Oct. 27, 1936. S. BEHR 2,058,400

HAIR CURLER

Filed Oct. 16, 1935

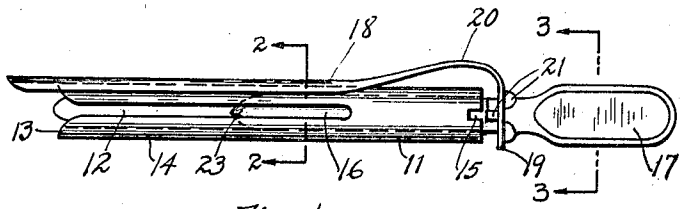


Fig. 1

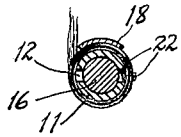


Fig. 2

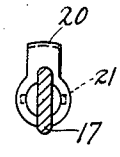


Fig. 3

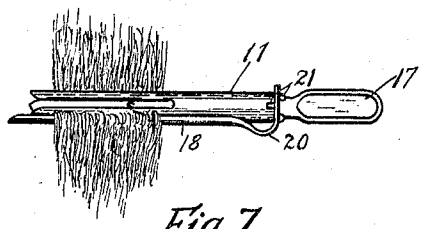


Fig. 7

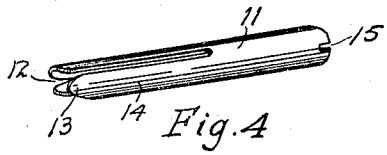


Fig. 4

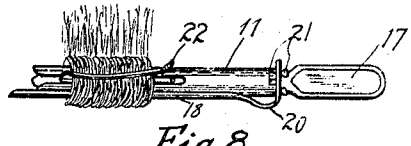


Fig. 8

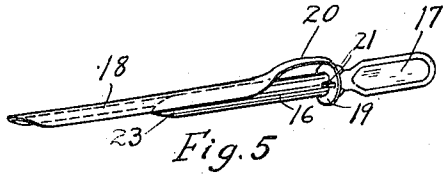


Fig. 5

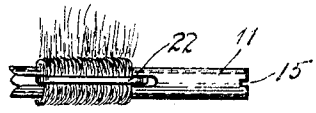


Fig. 9



Fig. 6

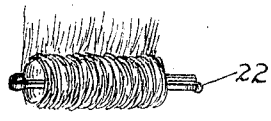


Fig. 10

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HAIR CURLER

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Application October 16, 1935, Serial No. 45,304

7 Claims. (Cl. 132—33)

This invention relates to an improvement in hair curlers.

It is a principal object of this invention to provide a tool for forming the ends of hair into curls without the necessity of using a separate tool for every curl formed on the same head as is the present practice, but for forming all curls consecutively with the same tool.

It is another object to provide a hair curler of this type which is light in weight, simple in construction and easily applied by anyone without special instruction or previous practice.

It is a further object to provide a hair curler which may be removed from the hair as soon as the curl is formed thereby to permit free access of air to the inside as well as the outside of the curl and thereby to enhance the drying of the curl.

It is also an object to provide a hair curler embodying the above improvement which is so simple in its construction that it may be sold at approximately the same price as other hair curlers of which a separate one is used for every curl to be formed, thereby saving the expense for the large number of curlers required to form all curls on a head of hair, also reducing the time required for curling and drying and abolishing the unsightly appearance of a large number of curlers on the head of the wearer during the drying period.

With the above and other objects in view which will appear more clearly as the description progresses, the invention consists in the novel construction, adaptation, combination and arrangement of parts hereinafter described and illustrated in the accompanying drawing, in which—

Fig. 1 is a side view of an assembled hair curler embodying the invention.

Fig. 2 is a transverse sectional view on line 2—2 of Fig. 1 with the hair in position.

Fig. 3 is a transverse sectional view on line 3—3 of Fig. 1.

Fig. 4 is a perspective view of the curler tube.

Fig. 5 is a perspective view of the plunger and hair clamp removed from the curler tube.

Fig. 6 is a perspective view of a hair pin as used in connection with the hair curler.

Fig. 7 is a side view showing the curler applied to the flat hair before the curl rolling operation is begun.

Fig. 8 is a side view showing the curl formed on the curler and a flat hair pin having one leg partly inserted into a slot of the curler tube inside of the curl while the other leg is clamping the hair against it from the outside of the curl.

Fig. 9 is a side view showing the curler tube with curl formed thereon and held together by a hair pin after the plunger has been removed from the tube.

Fig. 10 is a side view showing the completed curl after complete removal of the curler therefrom while the shape of the curl is maintained by the hair pin.

Referring to the drawing a cylindrical tubular body 11 with open ends is shown. The body is preferably made of pyroxyline compound with a wall preferably about $\frac{1}{16}$ inch thick. This tube 11 is provided with a plurality of slots 12 which extend through the tube wall and from one end of the tube longitudinally to a point beyond the middle of its length. By these slots of which preferably three are provided the same number of prongs 14, arcuate in cross section, are formed in the tube wall. Each of these prongs terminate in a pointed end 13 to form gradually narrowing entrance openings to slots 12. The opposite rear end of the tube 11 is provided with a pair of short narrow recesses 15 diametrically opposite to each other in the tube wall through which they extend.

The hollow interior of tube 11 is partly occupied by a plunger 16 which preferably extends from the rear end of tube 11 to a point beyond the middle thereof where it terminates in a pointed end. Plunger 16 is preferably made of aluminum but may also be made of plastic compound or other suitable material. When in position, the rear end of the plunger extends a suitable distance beyond the rear end of the tube 11. This end portion is shown flattened to form a handle 17 but may be shaped to form a tang for carrying a separate handle. A hair clamp 18 has one end fastened to the plunger 16 near the handle 17 by means of a perforated disk 19. The disk fits closely over the plunger 16. This clamp consists of a strip of metal integral with disk 19 and extends from said disk forward to a point beyond the front end of tube 11. It is shaped to conform to the cylindrical shape of the outside of tube 11 against which it is pressed by the action of spring portion 20 formed near disk 19 by bending the metal strip outward as shown in Fig. 1. Disk 19 is fastened on plunger rod 16 by suitably deforming the metal of plunger rod 16 at both sides of the disk and simultaneously forming thereon projections 21 at diametrically opposite points of the plunger rod. These projections are adapted to engage the disk on both sides thereof, and the projections on the inner side of the disk are adapted to enter the recesses 15 in the end of

tube 11 when plunger 16 is fully inserted therein and they serve to hold the plunger 16 locked to the tube 11 for common rotation by means of handle 17.

The operation of this hair curler is as follows:

The end of the hair portion which it is desired to curl is placed transversely against the slotted portion of curler tube 11 from which the plunger 16 with clamp 18 has previously been removed. While the curler and hair are held in this position the plunger 16 is inserted into the rear end of the curler tube 11 and pushed forward therein while the clamping strip 18 slides over the hair which lies on the slotted portion of the curler tube surface until the plunger is stopped when the disk 19 reaches the end of tube 11. The pointed front end of spring-clamp assists to lead the clamp to slide over the hair. This position is illustrated in Fig. 7. When the hair is thus clamped on tube 11 by clamp 19 the piston 16 with tube 11 thereon is rotated by means of handle 17, the projections 21 engaging recesses 15 to join tube 11 to plunger 16. By this rotation a curl of hair is rolled on the tube 11. When sufficient hair covers the tube one leg of a flat spring hair pin 22 is inserted longitudinally in one of the slots 12 guided into the slot between the tapered ends 13 of prongs 14. When the leg of pin 22 is pushed farther into the tube 10 its front end is guided outward by the tapered front end 23 of plunger 16 so that it occupies a position between the side walls of slot 12 formed by the thickness of tube 11. The other leg of the hair pin will be slightly lifted as shown in Fig. 8 to slide at the same time over the hair which forms the curl on the outside of tube 11. This completed operation is shown in Fig. 8. The plunger 16 with clamp 18 is then pulled rearwardly out of tube 11 so that the curl remains on the tube as shown in Fig. 9 and finally the curl is stripped from tube 11 but remains perfectly formed and clamped between the two legs of hair pin 22. The hair curler may then be used to form another curl and as many as desired thereafter. When the hair has completely dried which requires only a short time with this curler, the hair pins are removed and the curls support themselves in perfect shape.

It will be evident from the foregoing description that this novel hair curler is extremely simple in its construction as well as its application and embodies many advantages over the curlers heretofore in use.

Changes in details of construction may of course be made without departing from the principle of the invention and I therefore desire to be limited only by the state of the prior art and the appended claims.

I claim:

1. A hair curler comprising tubular body open at both ends having a plurality of slots extending longitudinally from one of its ends towards the middle of said body, a member movable within the hollow part of said body and guided by the wall thereof and protruding from the opposite end of the body, a bar having one end fastened to the protruding part of said member to extend parallel to said body and in contact therewith, said bar being adapted to cover one of the slots in said tubular body.

2. A hair curler comprising a tubular body open at both ends having a slot in its wall extending longitudinally from one end towards the middle of said body, a member movable within the said body and guided by its wall and having one end protruding from said body, a clamping member fastened to said protruding portion and adapted to slide lengthwise along the outside of said body in proximity therewith and to clamp hair between said body and clamping member, the slot in said tube being provided to accommodate one leg of a hair pin between the hair held thereon and the member within said tube.

3. A hair curler comprising a tubular body open at both ends having a longitudinal slot through its wall terminating in a flared opening at one end of said body, a plunger movable within the hollow of said body and guided by the walls thereof, a handle on the plunger protruding from the opposite end of said body, a clamping member rigidly held on said plunger and extending along the outer surface of said body towards the slotted end thereof and resilient means on said clamping member to press it against said body.

4. In a hair curler, a tubular body having a longitudinal slot open towards one end of said body and a recess in the wall of said body open towards the opposite end, a plunger movable within the hollow of said body, an elongated clamping bar of arcuate cross section engaging the outside of said body, one end of said bar being pointed and the other end forming an eye portion passing over said plunger, projections formed on said plunger for fastening said eye portion thereto, some of said projections being adapted to engage the recess in one end of said body to prevent rotary motion between said plunger and said body.

5. In a hair curler, a tubular member having both ends open, a removable elongated clamping member of arcuate shape adapted to overlie said tubular member in close proximity thereto, a plunger member connected to the clamping member to guide same in its lengthwise movements, said clamping member being formed with a bowed spring portion for urging the clamping member down on the tubular member and a handle on the plunger member, said tubular member being formed with a plurality of spaced slots extending longitudinally of the tube from one edge thereof to a point beyond the middle for accommodating a hair pin or the like.

6. In a hair curler, a tubular member, a plunger member, an elongated clamping member of arcuate shape carried by said plunger member and adapted to overlie said tubular member in close proximity thereto, means of connection between said tubular member and plunger member for preventing relative longitudinal movement in one direction and relative rotary movement between said tubular and plunger members, spring means for urging the clamping member toward the tubular member and a handle on the plunger member.

7. In a hair curler, a tubular member, a plunger member, an elongated clamping member of arcuate shape carried by said plunger member and adapted to overlie said tubular member in close proximity thereto, means of connection between said tubular member and plunger member for preventing relative longitudinal movement in one direction and relative rotary movement between said tubular and plunger members, said tubular member being provided with a plurality of spaced slots extending from one end thereof lengthwise of the body to a point beyond the middle thereof for accommodating a hair pin.

SIEGFRIED BEHR.