Dec. 2, 1941. E. R. BERG 2,264,356

CURLING DEVICE

Filed March 15, 1941

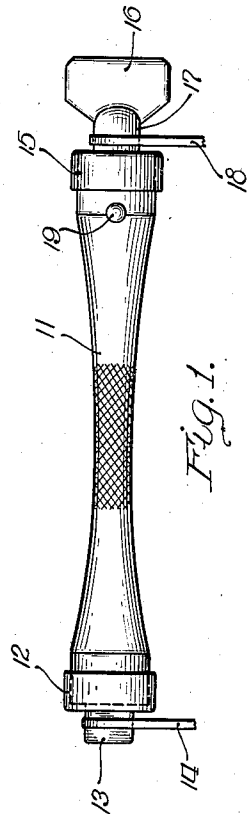


Fig. 1.

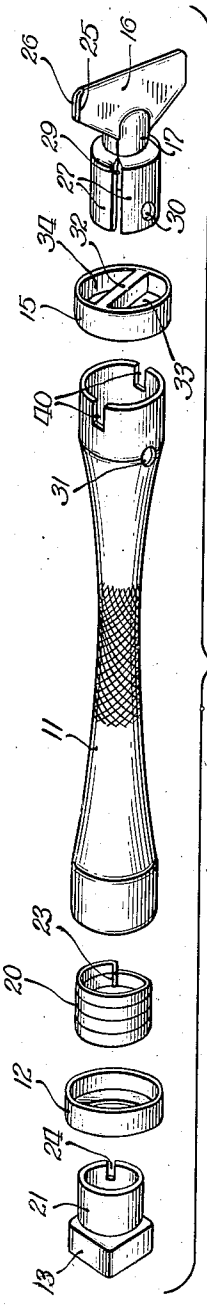


Fig. 2.

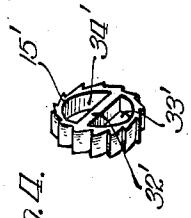


Fig. 4.

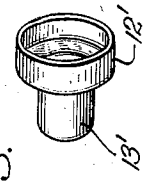


Fig. 3.

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CURLING DEVICE

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7 Claims. (Cl. 132—33)

This invention relates to hair curling devices, and is particularly concerned with a new and improved hair curling rod comprising stamped, rolled or drawn parts which are assembled together to form the rod.

The curling device or curling rod forming the object of the invention is used in conjunction with a holder (usually termed "protector") which is made of two hinged and suitably padded parts. The holder is positioned close to the head and holds a strand of hair near the roots thereof.

The curling rod heretofore used with such a holder or protector is made in one embodiment in the form of an integral machined rod equipped at one end with a handle, a ratchet and a journal portion for engagement with a suitable bearing projecting from the holder. At the other end the old curling rod carries a second integral journal portion for engagement with a companion bearing on the holder. The tip of the strand of hair is attached to the central portion of the integral curling rod by means of a suitable clip hingedly provided thereon, and the rod is then twisted or rotated so as to wind the strand of hair on it, gradually shortening the distance between the curling rod and the holder until the journal portions of the curling rod are near the holder and are inserted into the bearing portions thereof. The ratchet then engages a suitable detent provided on the holder. Additional twisting or rotating of the curling rod tightens the strand of hair, the ratchet and detent providing for retaining the tightening pull and stretching the coil of hair on the rod. Suitable packing and/or heating is then applied to the tightened assemblage to set the hair wound on the curling rod. Upon finishing the operation, the strand of hair is unwound, combed, and set to form the wave shape imparted thereto.

Some of these curling devices are made without a ratchet on the curling rod. They are instead equipped at one end with a polygonal rotatable journal portion engaging a polygonally formed fixed bearing on the holder. The polygonal journal projects into the curling rod at the corresponding end thereof (opposite the handle end) and holds a spring in frictional engagement with the rod inside thereof so as to permit the polygonal journal (and thereby the curling rod) to turn in only one direction. This spring-polygon assemblage thus takes the place of the ratchet-detent assemblage of the previously described embodiment.

The above noted device in either embodiment and the operation thereof are well known. The curling rod was made integral of a machined piece requiring relatively expensive labor and consuming considerable material.

The object of the present invention is a curling rod mainly made up of a plurality of stamped, drawn or rolled parts. The curling rod, as made according to the invention, consumes less material, requires less labor, and furnishes a curling rod which combines with these advantages all the virtues of previously known curling rods. The new curling rod may be provided with a ratchet for coaction with a holder having a detent, or with a polygonal journal for coaction with a holder which is not equipped with such detent.

The invention will now be described with reference to the accompanying drawing, wherein—

Fig. 1 is a plan view, on an enlarged scale, of one embodiment of the new curling rod;

Fig. 2 represents an exploded view of the device illustrated in Fig. 1, showing the individual parts on an enlarged scale; and

Figs. 3 and 4 illustrate, on an enlarged scale, a journal cap and a ratchet cap, respectively, for use in connection with another embodiment of the curling rod.

Referring now to the drawing, wherein like parts are designated by like reference numerals, the new curling rod comprises a central section 11 which is made by stamping and/or rolling operations and is thus of tubular structure. The rod may be roughened in its central portion, as indicated. A hollow stamped cap 12 is attached by press-fit engagement to one end of the central section 11. Numeral 13 designates a journal member which is of polygonal shape for fixed engagement with a bearing member 14. The latter forms part of the previously mentioned holder or protector. At the other end of the central section 11 is provided a hollow stamped or drawn cap 15. This cap holds the handle 16 in engagement with the central section 11 and against rotation in a manner to be described later on. The handle 16 has a circular shank including a journal section 17 for rotatable engagement with the bearing 18 provided on the holder. Numeral 19 designates a pin driven through the central curler section 11 and through the shank of the handle 16 which projects thereinto so as to hold the handle against longitudinal displacement. The pin may also form a journal for a clip (not shown) hingedly attached to the rod 11 for holding the tip of the strand of hair upon initiating the winding action. A separate journal pin may be used for mounting this clip, if desired.

The individual parts of the above described assemblage will now be described with reference to the exploded view, Fig. 2.

First to be considered are the parts shown at the left end of the curling rod 11. The cap 12 is slipped on the barrel portion 21 of the journal member so that its end engages the shoulder formed by the (larger) polygon 13 which is integral with the barrel. The flat coil spring 20 is then slipped on the barrel portion 21 of the journal member. One end of the spring is angularly bent, as shown at 23, for insertion into the slot 24 provided on the barrel 21. The end 23 of the spring 20 is riveted in place in the slot 24 of the barrel 21 and thus forms an assemblage with the journal member 13/21 and the cap 12. This assemblage is attached to the left hand end of the tubular central curler section 11 by inserting the spring thereinto. The cap 12 is made for press-fit attachment to the outside of the tubular central section 11 to hold the journal member 13 with its barrel 21 and spring 20 attached thereto in place. The journal member 13/21 can be twisted in only one direction, namely, in the direction of tightening the spring. If it were intended to rotate it in the opposite direction, the spring would tend to expand and in spreading would produce friction against the inside wall of the central curler section 11, preventing such rotation. The radially disposed face or end wall of the cap 12 is positioned between the polygon and the outer end of the spring and the spring is attached in turn to the barrel 21. The journal 13/21 and the cap 12 are each made of a single stamped piece.

The handle 16 is made of a stamped blank formed by an additional stamping operation or operations into the shape shown in the drawing at the right end of Fig. 2. The blank is folded in the middle and the two sides 25—26 thereof are bent upon each other as shown, forming the shank which comprises the two parts 27 and the journal portion 17 for rotatable engagement with the bearing 18 (Fig. 1) provided on the previously mentioned holder. The blank for making the handle is shaped so as to provide a slot 29 on either side of the shank 27. A hole 30 may be provided in the shank for receiving the pin 19 which is inserted through the hole 31 in the end of the central section 11. The outside diameter of the shank 27 corresponds substantially to the inside diameter of the rod 11 at the right hand end thereof.

The cap 15, which may also be a stamped or drawn piece, is provided with a rib 32. The rib thus divides the cap 15, providing thereon the two apertures 33 and 34. The inside diameter of the apertures corresponds substantially to the outside diameter of the central curler rod 11 at the right hand end thereof and for press-fit engagement therewith. The cap is pressed into position on the end of the curler rod 11 with the rib 32 engaging the grooves 40. The cap is thus firmly attached to the rod 11 and is held against rotation by the rib 32. The end of the cap 15 is flush with the end of the curler rod. The shank 27 of the handle consisting of two parts separated by the slots 29 is pushed through the apertures 33 and 34 now at the end of the curler rod since the cap is attached to the rod, and the shoulder on the shank merging over into the journal portion 17 is substantially in alignment with the end of the curler rod. The rib 32 holds the handle against rotation. The pin 19 may then be inserted through the holes 31—30, which are in transverse alignment, for securing the handle against axial displacement. The pin also holds the handle additionally against rotation. The rib 32 on the cap 15 thus constitutes a means for holding the handle against rotation relative to the central section 11 independently of the pin.

The curling rod assembled as described above forms the structure shown in Fig. 1. The central curler section 11, as already mentioned, may be provided with a stamped clip (not shown) for holding the tip of the strand of hair that is to be wound thereon.

The holder or protector may consist, as previously intimated, of a simple appliance comprising two hinged, suitably padded parts for clamping together a strand of hair close to the head of the person whose hair is to be waved. The strand of hair projects from this clip holder. The curling rod shown in Fig. 1, comprising the parts described in connection with Fig. 2, is used for winding the strand of hair. The operation is as follows:

The tip of the strand of hair is put on the central section 11 and held there with aforementioned clip. The operator then rotates the curling rod 11 by means of the handle, thus winding the hair on the central section thereof, gradually shortening the strand of hair. When the winding operation has proceeded to a point approaching the head of the person, where the protector is positioned, the operator will insert the polygonal journal section 13 into the bearing section 14 of the holder, and the corresponding round journal section 17 of the handle into the bearing 18 on the holder. The rotation of the curling rod can proceed in only one direction, due to the assemblage of the journal barrel 21 and spring 20, inside of the left end of the curling rod. Therefore this barrel 21, the journal 13 and the spring 20 function in the nature of a ratchet, preventing rotation of the curler rod in one direction while permitting it in the other. In rotating the rod in the proper direction the operator tightens the coil of hair wound thereon. A suitable packing may then be applied, either alone or in conjunction with heat, so as to set the coil of hair wound on the curling rod. After a certain time has elapsed, the strand of hair is unwound from the rod and the clip holder is released from the head, whereupon the strand of hair may be set to form the wave imparted thereto.

Figs. 3 and 4 show two caps 12' and 15' which may be substituted for the caps shown by unprimed reference numerals 12 and 15 in Figs. 1 and 2, to form a curling rod adapted for operation in conjunction with a holder provided with a detent, and therefore requiring a ratchet. The cap 15' again may be made integrally of a stamped or drawn piece with a rib 32' corresponding to the rib 32 shown with the cap 15 in Fig. 2. This results in a structure having the apertures 33' and 34' for holding the cap (ratchet) and the handle on the corresponding end of the central curler section 11, as previously described. The only difference between the cap 15' and the cap 15 is that the former is somewhat larger and is provided with teeth forming a ratchet, as shown.

Inasmuch as the ratchet wheel formed by the cap 15' cooperates with a detent on the holder, it is not necessary to have an internal spring means acting in the nature of a ratchet as described with reference to the previous embodiment. The journal and barrel 13/21 are therefore omitted. The cap 12' is substituted for the cap 12 of Figs. 1 and 2, forming a simple cir-

cular bearing or journal projection 13' in place of the polygon 13. The cap 12' of Fig. 3 is attached in press-fit engagement with the left end of the tubular central curler section 11 in the same manner as previously described in connection with the cap 12.

The caps 12 and 15 or, in the alternate embodiment, the caps 12' and 15' may be secured in place by press-fit engagement as described, and this engagement may be made more secure, if desired, by upsetting or swaging the caps at one or more points so as to establish a firm connection with the rod 11.

The embodiment of the curling rod comprising the members shown in Figs. 3 and 4 and, of course, the handle 16 and the central section 11 between the caps 12' and 15' operates exactly as the one shown in Figs. 1 and 2 so far as the winding of the strand of hair is concerned. The tightening of the strand of hair is, however, accomplished by the ratchet coacting with a suitable detent.

In either embodiment the curling rod is made of individual parts which are produced by stamping, drawing or rolling operations. The machining which is necessary when the curler rod is made of an integral piece is substantially eliminated, resulting in considerable saving in the cost of labor. The new curling rod also saves material and, depending on what type of material is used for the individual parts as compared with a solid machined curling rod, can be made lighter. The invention gains importance in view of scarcity of materials such as aluminum from which the machined curler rods were formerly made. Other materials, for example, stainless steel or the like, may be used for making the stamped, drawn or rolled parts. The term "stamped" or "stamping," as used herein and in the appended claims, is intended to denote stamping as well as drawing or rolling operations.

The drawing shows certain embodiments for illustrative purposes only, to teach others how the invention may be realized in practice. Changes may be made in details and in the assemblage of parts, within the scope and spirit of the appended claims, wherein I have defined what I believe is new and desire to have protected by Letters Patent of the United States.

I claim:

1. A hair curling device made of parts which are produced by stamping or the like operations, comprising a tubular central section, a handle for rotating said central section, a shank projecting from said handle for insertion into said tubular central section at one end thereof, a cap for attachment to said end of the central section, means on said cap engaging said shank for holding said handle against rotation relative to said central section, and means for holding said handle against axial displacement relative to said central section.

2. The structure defined in claim 1, together with a holder having bearings for holding said device, and a journal section on said shank for rotatable engagement with a bearing on said holder.

3. The structure defined in claim 1, together with ratchet teeth on said cap which are integral therewith.

4. The structure defined in claim 1, together with a holder provided with longitudinally spaced bearing members for rotatably supporting said device, a journal section on said shank for rotatable engagement with one of the bearings on said holder, a cap for attachment to the other end of said central section, and a journal portion projecting from said last named cap for rotatable engagement with the other bearing on said holder.

5. The structure defined in claim 1, together with a holder, two spaced bearing members on said holder, a journal section on said shank for rotatable engagement with one of said bearing members on said holder, a journal member for insertion into the other end of said central section, spring means in said central section which is interposed between said section and said journal member, a journal projection on said journal member and integral therewith for fixed engagement with said other bearing member on said holder, and a cap for holding said journal member on said central section.

6. A curling rod of the class described comprising, in combination, a tubular central section, a cross-sectionally substantially U-shaped cap attached to one end of said central section in relatively fixed relation therewith, an opening in the base of said U-shaped cap, a journal member having a relatively large polygonal outside end section projecting from said opening and a smaller barrel section projecting into said central section, a spring on said barrel section inside said central section for inhibiting rotation of said journal member in one direction relative to said central section, a handle attached to the other end of said central section, a journal section on said handle, means for holding said handle against rotation, and means for holding said handle against axial displacement.

7. A curling rod of the class described comprising, in combination, a centrally disposed tubular curler section, a stamped cap attached to one end of said curler section in relatively fixed engagement therewith, a journal projecting from said cap and being integral therewith, a handle attached to the other end of said central curler section, journal means integral with said handle, a shank integral with said journal means and said handle, a cap attached to said other end of said central section for holding said shank and said journal section and handle against rotation, and ratchet teeth on said last named cap integral therewith.

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