facilitate easy removal of the curl, the barrel 10 is tapered slightly towards its free end 10*a*, which is provided with side notches 10*b* between oppositely disposed raised abutting portions 13. The barrel 10 is also provided throughout its length with conventional spaced openings 14 to provide air passageways for drying, these openings being preferably circular or diamond shaped.

The barrel 10 is preferably molded in one piece from any standard plastic composition such as phenol condensation products or casein products. The clamp arm 11 is molded of similar material in conventional arcuate form, with ears 15 straddling the larger end of the barrel 10. The claimp arm is also slightly tapered and concave to fit snugly about the outer periphery of the barrel 10, and is also supplied with air holes 16. The clamp arm 11 is adapted to be swung into open position as illustrated in Fig. 1, and the larger end 17 is therefore shaped to extend away from the surface of the barrel 10 for clearance, as shown in Fig. 4.

The lock member 12 comprises a color dipped resilient wire having an inwardly extending end loop 18 and side portions 19 which are bowed outwardly. The free ends of the lock member 12 are turned toward each other at right angles as at 20 and extend through the ears 15 of the clamp arm 11 and into the large end of the barrel 10. The ends are then bent at right angles, as indicated at 21, to provide a lock. The wire frame forming the lock member 12 therefore swings pivotally in the barrel 10 and the clamp arm 11 also pivots upon the inturned portion 20 of the lock member 12.

The length of the lock member 12 in its normal position is selected so that when it is swung to locking engagement the loop 18 does not clear the abutting end portion 13 of the barrel 10. However, the bowed side portion 19 allows a pulling action tending to straighten the sides and thus lengthen the lock member to permit snap-

ping of the loop 18 into the space at the end of the barrel 10 between the portions 13. In this position, see Figs. 2 and 3, the lock member is retained in the end of the barrel 10 and will not come out. The bowed sides 19 leave sufficient space between the lock member 12 and the body of the hair curler for the hair of the user, the hair tending to push the sides outwardly and thus increase the locking action. To open the hair curler, it is merely necessary to press the bowed sides 19 and thus lengthen the lock member 12 to permit passage of the loop 18 over the lock portion 13.

The hair curler of the present invention is therefore simple in construction and easy and economical to manufacture and assemble, as there are but three operative parts. The main body portion and the clamp arm are preferably molded from plastic composition to permit use of appropriate coloring, the coloring being of sufficient shades to match the hair of the wearer and thus render the hair curler inconspicuous. For this purpose, I prefer a wide range of colors such as black, brown, auburn, and various shades of blondes, to permit the buyer or user to choose the color which closely matches her hair. Furthermore, the plastic composition is not stiff and does not present any sharp corners, all the edges being readily molded rounded. When worn overnight, it presents a minimum of discomfort to the wearer and permits the wearer to go to business or out doors, as the hair curlers do not attract much attention.

While it is preferred that the barrel 10 be molded in one piece, manufacturing difficulties may sometimes render it too expensive or difficult to do so. The construction shown in Fig. 5 may therefore be used, the barrel being molded in two sections 22 and 23, which are complementary to each other, and are identical so that only one mold is required. Each end of the section is molded with an edge opening 24 adjacent one side and an integral pin 25 on the opposite side. The other end has the side edge having the opening 24 provided with an integral pin 26 while the side edge having the integral pin 25 has an opening 27 opposite the integral pin 26. When the complementary sections 22 and 23 are placed together, the pins on one section enter the openings in the opposite section and vice versa, to interlock the sections.

The two sections may be joined together by the use of heat and pressure, or by any other suitable means; I prefer, however, to use a cement thinly applied along the edges 28 and around the pins and openings. When using the modification shown in Fig. 5, it is preferable that the journal opening into which the lock member 12 is pivoted be placed at right angles to the joint, as at 29, to prevent separation of the sections by movement of the lock member. I have found that the stiffness of the side arms 19 of the lock member 12 acts as a locking force to keep the sections 22 and 23 together.

If desired, the form of lock element shown in Fig. 6 may be used for the purpose of permitting a smoother locking action. In this form, the lock element 12a is provided with an elongated bead 18a in the place of the lock loop 18. The bead 18a will roll over the edges of the barrel in locking and snap into the notches 10b.

The hair curler of the present invention is therefore substantial, invisible in use, is light in construction, is provided with a positive locking engagement, and is readily moldable from plastic material of sufficient resiliency so that it can be worn at night with comfort.

While I have described specific constructional embodiments of my invention, it is obvious that changes in the size, shape, material, and ornamentation of the parts may be made to suit the requirements for different hair curlers, and that the novel construction may be applied to other articles, without departing from the spirit and scope of the present invention as defined in the appended claims.

I claim:

1. A non-metallic base for a hair curler, comprising a tubular base made in two complementary concave half-sections secured together having air passageways through the wall thereof.

2. A non-metallic base for a hair curler, comprising a tapered tubular base made in two complementary concave half-sections secured together having air passageways through the wall thereof.

3. A non-metallic base for a hair curler, comprising a tubular base made in two complementary concave half-sections secured together and having cooperating interlocking parts having air passageways through the wall thereof.

4. A non-metallic base for a hair curler, comprising a tapered tubular base made in two complementary concave half-sections secured together and having cooperating interlocking parts having air passageways through the wall thereof.

5. The method of making a barrel for a hair curler comprising the steps of molding two half barrel portions with complementary pins and openings, cementing the edges, and placing the halves together with the pins on one half entering the openings on the other half to form a unitary tubular molded barrel.

6. In a hair curler, a molded plastic tubular base of a predetermined color, a molded plastic concave clamp arm hinged thereto at one end thereof, said clamp arm being of the same predetermined color as said base, and an extendible lock device hinged to said one end and having a projection adapted to nest in the other end of said base, said lock device being of the same predetermined color as said base and clamp arm, whereby said curler is of a predetermined color adapted to match the user's hair.

7. In a hair curler, a molded plastic tubular base of a predetermined color, said base comprising interlocking concave half section, a molded plastic concave clamp arm hinged thereto at one end thereof, said clamp arm being of the same predetermined color as said base, and an extendible lock device hinged to said one end and having a projection adapted to nest in the other end of said base, said lock device being of the same predetermined color as said base and clamp arm, whereby said curler is of a predetermined color adapted to match the user's hair.

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