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HAIR ROLLER AND CLIP ATTACHMENT THEREFOR

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FIG. 1

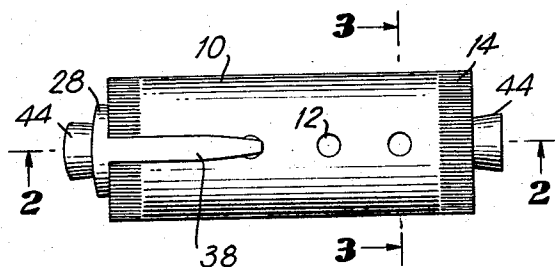


FIG. 2

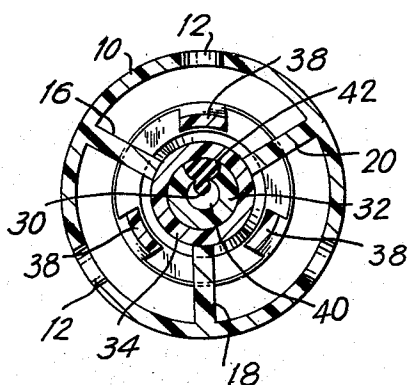
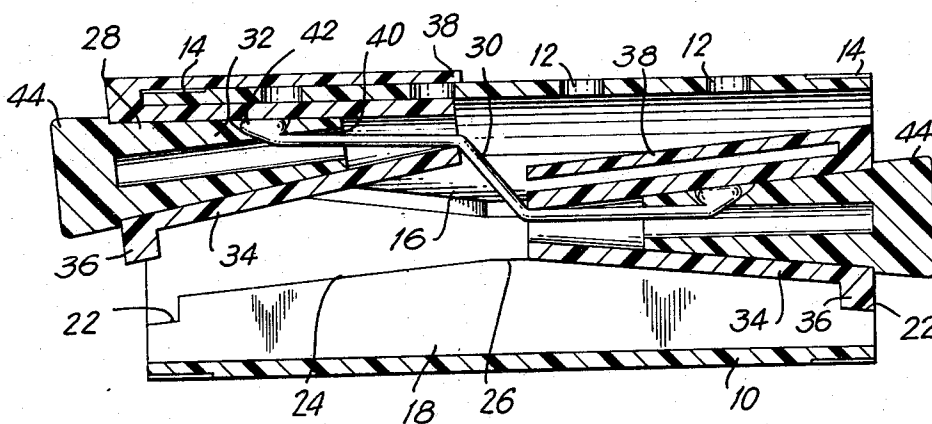


FIG. 3

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3,495,602 HAIR ROLLER AND CLIP ATTACHMENT THEREFOR

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6 Claims

ABSTRACT OF THE DISCLOSURE

A cylindrical thin walled hair roller is provided with a hair clip retained within the interior of the roller by means of resiliently retaining means such as an elastic band. During use, the clip is pulled from the roller interior against the elastic band and is then placed over the wall of the roller.

BACKGROUND OF THE INVENTION

Field of the invention

This invention relates generally to hair styling devices and is concerned particularly with an improved hair roller having a hair clip housed and secured therein.

Description of the prior art

In recent years, women have resorted to the use of hair rollers for the purpose of setting or styling their coiffures. In this process, which may be performed either in the home or in a beauty parlor, a portion of hair, which may either be wet or dry, is placed securely around the external surface of a generally thin walled cylindrical roller, open at each of its ends. To maintain the hair in place about the roller, the woman then places a resilient hair clip over the hair and the wall of the roller. In a typical hair setting operation, this procedure is repeated between ten and fifteen times depending on the length of hair, and the type of hair style the woman is attempting to achieve.

During each operation, the user, after having wrapped the hair about the roller must reach into a container where the clips are stored, pick out a single clip, and then place the clip over the side wall of the roller and the hair.

An obvious disadvantage of the known prior art devices is that the user must reach out with one hand, sometimes blindly, and select one clip from a large number of entangled clips, while simultaneously maintaining the hair over the roller with the other hand.

Furthermore, the loosely assembled clips, which are generally stored separately from the rollers, tend to be misplaced. When, during a setting operation, the clip falls from the user's hand, as often occurs, the user then must either return to the assortment of clips to once more extricate a clip, or in the alternative, she must grope with her free hand on the floor to recover the dropped clip.

SUMMARY OF THE INVENTION

It is, therefore, a general object of this invention to provide a hair roller and clip combination which effectively overcomes the deficiencies of the known devices described above.

It is a further object of this invention to provide a hair roller and clip arrangement wherein the clip cannot become separated from the hair roller.

It is a more specific object of this invention to provide a hair roller having a hair clip resiliently retained therein.

It is a further object of this invention to provide a hair roller and clip arrangement which permits greater ease of use, and which is also relatively simple and inexpensive to manufacture.

In accordance with these and other objects, the present invention provides a thin walled cylindrical hair roller having at least one clip housed and retained within the interior of the roller. The clip is retained within the roller by resilient means in a manner permitting the user to remove the clip out from its non-use or stored position within the roller, so that the clip may be easily placed over the side wall of the roller.

In another aspect of this invention, symmetrically arranged radial walls extend from the inner surface of the roller. These walls are formed to cooperate with a flange provided on the clip to retain the clip within the roller when the clip is housed within the roller.

BRIEF DESCRIPTION OF THE DRAWINGS

The subject matter which is regarded as my invention is particularly pointed out and distinctly claimed in the appended claims. My invention, however, both as to its organization and method of operation, together with further objects and advantages thereof, may best be understood by reference to the following description of a preferred embodiment thereof taken in connection with the accompanying drawings in which:

FIG. 1 is a side elevation of a hair roller according to my invention, with one of the hair clips being shown in the use position;

FIG. 2 is a longitudinal section taken along line 2—2 in FIG. 1; and

FIG. 3 is a transverse section taken along line 3—3 of FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the preferred embodiment shown in the drawings, the device comprises a hollow generally cylindrical, thin walled roller 10. The outer surface of roller 10 is made substantially smooth so as to facilitate the winding of hair thereon. A plurality of axially aligned holes 12 is provided in roller 10 to permit the passage of air therethrough when the hair is being dried as, for example, by means of warm air emitted from a hair dryer.

Roller 10 may have any desired size, but is generally between one-half inch and two inches in diameter. The roller 10 is preferably formed from molded plastic, and may have striated portions 14 formed at either end thereof.

Three symmetrically arranged radial walls or ribs 16, 18 and 20 project from the interior of roller 10 and are preferably molded integral with the roller 10. As seen best in FIG. 2 wall 18 has a restraining notch 22 at each of its ends, and a pair of symmetrical, substantially equal length sloping sections 24, joined by a horizontal central section 26. It will be understood, however, that each radial wall 16, 18 and 20 should be substantially identical in form.

The interior of roller 10 is adapted to receive a pair of oppositely arranged and axially aligned clips 28 disposed in end-to-end fashion, and joined together by an elastic band 30. Elastic band 30 may be made of rubber or any other suitable material which can be extensively stretched, and which will return to its original length once the stretching force has been removed.

As the clips 28 are usually substantially identical in design, only one will be described herein. Clip 28, also preferably formed of a plastic of similar substance, is formed from a pair of coaxially arranged, substantially frusto-conical members 32 and 34 secured to one another by any suitable adhesive. Of course, members 32 and 34 could readily be formed of a single molded unit if so desired. It will be noted that the slope of member 34 corresponds to the slope of sloping section 24 of walls

16, 18 and 20. This will assure that the clip 28 will be snugly received within the interior of roller 10 as shown in FIG. 2.

Outer member 34 has a circular flange 36 which is adapted to fit within notch 22 when clip 28 is in the non-use or rest position, illustrated by the right hand clip in FIG. 2. Member 34 is further provided with three symmetrically arranged resilient fingers 38, adapted to fit firmly over the wall of roller 10 when the clip 28 is in the use or hair setting position. This position is illustrated by the left hand clip in FIG. 2. It will be noted that the spacing between fingers 38 and the portion of member 34 is just slightly greater than the thickness of the wall of roller 10 to insure, along with the resiliency of finger 38, that finger 38 will press firmly against the outer surface of roller 10 and the hair when the clip 28 is placed in its use position.

Member 32 is provided with an axial bore 40, and a recess 42 is formed in the wall thereof. One end of elastic band 30 extends through bore 40 and is secured by means of a suitable adhesive within recess 42. Clips 28 is further provided with a knurled knob 44, which preferably extends axially beyond the ends of roller 10 as seen in FIGS. 1 and 2.

When the roller is not in use, both clips 28 are housed within the interior of roller 10 as shown in FIG. 1. The elastic band 30 urges clips 28 inwardly towards the center of the interior of roller 10. Further inward motion of clips 28 is prevented by flanges 36 abutting against the walls of notch 22 to retain the clips 38 in their rest position, as indicated previously.

In use, a portion of hair is wrapped around the outer surface of the roller 10, with the clips each being in their rest position. When a sufficient amount of hair is around the roller, it is then necessary to clip the hair to roller surface. For this purpose, the user grasps one of the clips 28 by the knob 44 and pulls the clip outwardly and axially against the restraining force exerted by elastic band 30. The clip 28 is pulled until it is completely clear of the confines of the roller interior, at which time it is moved upwards. One of the resilient fingers 38 is thereupon placed over both the hair and the wall of the roller 10. When the hair is dried and set, this operation is reversed to remove the roller from the hair. That is, the clip 28 is pulled axially away until the finger 38 is free from the hair and roller, then moved downwardly and released to permit the elastic force of band 30 to return the clip 28 to its rest position. It will be understood that either one or both of clips 28 may be utilized in this manner.

It will be apparent that modifications to the embodiment of this invention described above will become evident to those having skill in the art. For example, only one clip may be provided with the other end of the elastic band being secured to the interior of roller 10. Furthermore, each clip may be provided with only one resilient finger 38 instead of the three disclosed in the above description. Moreover, when two or more fingers 38 are employed the spacing between the fingers 38 and the portion of member 34 can vary. Thus the spacing of one finger can be suitable for thick hair or alternatively to engage an-

other roller disposed adjacent thereto, thus aligning the rollers parallel to each other. The other fingers can have spacings sufficient to engage medium or thin hair. Furthermore, the knob 44 need not extend axially at any time beyond the ends of the roller 10. This may be desired where rollers are disposed end to end on the head, interference due to the protruding knobs being thereby avoided. In addition, the clip may be retained within the roller by means of a compression spring arrangement, wherein an axial force on the knob releases the compression spring to expel the clip from the interior of the roller.

What is claimed is:

1. A hair styling roller comprising:

- (a) a thin walled substantially cylindrical hollow roller;
- (b) at least one clip means removably housed within the interior of said roller; wherein said clip means comprises a frusto-conical member, and at least one resilient finger means extending therefrom, said finger means being adapted to be placed over the outer surface of said roller when said clip means is removed from said roller;
- (c) resilient means attached to said clip means for retaining said clip means within said roller, and
- (d) at least one radial wall depending from the interior of the said thin wall hollow roller, engaging said clip means in a telescopic relationship and effective to prevent axial movement of said clip means inwardly into said roller, wherein said radial wall comprises a sloped section, having a slope corresponding to the slope of said frusto-conical member of said clip means.

2. A hair styling roller as defined in claim 1, wherein said resiliently retaining means are elastic means.

3. A hair styling roller as defined in claim 1, wherein said radial wall is formed integral with said roller.

4. A hair styling roller as defined in claim 1, wherein said clip means is provided with a circular flange secured thereto, and said clip position maintaining means comprises a recess formed in said radial wall for receiving said flange therein.

5. A hair styling roller as defined in claim 2, comprising a pair of oppositely arranged clip means secured to one another by said elastic means.

6. A hair styling roller as defined in claim 5, wherein said clip means are each provided with an axial bore, said elastic means comprising an elastic band extending into each of said bores and being secured therein.

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