Nov. 21, 1944. R. KRASBERG 2,363,131

HAIR CURLER

Filed March 1, 1944

FIG. 1.

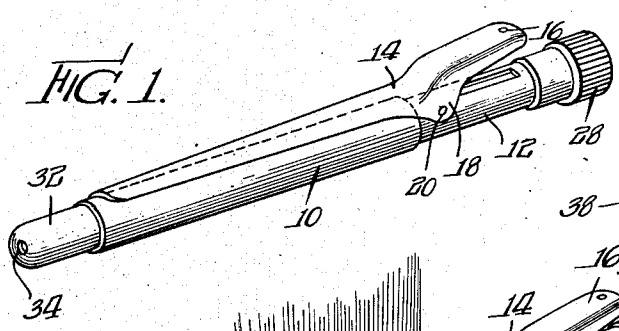


FIG. 2.

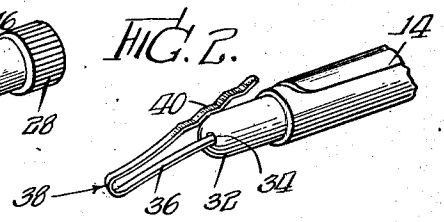


FIG. 3.

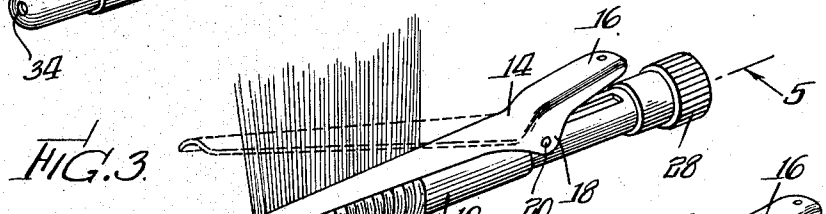


FIG. 4.

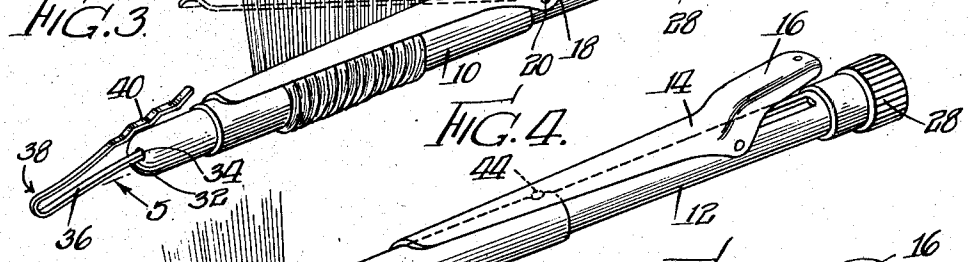


FIG. 6.

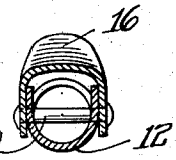


FIG. 5.

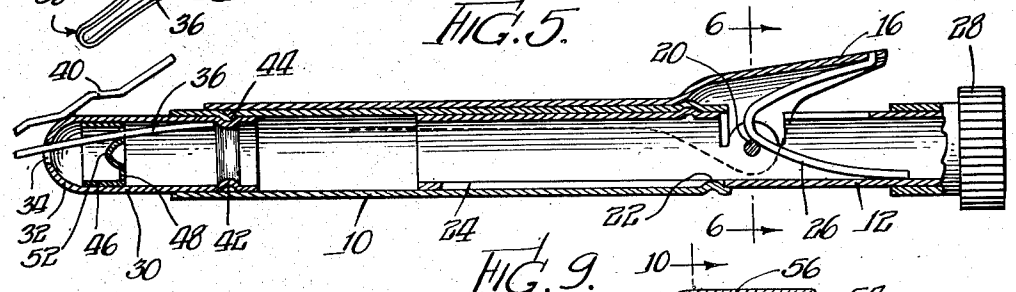


FIG. 9.

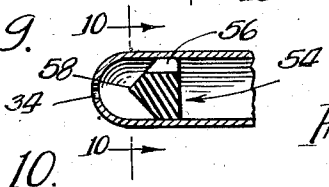


FIG. 7.

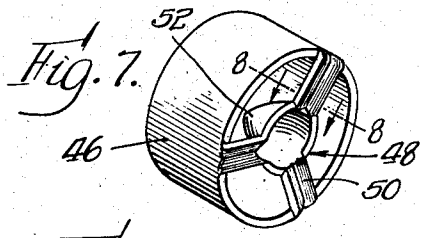


FIG. 10.

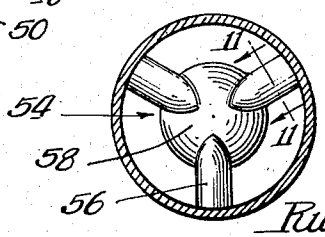


FIG. 11.

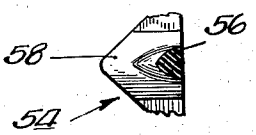
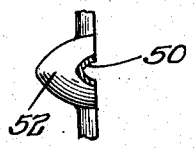


FIG. 8.



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HAIR CURLER

Rudolf Krasberg, Chicago, Ill.

Application March 1, 1944, Serial No. 524,514

4 Claims. (Cl. 132—34)

This invention relates generally to hair curlers and more particularly to curlers of the type adapted to be used for associating a hair curl with a conventional clip.

The present invention constitutes an improvement over the device shown in my co-pending application Serial No. 360,035, filed October 7, 1940. In my aforesaid co-pending application I have disclosed means for impositively gripping or accommodating one leg of a conventional spread hair clip. That construction necessitates the use of an internally positioned elongated member, the relatively long external surface of which cooperates with the elongated internal surface of a companion member to provide an axially extending recess receiving one leg of the hair clip. The present invention contemplates an extremely simplified and more efficiently operable device which precludes the necessity of forcing the clip along the elongated surfaces just referred to.

More specifically, the invention contemplates a hair curler device which is generally tubular in construction capable of being formed from sheet metal or plastic materials, said tubular structure being provided at one extremity with an improved efficiently operable arrangement for spreading a hair clip or bobbie pin and impositively securing one leg of the spread hair clip or bobbie pin in place.

Still more specifically, the present invention contemplates a hair curling device of the type referred to above wherein one leg of a bobbie pin may be initially inserted at an angle to the axis of the tubular structure and easily moved thereinto so as to facilitate the initial spreading of the pin and thereby enhance the ease with which a hair curl may be moved into association therewith.

The foregoing and other objects and advantages will be more apparent from the following detailed description when considered in connection with the accompanying drawing, wherein:

Fig. 1 is a perspective view of a hair curler of the type contemplated by the present invention;

Fig. 2 is a fragmentary perspective view of the clip receiving extremity of the curler of Fig. 1 with a hair clip shown in operative association therewith;

Fig. 3 is a perspective view of the clip as shown in Fig. 1 with a hair curl and hair clip shown in operative association with the device during the initial formation of the curl;

Fig. 4 is a perspective view similar to Fig. 3 disclosing the extended position occupied by the telescoped parts of the device of Fig. 3 when the hair curl is about to become associated with the clip;

Fig. 5 is an enlarged longitudinal sectional view of the device as shown in Fig. 1 with a clip fragmentarily shown in operative association therewith, said view being taken substantially along the line 5—5 of Fig. 3;

Fig. 6 is a detailed sectional view taken substantially along the line 6—6 of Fig. 5;

Fig. 7 is a fragmentary perspective view of the internally positioned element which cooperates in effecting the flexing of the inserted leg of a hair clip;

Fig. 8 is a detailed fragmentary sectional view of the device shown in Fig. 7, said view being taken substantially along the line 8—8 of Fig. 7;

Fig. 9 is a fragmentary view similar to the left extremity of Fig. 5 disclosing a modified type of clip flexing insert capable of being produced from a solid material such as a plastic material;

Fig. 10 is an enlarged transverse sectional view taken substantially along the line 10—10 of Fig. 9; and

Fig. 11 is a fragmentary sectional view taken substantially along the line 11—11 of Fig. 10.

Referring now to the drawing more in detail, it will be seen that one embodiment of the invention contemplates a hair curling device which includes an external tubular structure or elongated sleeve 10. This sleeve or tube 10 has a smooth outer peripheral surface for receiving or accommodating the hair strands to be curled. This tube is slidably mounted on an elongated supporting means comprising a tube or rod 12. Pivotally supported on the tube or rod 12 is a clamping or hair retaining means comprising a member 14 having a finger portion 16 and depending ears 18 receiving pivot pin 20. The member 14 is arcuate in cross section so as to conform substantially to the peripheral contour of the sleeve 10.

The sleeve or tube 10 is telescopically slidable on the support member 12 from the inner or retracted position, shown in Figures 1 and 3, to the outer or extended position shown in Figure 4. The parts are guided in their relative telescopic movement by an inward protuberance 22 extending into a longitudinal slot 24 in the tube or rod 12. This protuberance also, by engaging the ends of the slot, limits the relative telescopic movement of these parts.

A leaf spring 26 of U-shaped configuration is interposed between the inner surface of the manually operable finger 16 and the surface of the tube 12, as clearly illustrated in Figure 5. The center portion of the spring rests upon the pivot pin 20. A suitable knob or handle 28 is secured to the extremity of the tube or rod 12 in any suitable manner.

In the outer end of the sleeve 10 is rotatably mounted a hair clip holder comprising a thimble-like shell or cap 30 having a relatively thin cam shaped outer end wall 32 provided with an axial opening 34 to receive one leg 36 of a conventional hair clip or bobbie pin designated generally by

the numeral 38. The other and corrugated leg 40 of the clip is designed to engage the peripheral outer surface of the holder at the rounded corner or margin of the holder. To secure the holder or cap against axial displacement with respect to the sleeve 10 while permitting its free rotation relative thereto, the holder is formed with an annular groove 42 which receives the complementary annular bead 44 formed in the sleeve 10 adjacent its outer end. To facilitate spreading of the clip or bobbie pin at a wide angle to the hair receiving surface of the tube 10 without interfering with the substantially free and ready insertion of the clip into the holder, I mount within the holder 30 a cylinder 46 having a spoked disk-like member 48 at its inner end. The disk-like member 48 is formed by angular spaced relatively narrow radial spokes 50 extending from the outer radial edge of this member to a central relatively pointed dome-shaped cam member 52 concentric to the axis of the holder and the opening 34. The spokes 50 are preferably also made dome shaped in cross section, as best illustrated in Figure 8, so as to have a camming action when engaged by the end of the leg 36 of the hair clip or bobbie pin. The cylinder 46 may be secured in any convenient manner to the inner surface of the holder 30 and is preferably positioned relatively adjacent the rounded or cam end 32 of the holder.

It will be noted that on insertion of the leg 36 of the hair clip or bobbie pin 38 in the opening 34 at an angle to the axis of the curler, preferably by tilting the clip slightly downward at its outer end while inserting the leg 36, the end of the leg 36 will first engage the dome shaped cam 52 slightly above the relatively pointed end thereof and as the clip is further inserted, this cam directs the leg 36 through the opening between adjacent spokes and into engagement with the inner surface of the holder at an angle thereto. This inner surface of the holder then bends the end of the leg 36 downwardly about the point of engagement between the leg and the dome shaped cam 52 or an edge of one of the spokes 50. This bending of the free end of the leg 36 of the clip facilitates the spreading of the leg 40 of the clip, as on insertion of the clip, the leg 40 engages the cam end 32 of the holder. Thus this cam end 32 may be made relatively abrupt in character, that is rounded but not pointed, so that when the clip is fully inserted, the leg 40 will extend at a wide angle relative to the hair receiving surface of the sleeve 10 so that the curled hair may be pulled off endwise of the sleeve under the end of the leg 40 of the clip, as indicated in Figure 4.

In my prior application, previously mentioned, the spreading of the leg 40 of the clip was facilitated by means of an elongated, bullet-shaped member in the clip holder, such member forming with the inner surface of the holder a longitudinally extending recess parallel to the axis of the holder which was substantially the same width as the leg of the hair clip so that as the clip was inserted the confining of the inserted leg in such an axially parallel recess aided the spreading of the clip. In the present construction this is accomplished by means of the disk-like member 48 without confining the end of the clip between gripping surfaces which resist the insertion of the clip and require relatively strong pressure on the clip to effect the full insertion of the clip in the holder. In this present construction, the advantageous effect of the spreading of the clip by means acting on the inserted leg of the clip as well as the other leg of the clip is retained, but the resistance to the insertion of the clip is materially reduced, for the inner surface of the holder engages only a relatively small area or length of the leg 36 and the leg of the clip engages the deflector or dome-shaped member 52 substantially at a point. Thus axial resistance to the insertion of the clip is substantially eliminated and a minimum of force is thereby required to be applied by the user to insert and cause the wide angle spreading of the clip.

It should be noted that the inwardly extending annular bead provided by the formation of the groove 42 in the holder serves as a limiting stop or abutment for the hair clip by engaging the free end of the leg 36 of the clip when the clip is fully inserted into the holder.

While actual resistance to insertion of the clip is substantially eliminated, the clip is bent sufficiently, when fully inserted, so that the consequent torsional gripping force of the clip on the holder is sufficient to retain the clip in the holder against inadvertent dropping or pulling out as the handle and tube or rod 12 are turned to curl the strands of hair on the sleeve 10 in its retracted position, during which rotation the holder remains stationary with the hand gripped hair clip. The hair clip holder, therefore, serves in effect as a journal for the outer end of the tube or rod 12 during the rotation of the latter to wind the strands of hair on the sleeve 10.

In the form of the invention shown in Figures 1 to 8, the cylinder 46 with its disk-like member 48 may be formed of sheet metal. In the modification shown in Figures 9 to 11, the member 54 corresponding to the cylinder 46 and disk-like member 48 may be molded from plastic materials. The member 54 comprises angularly spaced, dome-shaped spokes 56 which may be substantially of the same width as the spokes 50 but of considerably greater thickness and tapering from their outer edges where they are cemented to or frictionally grip the inner surface of the holder to the central dome-shaped section or cam 58, as best illustrated in Figures 10 and 11, the spokes 56 being preferably tapered along their forward faces at substantially the same angle as the dome angle of the center section 58 so that when the member 54 is engaged by the inserted leg 36 of the clip, the end thereof will be readily directed into an opening between the spokes, notwithstanding the fact that the spokes extend over the face portion of the central cam section 58.

When using the hair curler device just described, the hair clip or bobbie pin is first inserted within the aperture 34, as previously described, so as to occupy the position shown in Figures 2 to 5. The ends of a lock of hair are then positioned beneath the finger 14 by first pressing the finger 16 so as to elevate the clamping portion 14 to the dash line position shown in Figure 3. The end of the lock of hair being preliminarily wound about the sleeve, the finger 16 is released and the spring 26 causes the member 14 to clamp the lock of hair on the sleeve, as shown in solid lines in Figure 3. The handle of the curler is then rotated to curl the lock of hair about the sleeve 10 and the clamping member 14, while the outer end or holder 30 is held against rotation with the hand gripped hair clip 38.

As previously described, the tube or rod 12 and the sleeve 10 may be freely rotated without imparting rotation to the holder 30 so that the user need not turn the clip against the gripping force of the holder while the curl is being wound on the sleeve 10. When the lock of hair has been

completely curled upon the sleeve 10, the user then grips the curl slightly between the thumb and forefinger of one hand while an outward pull is exerted on the handle 28 by the other hand, so that the holder 30 and the hair clip are moved inwardly of the sleeve 10. When the protuberance 22 is engaged by the forward edge of the slot 24 while the curl of hair is still gripped by the thumb and forefinger of one hand, the sleeve 10 is withdrawn from the curl as the curl is transferred onto the holder and beneath the leg 40 of the clip. Continued pull on the handle, while the curl is still grasped between the thumb and forefinger, transfers the curl to the clip as the clip is held stationary by the grasped curl and the clip, having already gripped the curl at the outer end of the clip, is thus withdrawn from the holder. Then it is an easy matter to push the clip farther over the lock of hair.

From the foregoing it will be apparent that my invention contemplates a curler which is extremely simple in construction and extremely easy of manipulation to form the curl and to place the curl in the hair clip or bobbie pin. With this hair curler no preliminary manual spreading of the clip prior to the application of it to the curling iron is required.

Obviously the invention is not limited to the specific structural details disclosed herein but contemplates other advantages and modifications in structural design coming within the scope of the claims appended hereto.

The invention is hereby claimed as follows:

1. A hair curler comprising a cylinder, the external periphery of which provides a hair receiving and curling surface, a hair retainer associated with said cylinder and overlying said surface at one end of the cylinder, a hollow hair clip holder extending from the opposite end of said cylinder, said holder having a relatively thin and blunt cam-shaped outer end wall with an axial opening therethrough permitting insertion into the holder of one leg of the hair clip, a disk-like member mounted in said holder, said member having a cam-shaped face portion aligned with said axial opening for engagement with the inserted leg of the hair clip when said leg is inserted into said opening in the holder, and said member having an opening therein through which the leg of the clip is directed by said face portion at an angle to the inner surface of the holder for causing bending of the inner end of the inserted leg of the clip about the edge of the opening in said member as the clip is pushed further into the holder, whereby to facilitate spreading of the other leg of the clip at a wide angle to said curling surface as said other leg on insertion of the clip in the holder moves over the relatively blunt cam-shaped outer end wall of the holder.

2. A hair curler comprising a cylinder, the external periphery of which provides a hair receiving and curling surface, a hair retainer associated with said cylinder and overlying said surface at one end of the cylinder, a hollow hair clip holder extending from the opposite end of said cylinder, said holder having a relatively thin and blunt cam-shaped outer end wall with an axial opening therethrough permitting insertion into the holder of one leg of the hair clip, a disk-like sheet metal member mounted in said holder, said member having a central cam-shaped face portion aligned with said axial opening for engagement by the inserted leg of the clip and said member having radial spokes extending outwardly from said central section and forming openings therein through one of which the leg of the clip is directed by said face portion at an angle to the inner surface of the holder for causing bending of the inner end of the inserted leg of the clip about the edge of the opening in said member as the clip is further pushed into the holder, whereby to facilitate spreading of the other leg of the clip at a wide angle to said curling surface as said other leg on insertion of the clip in the holder moves over the relatively blunt cam-shaped outer end wall of the holder.

3. A hair curler comprising a cylinder, the external periphery of which provides a hair receiving and curling surface, a hair retainer associated with said cylinder and overlying said surface at one end of the cylinder, a hollow hair clip holder extending from the opposite end of said cylinder, said holder having a relatively thin and blunt cam-shaped outer end wall with an axial opening therethrough permitting insertion into the holder of one leg of the hair clip, a disk-like member of plastic material having radial spoke portions tapered from the central cam-shaped section aligned with said axial opening for engagement with the inserted leg of the hair clip when said leg is inserted into said opening in the holder, said spokes providing openings therebetween through which the leg of the clip is directed by said face portion at an angle to the inner surface of the holder for causing bending of the inner end of the inserted leg of the clip about the edge of the opening in said member as the clip is further pushed into the holder, whereby to facilitate spreading of the other leg of the clip at a wide angle to said curling surface as said other leg on insertion of the clip in the holder moves over the relatively blunt cam-shaped outer end wall of the holder.

4. A hair curler comprising a cylinder. the external periphery of which provides a hair receiving and curling surface, a hair retainer associated with said cylinder and overlying said surface at one end of the cylinder, a hollow hair clip holder extending from the opposite end of said cylinder and rotatably mounted therein to provide a hand held journal for said cylinder when the clip is inserted in the holder and the cylinder rotated to form a curl thereon, said holder having a relatively thin and blunt cam-shaped outer end wall with an axial opening therethrough permitting insertion into the holder of one leg of the hair clip, a disk-like member mounted in said holder, said member having a cam-shaped face portion aligned with said axial opening for engagement with the inserted leg of the hair clip when said leg is inserted into said opening in the holder, and said member having an opening therein through which the leg of the clip is directed by said face portion at an angle to the inner surface of the holder for causing bending of the inner end of the inserted leg of the clip about the edge of the opening in said member as the clip is further pushed into the holder, whereby to facilitate spreading of the other leg of the clip at a wide angle to said curling surface as said other leg on insertion of the clip in the holder moves over the relatively blunt cam-shaped outer end wall of the holder.

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