Aug. 19, 1969 J. AUGUSTA 3,461,884

HAIR ROLLER BRAKE

Filed Sept. 20, 1967

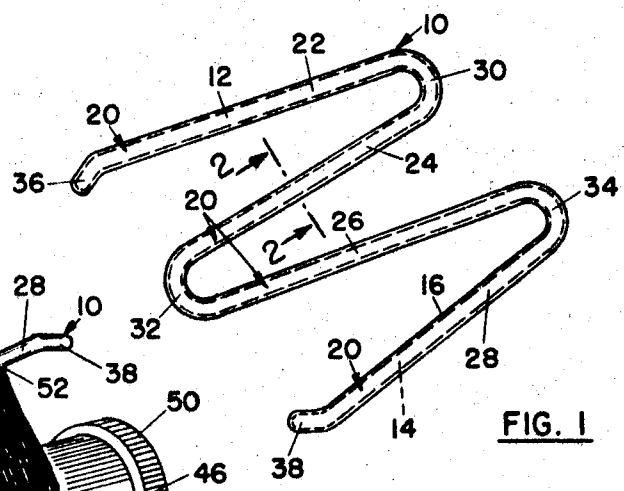


FIG. 1

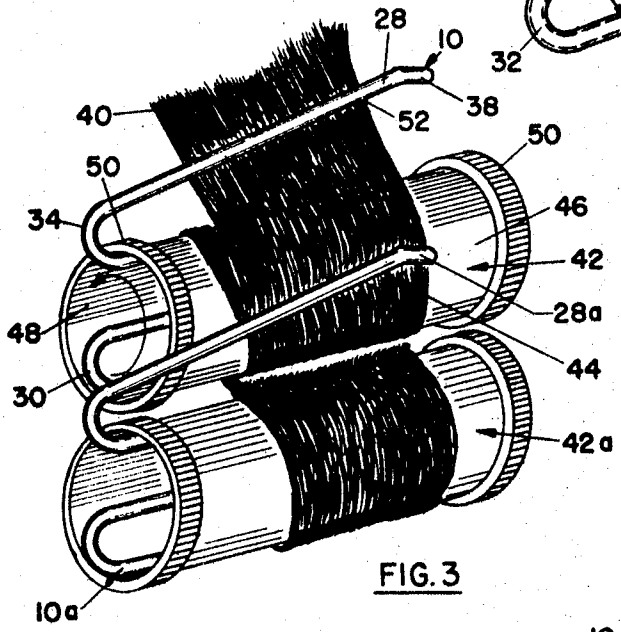


FIG. 3

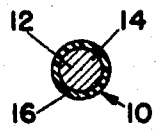


FIG. 2

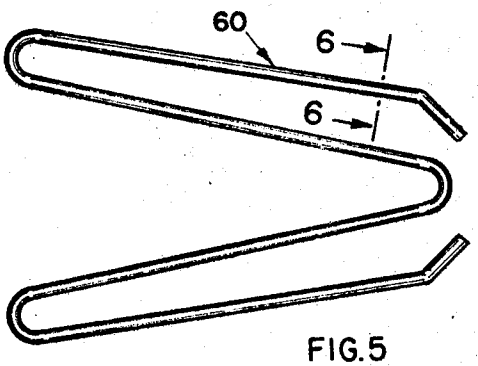


FIG. 5

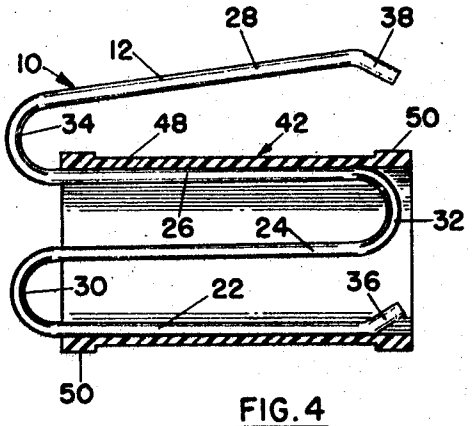


FIG. 4

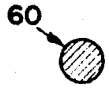


FIG. 6

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U.S. Cl. 132—40 7 Claims

ABSTRACT OF THE DISCLOSURE

A device in the form of a unitary W-shaped body of resilient material in which at least two of the legs of the W-shape are laterally spaced to fit within a hollow hair roller with resilient displacement toward one another so that the two legs will contact the inside of the roller and a resilient biasing force will secure the device within the roller while a further leg will be spaced from the outside of the roller to engage nearby hair or another roller to preclude rolling of the roller within which the device is placed.

The present invention relates generally to devices employed in curling and setting hair and pertains, more specifically to devices used in connection with hair rollers of the type having a hollow tubular body upon which a tress of hair is coiled.

It has been the practice in hair curling, permanent waving and like hair forming and setting operations to wind tresses of hair about the outer surface of hollow tubular bodies, usually in the form of cylindrical mandrels or rollers, and to retain each tress upon a corresponding roller by means of hair retaining clips which clamp the hair against the outer surface. Such methods require that the operator hold the roller, with a tress wound thereon, with one hand and, while holding the hair and roller, grasp a hair clip, open the clip wide enough to slip over the coiled hair and the roller body wall and then slip the clip in place. Generally, more than one clip is necessary requiring repetition of the above operation for any one roller. It is often difficult to place such clips accurately so as to assure that all of the hair is held in place and that the roller will not roll and allow the coiled hair to unwind. Furthermore, the use of clips requires that the clips be placed very near the scalp and such placement often leads to abrasion of the scalp during application of the clips with consequent discomfort and possible injury. Since it is advantageous to maintain the tress of hair tightly coiled about the roller with no loss of tension which may arise out of unwanted rotation of the roller, it will be appreciated that a device which could preclude such rotation in a simple manner and with a single operation would be of value. Additionally, since the jaws of most hair clips must be opened and closed over a relatively wide clamping displacement, and must clamp down with considerable force in order to maintain the desired tension, hair clip construction has become relatively complex in requiring separate clamping jaws, hinged connections and clamping springs.

Hair rollers are currently available upon which a tress of hair may be wound and upon which hair will tend to remain coiled without clips as long as tension is maintained in the coiled tress. It is therefore an important

object of the invention to provide a single device which will preclude rotation of a hair roller having a tress of hair rolled thereabout to maintain tension in the hair and retain the hair upon the roller without requiring that the hair be clamped with hair clips.

Another object of the invention is to provide a simplified device in the nature of a hair roller brake which is inserted into the interior of a standard, commercially available hollow cylindrical roller and includes a portion extending outside the roller for engaging either adjacent hair or hair rollers to prevent rolling of the roller which could allow uncoiling of a tress of hair wound about the roller.

Still another object of the invention is to provide a hair roller brake which is simple in construction and use, which is highly effective in operation and which is relatively free of discomfort in use.

A further object of the invention is to provide a device which is relatively inexpensive to fabricate and attains improved results with increased ease of operation.

The above objects, as well as further objects and advantages, are attained by the invention which may be described briefly as a device for insertion into the interior of a hollow hair roller to preclude rolling movement of the hair roller in a direction which could allow uncoiling of a tress of hair coiled about the outside surface of the roller, the hair roller having an inside diameter and an outside diameter, the device comprising a unitary body of resilient material including a plurality of legs extending in the same general direction and having a length corresponding to at least a portion of the axial length of the roller, the legs being spaced laterally from one another such that the lateral distance between two of the legs is slightly greater than the inside diameter of the hair roller and a further leg is laterally spaced from each of the above two legs so that upon insertion of the two legs within the roller, the two legs will be resiliently pressed toward one another to establish a resilient biasing force urging the two legs against the inside of the roller and securing the device in place within the roller while the further leg will extend generally axially outside the roller and will be laterally spaced from the outside surface thereof.

The invention will be more fully understood, and still further objects and advantages thereof will become apparent, in the following detailed description of embodiments of the invention illustrated in the accompanying drawing, in which:

FIGURE 1 is a perspective view of a hair roller brake constructed in accordance with the invention;

FIGURE 2 is an enlarged transverse cross-sectional view taken along line 2—2 of FIGURE 1;

FIGURE 3 is a pictorial illustration of hair roller brakes in use in connection with hair rollers;

FIGURE 4 is a longitudinal cross-sectional view showing a hair roller brake in place within a hair roller;

FIGURE 5 is a plan view of another embodiment constructed in accordance with the invention; and

FIGURE 6 is an enlarged transverse cross-sectional view taken along line 6—6 of FIGURE 5.

Referring now to the drawings, and especially to FIGURES 1 and 2, a hair roller brake **10** is seen to have a unitary body **12** in the form of a resilient wire core **14** made of a metal such as steel and sheathed in a protective covering **16**. The protective covering is preferably

fabricated of a plastic, such as nylon, polyethylene, polyvinylchloride or a like synthetic resin, but may be made of rubber, Neoprene or like materials which will serve to protect the resilient wire core 14 against corrosion or the accumulation of foreign deposits while providing an aesthetically appealing appearance. The covering may be either a separate sleeve slipped over the core or may be in the form of a coating applied to the core.

The body 12 includes a plurality of legs 20, which number four in the illustrated hair roller brake 10, all of the legs 20 extending in the same general direction and being interconnected in the same plane to establish a W-shaped configuration. The four legs, each of which is designated as leg 22, 24, 26 and 28, respectively, are interconnected by transverse end loops 30, 32 and 34 so that the four legs are laterally spaced from one another, but may be resiliently pressed toward one another. The ends 36 and 38 of the W-shaped configuration are preferably bent inwardly toward one another for reasons which will be described hereinafter.

In using the hair roller brake 10, a tress of hair is first wound upon a standard, commercially available hair roller, as illustrated in FIGURE 3, and the hair roller brake is then inserted into the roller, as shown in FIGURE 4. Each tress of hair 40 is seen to be wound about a hair roller 42 such that at least a portion of the tress is in the form of a coil 44 of hair wound tightly around the outside surface 46 of the hair roller 42. The hair roller is in the form of a hollow tubular member having a tube wall 48 defined by inside and outside diameters.

Two of the legs 20 of the body 12 are laterally spaced apart a distance greater than the inside diameter of the hair roller 42, the two legs being the outermost legs 22 and 26 of three adjacent legs 22, 24 and 26, each of which outermost legs is connected to the intermediate leg 24 of the three legs 22, 24 and 26 by loops 30 and 32 which connect the opposite ends of intermediate leg 24 with legs 22 and 26, respectively. By pressing legs 22 and 26 toward one another, the three legs 22, 24 and 26 may be inserted into the interior of the roller 42, as seen in FIGURE 4. The insertion is facilitated by the arcuate shape of end loop 32 and by the inwardly angled end 36 of leg 22.

Because of the configuration wherein the outermost legs 22 and 26 are connected by an intermediate leg 24, the outermost legs will be urged outwardly against the inside of the wall 48 of the roller 42 and can extend parallel to one another to conform to the cylindrical shape of the roller despite variations in the internal diameters of rollers of various sizes. Thus, legs 22 and 26 will not only be urged outwardly into engagement with the roller wall 48, but will engage the wall along the greatest portion of the length of the legs so that the resilient biasing force which urges the legs outwardly will establish a frictional engagement between the legs 22 and 26 and the wall of the roller which will retain the hair roller brake 10 within the roller and preclude unwanted rotation of the hair roller brake within the roller.

Once the hair roller brake 10 is inserted, the roller 42 may be grasped, preferably at the knurled collar 50, and the hair roller brake 10 rotated by the operator in the direction of the arrow shown in FIGURE 3 against the frictional force established by the resilient biasing force to engage leg 28 with the portion 52 of the tress of hair 40 which lies beyond the coil 44. Leg 28 is laterally spaced from the outer surface of the roller 42 and from the coil of hair wound thereon and such engagement of leg 28 with the tress of hair 40 at portion 52 will effectively brake any tendency of roller 42 to roll and preclude any rolling of roller 42 in a direction which could allow the coil 44 to become uncoiled. In effecting such rotation of the hair roller brake 10, the operator need only grip end loops 30 and 34 which project beyond the end of the hair roller 42 and turn the hair roller brake 10 in the manner of turning a key.

Where two hair rollers are in close proximity, such as rollers 42 and 42*a* of FIGURE 3, the outside leg 28*a* of an adjacent hair roller brake 10*a* may be turned against the neighboring roller 42 or the coil 44 of hair thereon to brake the rotation of corresponding hair roller 42*a*.

Turning now to FIGURES 5 and 6, another embodiment of the invention is shown in the form of hair roller brake 60 which may be fabricated of resilient wire or of a unitary member molded of plastic or rubber, rather than the composite construction of the hair roller brake 10 described above. The mode of operation of hair roller brake 60 is the same as described above in connection with the hair roller brake 10; however, the device presents a more slender cross-section and is therefore more versatile in conforming to hair rollers having a wider range of inside diameters.

It will be seen that the hair roller brakes of the invention require no modification of the standard hair rollers which are available commercially and are therefore easily used and easily adapted to present day practice.

It is to be understood that the above detailed description of embodiments of the invention are presented by way of example only. Various details of design and construction may be modified without departing from the true spirit and scope of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A device for insertion into the interior of a hollow hair roller about which a tress of hair is partially coiled to preclude rolling movement of the hair roller in a direction which could allow uncoiling of the tress of hair coiled about the outside surface of the roller, the hair roller having an inside diameter and an outside diameter, said device comprising:

a unitary body of resilient material including at least three legs extending in the same general direction and having a length corresponding to at least a portion of the axial length of the roller;

said legs being spaced laterally from one another such that the lateral distance between two of said legs is slightly greater than the inside diameter of the hair roller and a further leg is laterally spaced from each of said two legs so that upon insertion of said two legs within the roller, the two legs will be resiliently pressed toward one another to establish a resilient biasing force urging said two legs against the inside of the roller and securing the device in place within the roller while the further leg will extend generally axially outside the roller and will be laterally spaced from the outside surface thereof a distance great enough to preclude clamping engagement of the coiled portion of the tress with said further leg.

2. The device of claim 1 having at least four legs and wherein:

any three adjacent legs are interconnected such that one of the opposite ends of the intermediate leg of the three adjacent legs is interconnected with one of the other two of the three legs and the other of the opposite ends of the intermediate leg is interconnected with the other of the other two of the three adjacent legs;

the legs are laterally spaced from one another such that the distance between the outermost two of the three adjacent legs is slightly greater than the inside diameter of the hair roller so that upon insertion of said three adjacent legs within the roller, said outermost two legs will be resiliently pressed toward one another and into parallel relationship to establish the resilient biasing force which will urge said outermost two legs against the inside of the roller along the greatest portion of the length of said two legs and secure the device in place within the roller while the fourth leg will extend generally axially

outside the roller and will be laterally spaced from the outside surface thereof.

3. The device of claim 2 wherein said body is W-shaped in configuration.

4. The device of claim 3 wherein at least one of the ends of the W-shaped configuration is angled generally toward the other end of the W-shaped configuration.

5. The device of claim 2 wherein said body is molded of plastic.

6. The device of claim 2 wherein said body is formed of resilient metal wire.

7. The device of claim 6 wherein said wire body is sheathed in a protective covering.

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