

[54] **HAIRSETTING APPARATUS HAVING APPLICATOR MEANS FOR MOISTENING THE SURFACE OF THE HAIR ROLLER**

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[56] **References Cited**

UNITED STATES PATENTS

3,493,722 2/1970 Popeil 219/222

3,257,541 6/1966 Jorgensen 219/222
2,674,975 4/1954 Krueger 118/226

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868,263 2/1953 Germany 15/164

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[57]

ABSTRACT

A hairsetter having hair rollers heated by support pins on which the hair rollers are mounted, is provided. The hairsetter has a moistening chamber in which one or more rollers can be positioned after they are heated. The moistening chamber has an applicator means such as brushes which receive liquid from a reservoir. When a roller is placed in the moistening chamber, the applicator is activated to deposit the hair treatment liquid in a thin coating on the surface of the hair roller.

4 Claims, 4 Drawing Figures

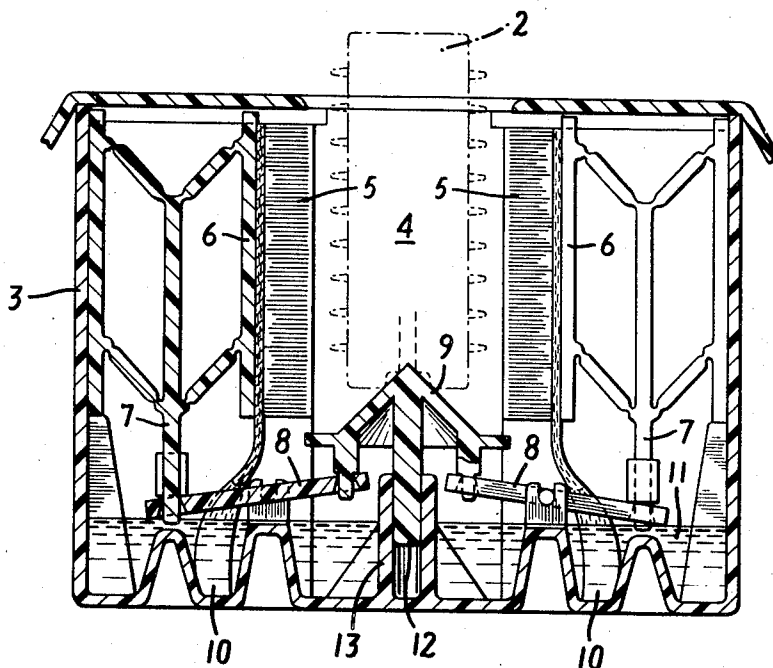


FIG. 1

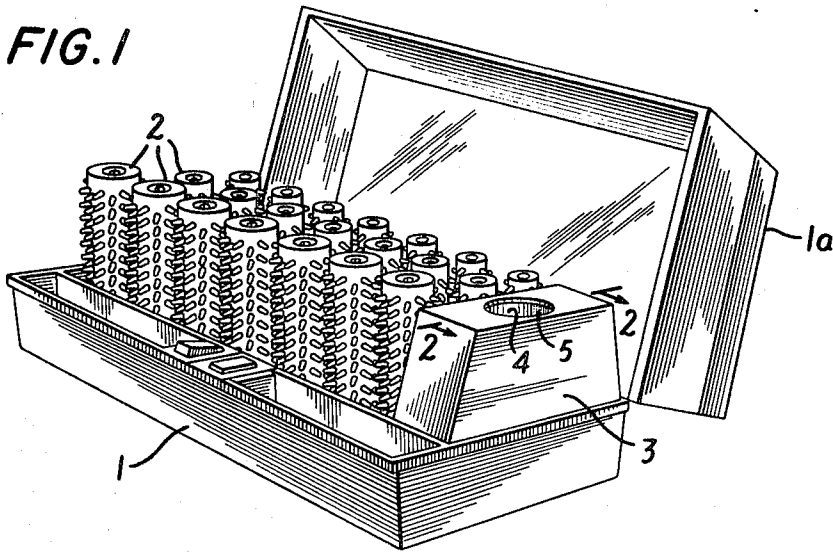
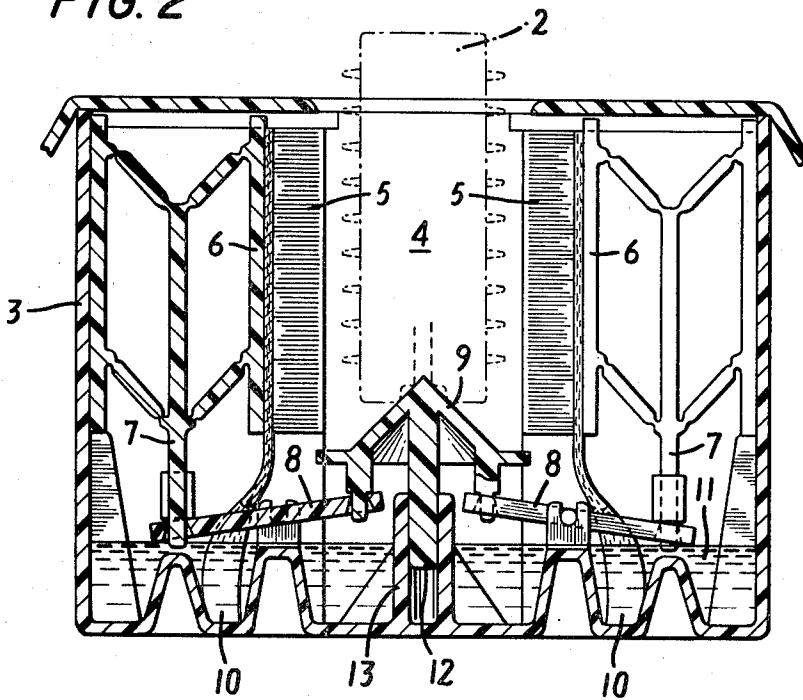


FIG. 2



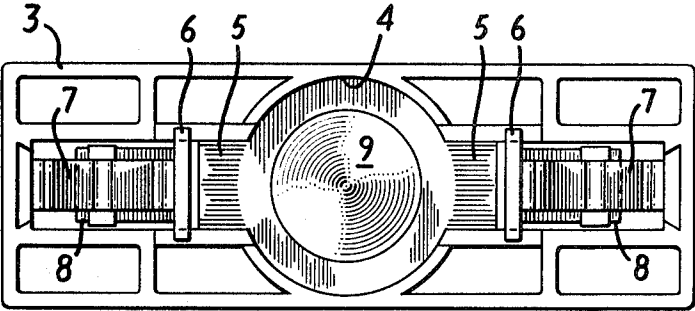


FIG. 3

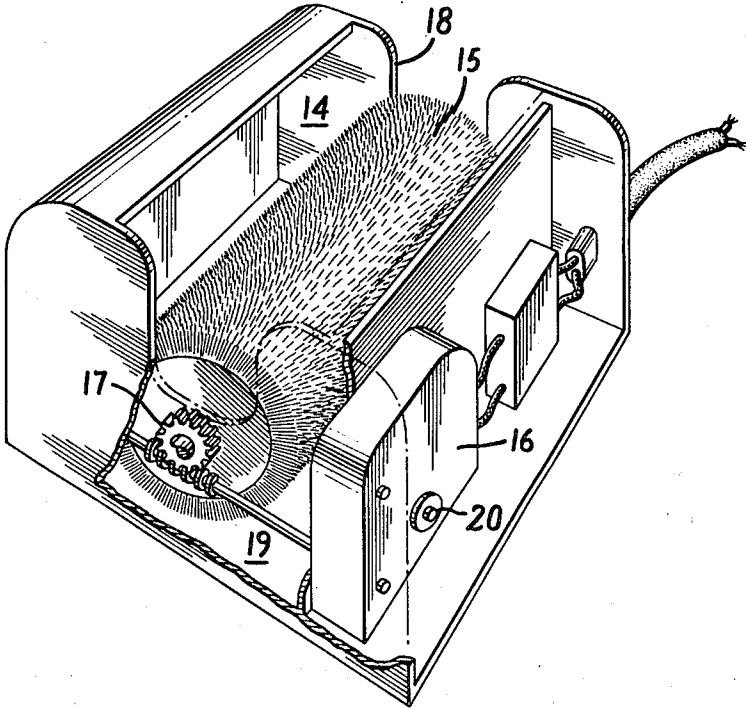


FIG. 4

HAIRSETTING APPARATUS HAVING APPLICATOR MEANS FOR MOISTENING THE SURFACE OF THE HAIR ROLLER

BACKGROUND OF THE INVENTION

Recently, heated hairsetters have gained great acceptance in the marketplace. Several different types of such hairsetters are commercially available, one of which employs hair rollers which are heated by a number of electrical heating pins mounted on a base. The hair rollers are filled with a heat storage material to retain the heat imparted to them by the pins. Such a hairsetter is shown in U.S. Pat. No. RE 26,766 to Jorgensen. Other hairsetters also are commercially available in which the rollers are heated by steam rather than by an internal heating pin. These hairsetters not only heat the hair rollers by use of the steam, but also deposit a film of moisture on the surface of the rollers. One hairsetter of this type is shown in U.S. Pat. No. 3,565,083 to Popiel. Another hairsetter which is commercially available under the name CLAIROL KINDNESS CUSTOM CARE Hairsetter employs a combination of steam and heating pins to provide rollers which are heated and have a film of moisture on the exterior roller surfaces. This latter type of hairsetter also can employ a hair treatment liquid in preference to water as the liquid which is vaporized and deposited on the surfaces of the rollers.

Hairsetters providing heated hair rollers which have a moisture coating on their surface have gained great popularity. However, hairsetters which employ steam have the drawback, as any unit employing steam, that there is a danger, or at least a fear, that the hot steam produced might injure the user. Furthermore, there is the drawback that if a liquid other than water is to be used, the constituents of that liquid must be volatile at approximately the same temperature as water, or lower, or they will not be vaporized by the heat generated and carried to the surface of the hair roller. Furthermore, if constituents of the liquid which are non-volatile are used, they will tend to clog any small orifices present in the device if they become entrained in the vapor.

STATEMENT OF THE INVENTION

This invention provides a hairsetter having heated hair rollers on which a moisture coating is applied to the surface of the hair rollers, without the use of heat, by an applicator. Since heat is not employed to apply the moisture, no steam is generated and, thus, the dangers, or the fears aroused by the use of steam are not present. Additionally, hair treatment liquids can be used which are not volatile at temperatures comparable to that of water, and thus, the problem of non-volatilized constituents of the treatment liquid clogging small orifices in the apparatus is avoided. Furthermore, as will be explained in greater detail below, as a result of the way the moisture is applied in the hairsetter apparatus of the invention, it is possible to apply moisture to one, two or as many hair rollers as the user desires without the need to apply moisture to all of the rollers.

The hairsetter of the invention comprises a housing, support means for positioning a plurality of hair rollers in the housing, means for heating the hair rollers while positioned within the housing, and applicator means communicating with a source of supply of a liquid and

adapted to contact the roller surface and deposit a coating of liquid on the roller surface.

GENERAL DESCRIPTION OF THE INVENTION

As indicated above, in this invention, rollers are moistened by use of an applicator which contacts the rollers and deposits a coating of liquid on the surface of the hair rollers. This coating is preferably applied after the rollers have been heated. However, if so desired, the coating can be applied after the rollers have been heated to somewhat less than their preferred operating temperature but before they are completely ready to use.

The coating is preferably applied in a moistening chamber or zone in which one, two or more rollers can be placed after they are heated. In one preferred embodiment of the hairsetter of the invention, the moistening zone comprises an enclosure having a central cavity for receiving a roller, and an applicator is positioned at the interior of the chamber or cavity. Upon actuation, the applicator contacts the roller and deposits a moisture coating on the surface of the hair roller. The moistening zone can take any shape, and can accommodate any number of rollers. In fact, the moistening zone can be coextensive with the heating chamber, i.e., the chamber in which the rollers are held during heating so that all of the rollers are moistened at once after heating. However, it is preferred that the zone be separate from the heating chamber and only accommodate one, or a small number of rollers, at a time. In this way, the user can select how many rollers will be moistened and how many will not be moistened and there will be no waste of treatment liquid.

The moistening zone generally is formed as a part of the overall housing of the assembly. However, the moistening zone can be a separate unit adapted to fit on, or be attached to or otherwise associated with the hairsetter apparatus. No mechanical connection, however, in use, between the heating mechanism and the moistening zone is required.

As noted above, the means for applying the liquid coating comprises an applicator. The applicator is a contact type applicator such as a brush, sponge, wiper, pad or the like. The applicator is positioned in the moistening zone and contacts a hair roller when a roller is placed in the zone. It is possible for the applicator to contact the roller merely in a pressure fit when the roller is placed in the moistening zone. However, it is also possible for the applicator to be moved by a linkage or drive mechanism into contact with the roller when the roller is placed in the zone. This can be done, for example, by employing an actuator such as a switch, sensor, or the like which is located in the moistening zone in a position such that when a roller is introduced into the zone, the actuator, either by mechanical pressure or by other sensing means, detects the presence of the roller and moves the applicator mechanically, electrically, or otherwise into a position to contact the roller and apply a moisture coating to its surface. As the roller is removed from its position in the moistening zone, the actuator can release the applicator freeing the roller from contact with it, to minimize any possibility of the applicator removing part of the moisture coating on the roller as the roller is removed from the moistening zone.

In order to obtain a uniform distribution of moisture on the entire surface of the roller, it is possible to form

the applicator so as to contact simultaneously, all of the operative surfaces of the roller. For example, in the case of a cylindrical hair roller, it is possible to form the applicator as a corresponding cylindrical member such as a sponge or series of brushes formed in two mating semi-cylinders which separate permitting the roller to enter the moistening zone and which then are moved toward the roller to contact it on all sides, thereby applying moisture to its entire surface.

It is also possible in order to distribute moisture over the entire operative surface of the roller to rotate the roller in the moistening zone or to rotate the applicator around the roller when the roller is in the moistening zone. One simple way of doing this is to form a guide in the moistening zone which, as the roller is moved through the zone in contact with the applicator, causes the roller to rotate. One such guide could comprise a conically shaped surface having a coarse thread-like configuration which engages the roller and moves it around its axis in the moistening zone.

Another simple way of uniformly distributing moisture over the surface of the roller is to provide a generally cylindrical applicator such as a cylindrical brush and a trough-like region in the moistening zone adapted to accommodate a roller. The brush tips project into the trough-like region in a position where they contact the roller. The cylindrical brush can be rotated when a roller is placed in the zone so as to rotate the roller about its axis and, as the brush turns, coat the entire surface of the roller. Rotation of the brush can be accomplished by employing a gear-drive and an electric motor. Actuation of the motor and gear-drive can be automatically accomplished by a sensor or by a manual switch.

A reservoir of treatment liquid is provided in the hairsetter of the invention. This reservoir preferably is adjacent or even comprises part of the moistening zone. The reservoir communicates with the applicator. This can be done by having the applicator exposed to and extending into the reservoir in contact with the liquid therein. Other means such as wicks, pipelines, and the like can be used to connect the reservoir to the applicator.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a view in perspective of a hairsetting apparatus in accordance with this invention.

FIG. 2 is a view in cross-section of a moistening zone taken along the line 2—2 of FIG. 1.

FIG. 3 is a top view of the moistening zone of the apparatus shown in FIG. 1 and,

FIG. 4 is a view in perspective and partially broken away of another embodiment of a moistening zone.

In FIG. 1, a hairsetter apparatus in accordance with the invention is shown. The apparatus includes a housing 1 having a lid 1a. A number of hair rollers 2 are supported on a corresponding number of heating posts (not shown) in the housing. The heating posts serve to position the rollers in the housing and heat the rollers to a temperature suitable for setting hair. Positioned forwardly of the rollers in the housing are two receptacles for accommodating hair pins, clips, and the like, for holding the hair firmly in position on the hair rollers. To one side of the housing a moistening chamber 3 is provided. The moistening chamber 3 is best shown by reference of FIG. 2. The moistening chamber has a central passage 4 adapted to accommodate any of the

hair rollers 2 supported on the posts. The central passage 4 in the moistening chamber 3 is generally cylindrical to accommodate the cylindrical rollers 2. Two portions of the wall defining the passage 4 are composed of applicator brushes 5 which extend longitudinally along the passage. The brushes 5 are supported by holders 6 which are connected via linkage arms 7 and a linkage lever 8 to a cone-shaped actuator 9 positioned at the lower end of the passage 4. The actuator 9 has a central stem 12 which extends downwardly into a guide 13 formed at the bottom of the moistening zone. The guide 13 and stem 12 assure central positioning of the actuator 9 in the passage 4. When a roller is placed in the passage the actuator 9 is depressed and this, by means of the lever linkage 8 and connecting linkage 7, moves the brushes 5 inwardly toward the roller. The linkage mechanism is spring-loaded so as to normally keep the actuator 9 in a raised position and thereby also keep the brushes 5 in a withdrawn position with respect to the passage 4. The position of the brushes 5 with respect to the passage 4 can best be seen by reference to FIG. 3.

The slideable fit between the stem 12 of the actuator 9 and the guide 13 can employ a coarse-mating threaded configuration on the stem 12 and the guide 13. This coarse threaded configuration will assist in rotating the roller 2 as it is moved downwardly into the zone 4. As the brushes 5 are moved inwardly the rotation of the roller will produce a uniform coating of moisture over the surface of the roller. However, it is not necessary to provide threads on the members 12 and 13 since the roller can be manually rotated when positioned in the passage 4.

A wick 10 is positioned between each of the brushes 5 and its holder 6. This wick 10 extends downwardly into the base of the moistening zone which constitutes a reservoir 11 for a treatment liquid, such as water or a hair treatment oil or other hair treatment or conditioning liquid. This wick 10 is made of an absorbent material and insures that the applicator brushes 5 will contain a sufficient quantity of moisture to provide a moisture coating on the surface of the roller.

Another embodiment of the moistening zone is shown in FIG. 4. In this embodiment, a central trough-like passage 14 is provided which accommodates a roller. At the base of the passage 14 an applicator brush 15 is positioned. The brush 15 extends axially along the trough and the underside of the brush extends into the base of the moistening zone which comprises a reservoir 19 for the treatment liquid. The brush 15 is provided with a drive-gear and connecting-gear mechanism 17 which are driven by an electric motor 16. The motor can be initiated by a starter button 20 such that when a roller is placed in the trough-like passage 14 of the moistening zone 18, the button 20 is depressed causing the motor 16 to turn the drive mechanism 17 rotating brush 15. The rotation of the brush causes moisture to be uniformly distributed over the surface of a roller. As the brush rotates, additional moisture is picked up from the reservoir 19 to aid in coating the roller.

In operation, the rollers 2 are heated by the heating pins until they reach an operating temperature of approximately 180°. Thereafter, the rollers are removed from the heating pins and placed into the moisture zone one at a time. The applicators in the moistening zone

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contact the surface of the roller and apply moisture thereto, and the roller is then ready for use.

Having regard to the foregoing disclosure, the following is claimed as the inventive and patentable embodiments thereof:

1. A hairsetter apparatus capable of providing heated hair rollers any desired number of which having a moistened surface comprising, a housing; support means in the housing for holding a plurality of hair rollers in the housing; a plurality of rollers in the housing supported by said support means; means in the housing for heating the hair rollers while held by the support means; and a moistening assembly associated with the housing for moistening the rollers after they have reached a desired temperature, said moistening assembly being adapted to accommodate a hair roller and comprising a reservoir for containing a liquid to moisten the surface of the rollers, and applicator means in fluid connection with the reservoir and adapted to contact the surface of a heated roller positioned in the moistening assembly after heating so as to deposit a coating of liquid on the roller surface whereby a user

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of the apparatus can selectively moisten any or all of the rollers which have been heated in the housing and selectively apply moistened or dry heated rollers to the hair for curling thereof.

2. A hairsetter apparatus in accordance with claim 1 in which the moistening assembly includes a moistening chamber having a central cavity therein adapted to receive a roller and brushes in the chamber communicating with the reservoir.

3. A hairsetter apparatus in accordance with claim 2 in which the brushes are mounted for movement toward and away from said central cavity; and including an actuator in the cavity adapted to be contacted by the hair roller when positioned in the cavity; and linkage means connecting the actuator with the brushes so as to move the brushes into contact with the hair roller when positioned in the cavity.

4. A hairsetter in accordance with claim 1 in which the support means and heating means comprise heating posts.

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