Feb. 11, 1969 D. J. MERCORELLA 3,426,767

HAIR CURLER

Filed Jan. 11, 1967

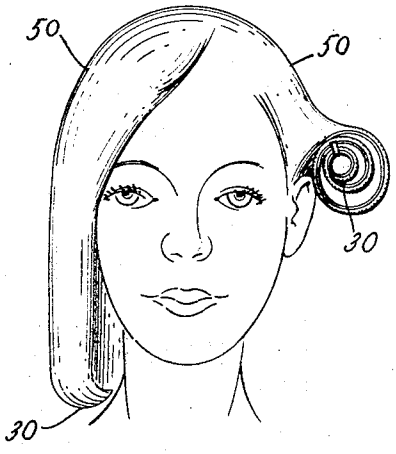
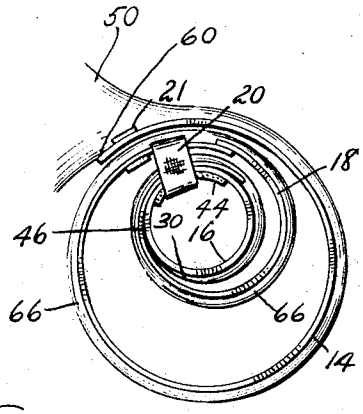


Fig. 1

Fig. 2



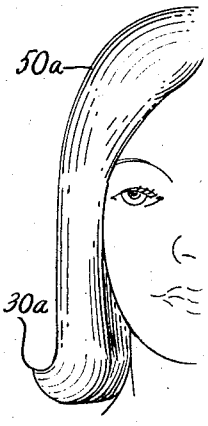


Fig. 3

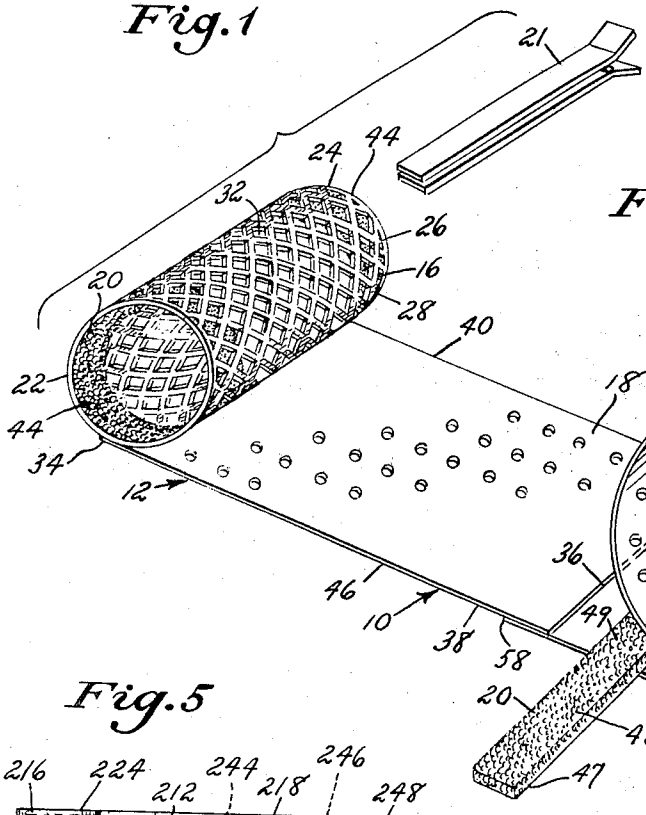
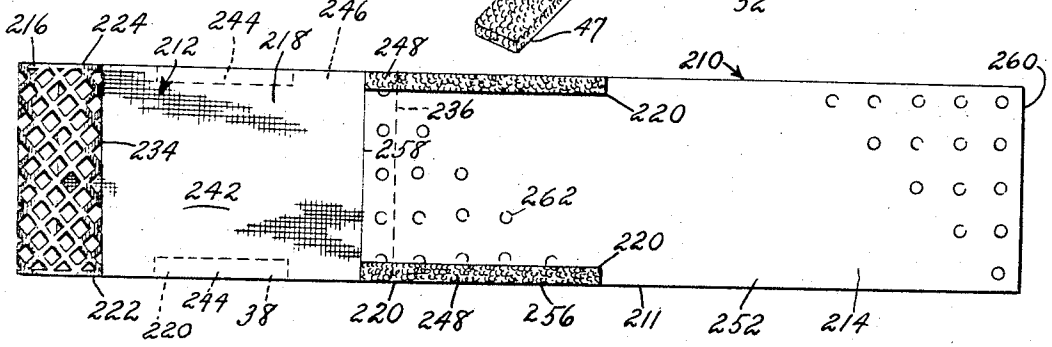


Fig. 4

Fig. 5



United States Patent Office

3,426,767

Patented Feb. 11, 1969

3,426,767

HAIR CURLER

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Filed Jan. 11, 1967, Ser. No. 608,694
U.S. Cl. 132—40 5 Claims
Int. Cl. A45d 2/00

ABSTRACT OF THE DISCLOSURE

Haircurling construction including a bobbin element and elongated curler element including first and second curler numbers, the bobbin element having a general cylindrical form, the first curler member having a confining body and being a flexible material and connected at one end thereof to the bobbin element, the second curler member being composed of stiff flexible material, interconnecting means having first and second elements on the curler element for connecting the curler element upon itself and clip means for detachably securing an outer portion of the second curler member to another portion thereof which is closer to the bottom member for retaining the second curler member in desired position.

This invention relates generally to the curling of hair, and more particularly to improved hair curler construction capable of producing unusual coiffures in which certain portions of the hair are given special variations.

Certain hair styles require configurations of the tresses wherein a portion of the hair is given a gentle rolling curl so as to appear almost straight on the head, and yet other portions, such as the ends, are given sharp curls or "flips" which may be either inwardly or outwardly directed. It is among the objects of the present invention to provide hair curlers of novel construction which in use enable the quick and easy production of such hair styles.

Another object of the present invention lies in the provision of structure of the class described which is not only easy to use but actually assists the user in the placement of the hair on the curler so that less skill and dexterity is required in the production of the desired finished appearance of the hair-do.

Another object herein is to provide hair curler construction which has the above described advantages, but which aids in the drying of hair so that less time is consumed in the drying period.

A further object of the present invention is to provide a novel hair curler with interconnecting means which automatically interengage as the curl is put in place, or which may be manually interengaged.

A feature of the invention is that the improved curler may be manufactured in large scale at low cost so that it may have a consequent wide distribution and use.

These objects and other incidental ends and advantages will more fully appear in the progress of this disclosure and be pointed out in the appended claims.

In the drawings, in which similar reference characters designate corresponding parts throughout the several views:

FIGURE 1 is a front elevational view of a user with the hair on the left in a "page boy" or inward flip style, and with the hair on the right wound in a curler which is a first embodiment of the invention.

FIGURE 2 is an enlarged elevational view comparable to the right-hand portion of FIGURE 1.

FIGURE 3 is a fragmentary elevational view comparable to FIGURE 1 but showing an outward flip style which can be made with the present hair curler.

FIGURE 4 is a perspective view of the first embodiment.

FIGURE 5 is a reduced plan view of a second embodiment, with the small and large curl-producing elements in a developed or flattened position.

In accordance with the first embodiment of the invention shown in FIGURES 1, 2, 3 and 4, the hair curler, generally indicated by reference character **10**, comprises broadly a bobbin element **16**, an elongated curler element **11** including a first or small curler member **12**, and a second or large curler member **14**, and interconnecting means **20**.

The curler member **12** is connected to the bobbin element **16**, and has a confining body **18**. The bobbin member **16** is generally cylindrical in shape, having ends **22** and **24**, and a foraminous wall **26**. Element **16** is preferably composed of a water- and chemical-resistant synthetic resin having low moisture absorbency, the crisscross ribs **28** serving to engage the ends **30** of the hair **50**, while the openings **32** permit air to circulate, thus speeding up the drying action. The confining body **18** is generally oblong in shape, having an inner end **34**, an outer end **36**, and side edges **38** and **40**, and is composed of a soft flexible sheet of synthetic resinous material such as polyethylene, polypropylene, or vinyl copolymer. Body **18** is provided with a plurality of openings distributed thereover to provide passage for moisture-laden air as the hair **50** dries while it is in the curling device **10**.

The interconnecting means **20** includes a pair of first interconnecting elements **44**, which are each in the form of annular bands secured to the inner surface of the bobbin element **16** at and adjacent the ends **22** and **24**; and a pair of second interconnecting members **48** which are secured at their inner ends **49** to the inner surface of the second curler member **14** (the upper surface as viewed in FIGURE 4), while their outer ends **47** form tabs which, when the device **10** is in closed or operative condition, detachably interengage with the first interconnecting elements **44**. These interconnecting elements are composed of textile pile hooks and textile pile loops, the loops being first elements **44** and the hooks the second elements **48**, or vice-versa.

The second or large curler member **14** is composed of stiff flexible planar material which has low moisture absorbency, such as synthetic resin sheet. I have found that the element **14** is preferably constructed of an oblong piece of polyethylene, polypropylene, or vinyl copolymer, which is permanently heat-set in the form of a split cylinder or roll which is curled upon itself through at least 360 degrees, and preferably slightly more, and having side edges **54** and **56**, an inner edge **58**, and an outer free edge **60**. The body of the member **14** is provided with a plurality of openings **62** distributed thereover, providing vent holes through which moisture-laden air may pass as the hair **50** dries during the setting operation. The inner edge **58** is connected to the outer edge **36** in any suitable manner, as by cementing, stitching, or heat-sealing.

In use, the device **10** is taken in hand and, depending upon the type of coiffure desired, is placed to start the curl. Where an outward flip of the hair **50***a* is desired at the ends **30***a* (FIGURE 3) the winding is started in a clockwise direction as viewed in said figure. Where an inward flip or "page boy" hair style is desired, the winding is commenced in a clockwise direction as viewed at the right side of FIGURE 1 by tucking the hair ends **30** in between the periphery of the bobbin element **16** and the inner end **34** of the confining body **18** outward of the line of attachment of the bobbin element **16** and the body **18**. The strands of hair **50** are distributed laterally over the width of the confining body **18** between the edges **38** and **40**. The winding is continued. As the hair is being wound, the curvature or tightness of the

curl is determined by the diameter of the bobbin element **16**. The outside diameter of the wound confining body **18** is affected by the texture and bulk or thickness of the user's hair, which is engaged by the curler **10** and adjustment is provided since the exact position at which the first and second elements **44** and **48** interengage is not restricted. This degree of adjustability is enhanced by the fact that the user or beauty operator may push the tab outer ends **47** of the elements **48** into connecting contact with the elements **44** at any desired point of the annularity. Furthermore, depending upon how much of the hair ends it is desired to give a tight curl to, the confining body **18** may be shortened or lengthened and the points of attachment of the ends **49** may be moved closer to or farther away from the bobbin member **16**.

Following this, the member **14** is brought into use holding the rest of the hair tress (see reference character **66** in FIGURE 2) in a wide or loose curl, and here the tightness or looseness is adjusted to suit and the end **60** is fixed by securing it by clip means **21**, which may be any well known pin or clip.

Turning now to the second embodiment of the invention as shown in FIGURE 5, for the purpose of avoiding needless repetition, certain of the parts corresponding to the first embodiment are given the same reference characters with the addition of the prefix 2.

The second embodiment differs from the first embodiment in two principal respects.

The body **218** is preferably made of a flat, flexible, non-absorbent material **242**. I have found open-weave woven cloth webbing composed of glass fiber warp and weft threads or ends to perform in a highly satisfactory manner. The threads hold the hair ends **30** in place, but the open-weave and non-absorbent characteristics increase the efficiency of the drying step.

The interconnecting means **220** comprises two pairs of first and second disconnectable interconnecting elements. The first interconnecting elements **244** are secured upon the outer surface **246** of the confining member **218** (the lower surface as seen in FIGURE 5) and the second interconnecting elements **248** are secured upon the inner surface **252** of the second curler member **214** (the upper surface as viewed in FIGURE 5). The first and second interconnecting elements **244** and **248** are each elongated to extend a substantial distance along the device **210**. This permits the hooks and loops of the respective elements to be selectively interconnected at different points, thereby enabling the user to control the tightness of the winding of the confining body **218**.

I wish it to be understood that I do not wish to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art to which the present invention relates.

I claim:

1. For use with human hair, hair curler construction comprising: a bobbin element, and an elongated curler element including a first curler member and a second curler member, said bobbin element having a generally cylindrical form, said first curler member having a confining body and being composed of flexible material and being connected at one end thereof to said bobbin element; said second curler member being composed of stiff flexible material; and disconnectable interconnecting means having first and second elements on said curler element for connecting said curler element upon itself, whereby hair disposed between opposed portions of said curler element is retained within the said confining body; clip means for detachably securing an outer portion of said second curler member to another portion thereof which is closer to said bobbin member for retaining said second curler member in a position holding said hair between opposed portions of the second curler member.

2. The structure in accordance with claim **1**, in which the bobbin element is composed of foraminous material of low moisture absorbency.

3. Hair curler construction as claimed in claim **1** in which the flexible material of the confining body is composed of an open-weave textile, the threads of which contain fibers of low absorbency.

4. Hair curler construction as set forth in claim **1** in which the material of which the second curling member is composed is a resinous sheet of low moisture absorbency.

5. Structure as set forth in claim **1** in which the second curling member is provided with a plurality of openings for the passage of evaporation from said hair.

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