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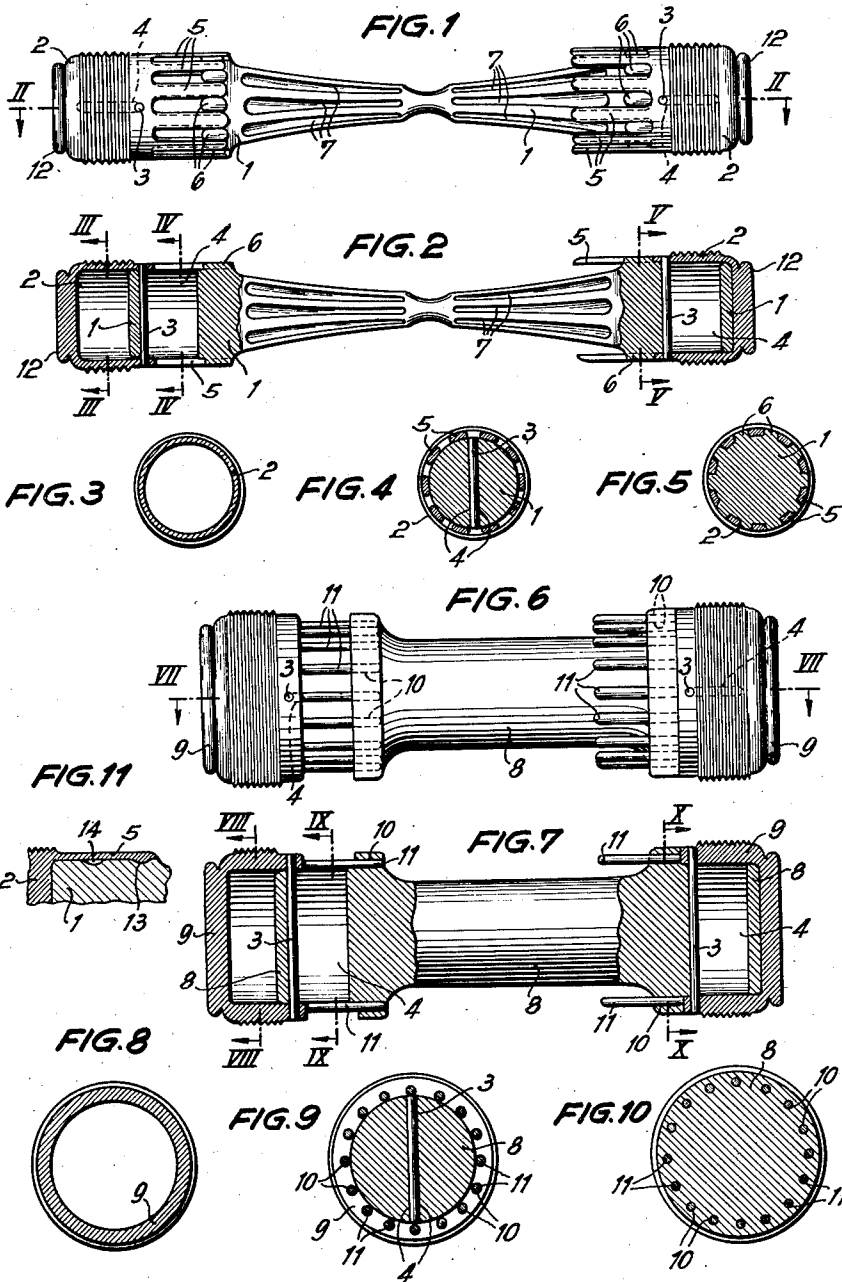
W. BAUMEISTER

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HAIR CURLER

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2 Sheets-Sheet 1



INVENTOR
WILLI BAUMEISTER

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Toulmin & Toulmin
ATTORNEYS

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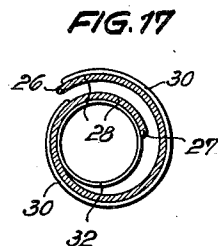
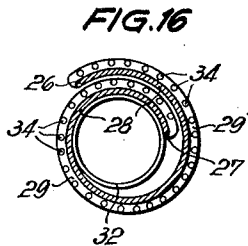
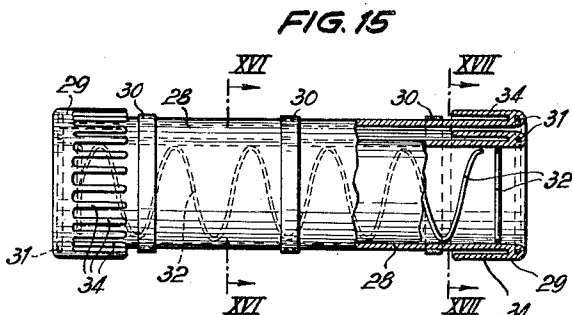
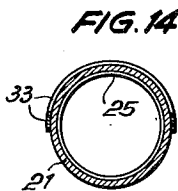
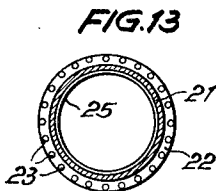
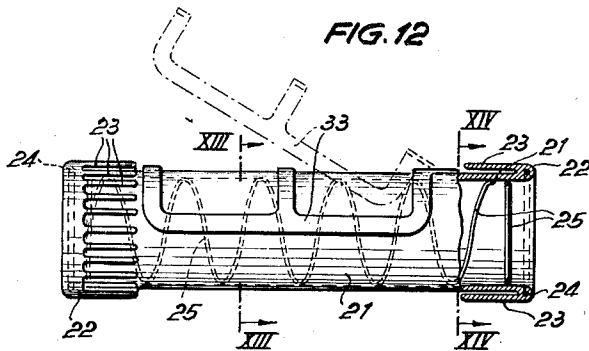
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INVENTOR
WILLI BAUMEISTER

by

Toulmin & Toulmin
ATTORNEYS

1

2,768,633

HAIR CURLER

Willi Baumeister, Bad Segeberg, Holstein, Germany

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7 Claims. (Cl. 132—40)

The present invention relates to a novel type of hair curler.

It is generally known that for the dressing of the hair of women and for the formation of permanent waves in the hair, the hair is wound onto contrivances consisting of elongated cylindrical bodies, or of elongated bodies of circular cross-section whose diameter gradually decreases from the lateral ends of the body toward the middle portion of the latter. Bodies of this kind, hereinafter called curlers, are usually hollow and provided with grooves and perforations. For securing the hair in its position on the curler, after it has been wound onto it, clamping means and elastic strips or the like are employed. However, all of these known curlers have the drawback that they are complicated, and that the pressure exerted by most of them upon the hair, after its softening through chemical action, deforms the hair to a totally undesirable degree, and occasionally even causes the hair to break.

To eliminate these deficiencies of known curlers is the object of the present invention.

In order to solve the problem the invention provides an elongated curler body of known formation, and which at least at both of its ends is of cylindrical shape, with cylindrical caps, embracing the ends of the curler body and adapted for displacement toward and away from the middle portion of the curler. These cylindrical caps are provided with a plurality of comb-like teeth, extending from the caps in the direction toward the middle portion of the curler. Curlers of this novel type may consist of any suitable material, such as metal, wood or artificial material, and may be provided with channels or grooves, and be hollow and provided with longitudinally or transversely extending perforations.

In one form of construction, the curler body is provided on its cylindrical end portions in the proximity of the aforesaid caps with a plurality of projecting guide portions circumferentially surrounding the cylindrical portions and spaced apart in such a way that the comb-like teeth are enabled to engage in the intervals between the projecting guide portions for guidance therein during the displacement of the caps toward and away from the middle portion of the curler. In order to facilitate the engagement and guidance of the teeth in the intervals between the guide portions, the teeth are provided with rounded ends and with inclined side faces in such a way that the cross-section of the teeth is tapered in the direction toward the curler body, while the cross-section of the guide portions is correspondingly tapered in the opposite direction. The caps are further provided with a transversely extending holding pin guided in slots provided in the cylindrical portions. The outer ends of the caps are preferably closed up, and may be suitably shaped to serve as handles. The outer surface of the caps may be roughened in order to facilitate the displacement of the caps in forward and backward direction. The elongated curler body is tapered toward its middle portion, and when the caps are pushed as far as possible onto the

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curler body, the ends of the comb-like teeth project freely above the tapered middle portion of the curler body without being in contact with it.

Instead of securing the hair in position by means of teeth, it is also possible to provide the caps with a plurality of pins, and to devise the ends of the curler body in such a way that the pins of the caps are, during their forward and backward movements, loosely guided in corresponding bores of the curler body.

It is further possible to employ instead of the aforesaid curler body of rigid material, a cylindrical casing of an elastic and not too coarse meshed textile fabric consisting of horse-hair or of horse-hair-like artificial threads, such as nylon or perlon. A casing of this kind may be reinforced or stiffened in its open ends and in its interior by means of ring-shaped steel springs or by a helical spring. At both of its ends the casing terminates in a beaded end portion, consisting for instance of leather-like artificial material and provided with comb-like teeth extending toward the middle portion of the casing and loosely embracing the casing on its outside.

For securing the hair in its position on the cylindrical casing, the latter may be provided, in the vicinity of one of its lateral ends, with a rotatable springy clamping member of artificial material or the like.

In another form of construction the aforesaid casing of elastic textile fabric is so devised that the circumferential ends of the fabric overlap each other, and that the overlapping ends are retained in position by means of flat ring-shaped steel springs, fastened on the outer surface of the fabric, in such a way that the outer end of the fabric can be opened, or outwardly bent, against the resistance of the springs, for the clamping of the hair between the overlapping ends.

In these latter forms of construction, in which the curler body consists of a cylindrical casing of elastic textile fabric, the caps and teeth are not shiftably mounted on the ends of the curler bodies, as has been described for the curler bodies of rigid material. When these elastic curlers are used, the end of the hair is first clampingly secured in position by means of the aforesaid clamping member, or between the spring-pressed overlapping ends. Then, the hair is wound onto the curler. After this the curler is seized at both of its ends and stretched. Whereupon the teeth are hooked into the hair, and the curler permitted to contract to its position of rest, whereby the teeth engage in the wound up hair.

Curlers of these stretchable types have the advantage that they make the shiftable arrangement of the caps and teeth unnecessary, and that they adapt themselves in shape to the shape of the head.

Additional features and advantages of the invention will be understood from a consideration of the following detailed description taken in connection with the accompanying drawings, forming a part of this specification, and in which several embodiments of the invention have been shown by way of illustration. However, I wish to say that the invention is not confined to any strict conformity with the showing of the drawings, but may be changed or modified, so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:

Fig. 1 is a side elevation of a hair curler;

Fig. 2 is a side elevation, partly in section, on line II—II of Fig. 1;

Figs. 3, 4 and 5 are, respectively, a cross-section on lines III—III, IV—IV, and V—V of Fig. 2;

Fig. 6 is a side elevation of a modified form of construction of the hair curler;

Fig. 7 is a side elevation, partly in section, on line VII—VII of Fig. 6;

Figs. 8, 9 and 10 are, respectively, a cross-section on lines VIII—VIII, IX—IX, and X—X of Fig. 7;

Fig. 11 is a sectional detail view of one of the comb-like teeth of the caps of Fig. 1;

Fig. 12 is a side elevation, partly in section, of another form of construction of the hair curler;

Figs. 13 and 14 are, respectively, a cross-section on lines XIII—XIII and XIV—XIV of Fig. 12;

Fig. 15 is a side elevation, partly in section, of still another form of construction of the hair curler;

Figs. 16 and 17 are, respectively, a cross-section on lines XVI—XVI, and XVII—XVII of Fig. 15.

Referring now to the drawings in detail, the reference numeral 1 (in the forms of construction illustrated in Figs. 1 to 11) denotes the hair curler provided with the two cylindrical caps 2 embracing the two lateral ends of the curler, and which can be shifted forward and backward on the ends of the curler, whereby the holding pins 3 of the caps 2 engage in the longitudinal slots 4 of the curler. The caps 2 are provided at their ends turned toward the middle portion of the curler 1 with comb-like teeth 5 which have their free ends rounded off and their cross-sections tapered toward the inside. The curler 1 is provided on both of its end portions with a plurality of projecting and outwardly tapered guide members 6 between which the inwardly tapered teeth 5 are guided when the caps 2 are shifted forward or backward. The curler may be hollow and provided with grooves 7. The caps 2 are preferably roughened on their outer surface, and closed up at their ends, and provided with handles 12. The teeth 5 are provided with stops 13 adapted for engagement in corresponding notches 14 of the curler 1 (see Fig. 11).

The hair curler 8 illustrated in Figs. 6 to 10 is provided near its ends with cylindrical bores 10 which loosely engage correspondingly shaped pins 11 extending from the caps 9.

In the construction shown in Figs. 12 to 14 the cylindrical hair curler 21 consists of textile fabric produced from horse-hair, or from horse-hair-like threads of artificial material. The cylindrical curler 21 terminates at both of its open ends in a beaded edge portion consisting for instance of leather-like artificial material, and which is provided with a plurality of comb-like teeth extending from the beaded edge portions on the outside of the curler toward the middle portion of the latter in such a way that the ends of the curler are loosely embraced by the teeth. Arranged in the open ends of the cylindrical curler are wire rings 24, and for the stiffening of the cylindrical curler a helical spring 25 is arranged in its interior. Rotatably secured to the cylindrical curler 21, in the proximity of one of its lateral ends, is further a springy clamping member 33 of artificial material or the like, by means of which the end of the curl is clampingly secured in its position on the curler.

In the form of construction illustrated in Figs. 15 to 17 the hair curler 28 consists likewise of textile fabric. Here, the circumferential ends 26 and 27 of the piece of fabric forming the curler, overlap each other, while the lateral ends of the curler terminate in beaded edge portions 29 provided with comb-like teeth 34. Fastened on the outer surface of the curler are a plurality of flat ring-shaped steel springs 30 in such a way that they permit the opening of the outer circumferential end 26 of the curler 28. The interior of the curler 28 is stiffened by means of the springs 31 and by the helical spring 32.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A hair curler comprising, an elongated curler member, said curler member being of cylindrical formation at least at both of its ends; a pair of cylindrical caps shiftably mounted on the ends of said curler member, said caps being open at the end turned toward the middle portion of said curler member and provided at said open end with a plurality of tooth-like extensions uniformly spaced apart and loosely embracing said cylindrical ends in comb-like fashion; and a plurality of guide members provided on said cylindrical ends and suitably shaped and positioned for said tooth-like extensions to engage between for their guidance.

2. A hair curler as specified in claim 1, including a holding pin transversely extending through and fastened at both ends to said cylindrical caps; and longitudinally extending guide slots provided in said cylindrical ends of said curler member for said holding pins to engage in.

3. A hair curler as specified in claim 1, in which said tooth-like extensions are provided with rounded end portions; and in which the side faces of said tooth-like extensions are inwardly tapered; and in which the side faces of said guide members are outwardly tapered in conformity with said inwardly tapered side faces of said tooth-like extensions.

4. A hair curler as specified in claim 1, in which said cylindrical caps are closed up at their outer ends, and suitably shaped to facilitate the shifting of the caps, and roughened on their outer surface likewise in order to facilitate the shifting of the caps.

5. A hair curler as specified in claim 1, in which said elongated curler member is so shaped that said tooth-like extensions of said shiftably cylindrical caps freely extend above and below said curler member when said caps are shifted into their foremost position with respect to the middle portion of said curler member.

6. A hair curler as specified in claim 1, in which said tooth-like extensions of said shiftably caps are provided with inwardly projecting stop portions; and in which said cylindrical ends of said curler member are provided with notches suitably shaped and positioned for said stop portions of said tooth-like extensions to engage in when said shiftably caps are shifted into their foremost and rearmost positions with respect to the middle portion of said curler member.

7. A hair curler comprising a curling member being provided at its ends with two caps, said caps being movable toward each other, and annular combs extending from said caps raised and projecting above said caps on all sides thereof, the teeth of said combs being turned toward each other, said comb teeth being provided on the inside with projecting parts being received in respective recesses in said curling member.

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