Dec. 6, 1966 V. KUBIAK 3,289,680

HAIR ROLLING APPARATUS

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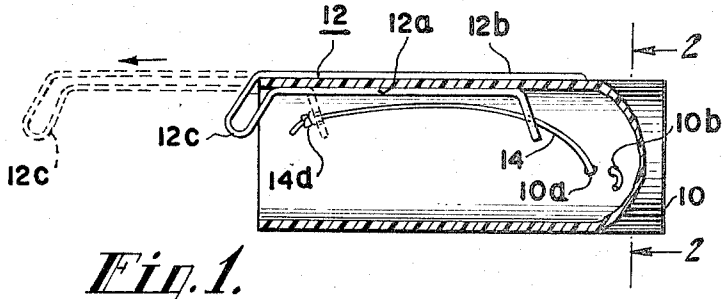


Fig. 1.

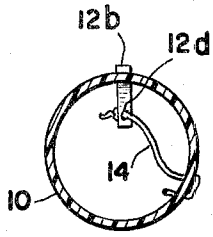


Fig. 2.

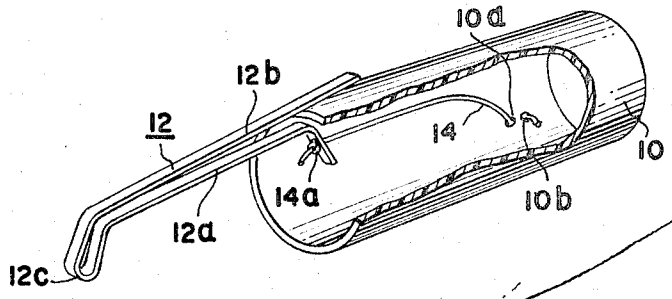


Fig. 3.

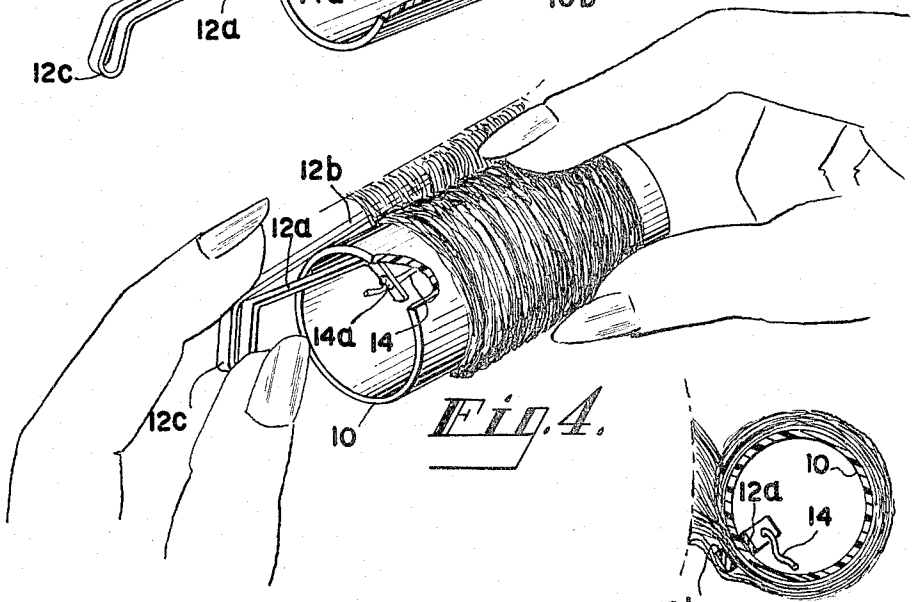


Fig. 4.

Fig. 5.

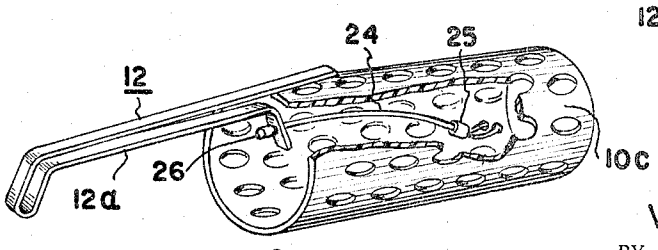


Fig. 6.

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HAIR ROLLING APPARATUS

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This invention relates to the rolling of hair and has for an object a hair roller about which the hair is rolled having a hair retainer cooperating therewith.

In rolling hair it has been conventional for hairdressers or beauticians to coil a desired amount of hair about a roller such as a thin walled cylinder open at both ends. The rolling may be accomplished by the hairdresser's using both hands and placing her thumbs inside the roller and wrapping the strands of hair about the roller with the fingers of both hands. At the completion of the rolling operation the hairdresser must then use one hand to maintain the hair and the roller in place while using the other hand to obtain a hair retaining device or holder such as a pin or a clip. When the holder is obtained it must be opened, aligned with the side of the roller and placed in a particular position on the roller to secure the hair.

Over the course of many rolling operations a great deal of wasted motion and time is involved in reaching for each holder and also in bringing the holder to position and then engaging it with the roller at a desired position. Such reaching time may be shortened with the assistance of the client whose hair is being rolled but that may not be desirable. For example such assistance may only result in confusion and wasted motion if the client is not in exact synchronism with the hairdresser. However, whatever method is used there results a considerable loss and damage to holders. The foregoing problems are multiplied when different types of holders are used so that a particular holder is chosen from its container and when the holders are removed from the hair they must be replaced in their respective containers.

As a result of the above difficulties and problems it is understood that the hairdresser is following an inefficient series of steps in the rolling operation. Such is particularly the case since she has no guidelines to follow and once set in this inefficient habit will continue in this way.

These difficulties are also experienced to an even greater degree by the woman who rolls her own hair. After rolling her hair she must hold the hair and roller in place with one hand and with the other hand reach for a holder. As this operation is not usually within her direct view it then becomes quite difficult for her to align the open holder with the edge of the roller so that the holder is placed in proper position.

It has been proposed to connect a holder to a roller by means of a resilient and extensible cord for the purpose of preventing the holder from being lost. While this serves such purpose it leaves much to be desired since the resilient cord becomes entangled with the hair as the hair is rolled. In addition the holder is easily removed from engagement with the roller as a result of the resiliency of the connecting cord and thus the above mentioned time and motion in positioning and aligning each holder is still required. Further the resilient cord is retained at one end of the roller by an inwardly extending arm and upon tension of the cord restrains the rotation of the cord, twisting the cord as the holder is turned about the circumference of the roller. Additionally the arm prevents the use of fingers within the roller.

Accordingly an object of the present invention is a hair roller and retained holder requiring the hairdresser to follow a predetermined series of steps which has the important advantages of saving time and effort.

A further object of the present invention is a hair roller having a cooperating holder which is retained on the roller by a non-resilient connective means to allow the holder to be pulled longitudinally of the roller by only a predetermined amount of travel which provides an efficient means to roll hair.

In accordance with the present invention there is provided a cylindrically shaped roller having two open ends and a holder in gripping engagement with the roller. One of the legs of the holder is disposed within the roller and the other leg is disposed on the exterior surface of the roller and the two legs are spring biased one leg with the other. A nonresilient flexible member is disposed within the roller and secured to one end thereof. An opening is provided at one end of the interiorly disposed holder leg for slidably receiving the flexible member. In addition a stop is provided on the member to prevent the holder from being pulled longitudinally of the roller beyond a predetermined point. Accordingly, at the start of a rolling operation the holder is disposed fully engaging the roller and the hair is then rolled. After rolling the hair about the roller the holder may be slid or moved about the circumference of the roller to a desired position without twisting the member. The holder may then be pulled longitudinally of the roller until the stop is engaged and the holder is in its fully extended position where it engages an edge of the roller. In being pulled to its fully extended position the exteriorly disposed leg of the holder slips within the rolled hair without disturbing the rolled hair and in that position the exterior leg is no longer covered by most of the rolled hair. With the same hand movement the holder may be quickly pushed back onto the roller with the exterior leg securing the rolled hair to the roller.

It will now be understood that the hairdresser may take advantage of an efficient means of rolling hair. The holder is retained on the roller and the hairdresser is then effectively forced to follow the efficient steps described above of rolling, pulling the holder against the stop and then quickly pushing the holder back onto the roller. As a result she saves considerable time and effort in the rolling operation.

For further objects and advantages of the invention and for a description of its operation, reference is to be had to the following detailed description taken in conjunction with the accompanying drawings in which:

FIG. 1 is a side cross-sectional view of a roller and holder embodying the present invention;

FIG. 2 is a rear cross-sectional view of the holder of FIG. 1 taken along the lines 2—2 in FIG. 1;

FIG. 3 is a perspective cross-sectional view of the roller and holder of FIG. 1 with the holder in its fully extended position;

FIG. 4 is a perspective view of the roller and holder of FIG. 1 with hair rolled about the roller and the holder pulled to its fully extended position;

FIG. 5 is an end view of the roller and holder of FIG. 4 with the holder pushed back onto the roller; and

FIG. 6 is a perspective cross-sectional view of a roller and holder embodying a modification of the present invention.

Referring now to FIGS. 1–3, a roller **10** has been illustrated as comprising a hollow thin walled cylinder open at both ends. The roller **10** has a small degree of flexibility and may preferably be constructed of plastic or nylon.

A holder or clip **12** is in gripping engagement with the wall of the roller **10** and may be constructed of a single length of flat spring metal shaped generally as a "bobby pin". The holder **12** has an interiorly disposed leg **12***a* engaging the inner wall of the roller and a leg

12*b* disposed on the exterior of the roller engaging the outer wall. The legs 12*a* and 12*b* are spring biased one leg with the other by means of a central portion 12*c* of the length of the spring metal. As illustrated in FIGS. 1 and 3, the central portion 12*c* is bent from each of the legs 12*a* and 12*b* at angles much greater than 90 degrees and extends toward the axis of the roller to form a "bobby pin" shaped finger grip. As shown in FIG. 1 in its solid line position the holder 12 is in its fully engaged position in which the legs 12*a* and 12*b* are spring biased to clamp the roller along the entire length of the legs.

A non-resilient flexible member 14 is disposed within the roller and one end of that member is secured to the inner wall adjacent the right hand end of the roller. The member 14 may be constructed preferably of substantially non-stretchable nylon of sufficient diameter to have a spring like action at its ends. The member 14 may be secured to the wall of the roller 10 by any well known means such as threading the end of the member from the interior of the roller opening 10*a* in the wall and then threading the member from the exterior of the roller back into the interior through an opening 10*b*. The openings 10*a* and 10*b* are formed to snugly receive the member 14 and in this manner the member is secured in place. Such fixed connection between the roller and member is provided by the spring like action of the end of the member received in the openings 10*a* and 10*b* and by the friction produced between such openings and the member.

It will be understood by those skilled in the art that member 14 may be secured to the wall of the roller 10 by welding or the like. However, in accordance with the invention, whatever method is used to secure the member does not prevent the hairdresser from placing his fingers within the interior of the roller when rolling the hair in the preferred manner.

The interiorly disposed leg 12*a* has its free end bent away from the other leg 12*b* and has an opening 12*d* therein for slidably receiving the member 14. Accordingly the holder 12 may be slid or moved about the circumference of the roller 10 and the bent portion of the leg 12*a* will revolve about the member. In this manner and in accordance with the invention the holder may be so moved about the circumference without twisting the member which would have the effect of producing torsional strain in the member causing it to break.

The remaining end of the member 14 remote from the end secured to the roller is formed into a stop for leg 12*a* to prevent the holder 12 from being manually pulled longitudinally of the roller beyond a predetermined point. Such a stop may be formed by tying that end of the member into a knot 14*a* having a diameter greater than that of the opening 12*d* in the arm 12*a*. The knot 14*a* or stop is positioned so that the holder 12 may be manually pulled no further than its dotted line position in which position the legs 12*a* and 12*b* still engage or clamp an end portion of the wall of roller 10. In this fully extended position the holder is stable in that it may not be readily removed from engagement with the roller and the exteriorly disposed leg 12*b* will no longer be covered by most of the rolled hair.

With the above understanding of the structure of the invention, reference is to be had to the rolling operation, one view of which is shown in FIG. 4. The hair is rolled by winding an initial amount of hair about the roller and then the hairdresser places her thumbs within the roller. With the use of both forefingers and both middle fingers the roller is turned about its axis to roll the hair to a limiting position. The hair and roller are then held fast with the fingers of one hand and with the thumb and the forefinger of the other hand the central portion 12*c* of the holder is pulled longitudinally of the roller until the stop 14*a* is engaged and the holder can no longer be pulled any further. It will be seen that as the holder is pulled to its fully extended position the exterior leg 12*b* slips within the hair without disturbing it. At this time or at some time prior to the holder's being pulled to its fully extended position, the holder may be moved circumferentially of the roller to a desired position, as illustrated in FIG. 4, without twisting the member 14.

With the holder grasped in its illustrated position it may be pivoted slightly using the stop 14*a* as a pivot point in a direction toward the axis of the roller 10 so that the legs 12*a* and 12*b* form an acute angle with that axis. This may be accomplished by pulling the central portion 12*c* away from the roller and towards the axis to provide a tension on the member. The amount of pivot, if any, will depend upon the particular hair requirements. In any event the exterior leg 12*b* will clear a large portion of the rolled hair as illustrated so that the holder may be pushed back onto the roller to its fully engaging position with its exterior leg securing the hair to the roller as illustrated in FIG. 5. While the holder does not secure all of the hair extending from the roots, as illustrated in FIG. 5, a sufficient amount of hair is secured to maintain the roller in place.

The foregoing operation is adaptable to rapid and efficient finger movement for the reason that the holder may be pulled forcefully to its fully extended position without fear of its disengaging the roller and with that same movement the exterior leg 12*b* clears much of the hair and is in an aligned position to be then readily pushed back onto the roller.

It will now be understood that the hairdresser when using the present invention is effectively forced to take advantage of the efficient operation above described. In this manner, over the course of many hair rolling operations, a considerable time saving is achieved. The woman rolling her own hair also achieves these advantages and, of greatest importance, the holder is automatically aligned in its fully extended position even though the woman may not view the rolling operation directly.

Now that the principles of the invention have been explained it will be understood that many modifications may be made. For example, in the embodiment of the invention shown in FIGURE 6 a roller 10*c* is constructed of an aluminum alloy having spaced openings around its periphery. A non-resilient member 24 is formed of threads of steel wire having a covering of plastic over the entire length of the member. The member 24 may be secured to the roller by having its ends fastened together by means of a crimping device 25. An additional crimping device 26 is secured to the other end of the member 24 to provide a stop for the holder.

What is claimed is:

1. Apparatus for rolling hair comprising,
   - a hollow cylindrically shaped roller having two open ends,
   - a holder in gripping engagement with said roller having two legs spring biased one leg with the other, a first of said legs being disposed interiorly of said roller and the second of said legs being disposed on the exterior surface of said roller,
   - a non-resilient flexible member disposed within said roller having one end thereof secured to said roller adjacent one end thereof,
   - said first leg having a free end bent away from said second leg and having an opening therein slidably receiving said flexible member to allow said holder to be slid longitudinally about said roller without twisting said member, and
   - said member including stop means to allow said holder to be manually pulled longitudinally of the roller by only a predetermined amount of travel thereby to tension said member and whereby said tension is released as said holder is pushed back onto the roller with said second leg securing said rolled hair in place.

2. Hair rolling apparatus comprising,

a hollow cylindrically shaped roller to provide an exterior surface about which the hair is rolled,

a holder in gripping engagement with said roller having a first leg disposed within said roller and having a second leg disposed on the exterior surface of said roller, means for spring biasing one leg with the other,

a non-stretchable flexible member disposed within said roller having one end secured thereto,

said first leg having an opening slidably receiving said member to allow said holder to be moved circumferentially about said roller without twisting said member, and

said member including stop means to allow said holder to be manually pulled longitudinally of said roller until said stop means is engaged and said member tensioned to prevent said holder from being pulled

further in a longitudinal direction whereby said tension aids in speedily pushing said holder manually back into full gripping engagement with said roller to secure said hair in place.

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