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HAIR CURLER ASSEMBLY

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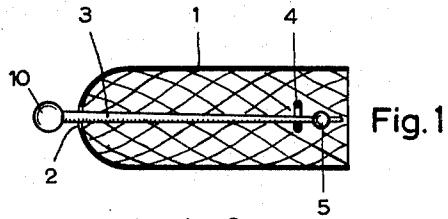


Fig. 1

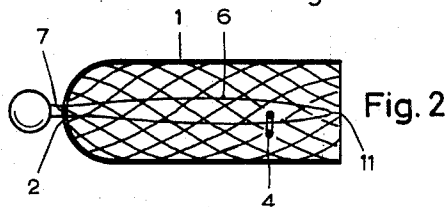


Fig. 2

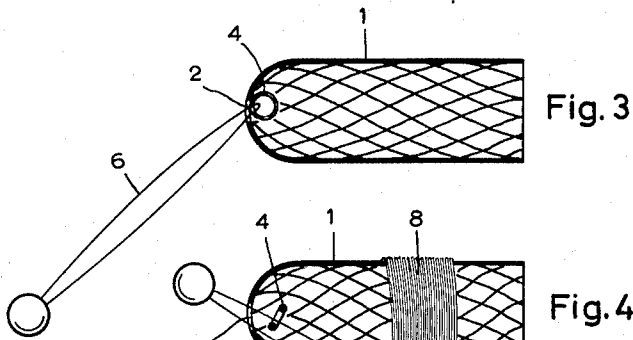


Fig. 3

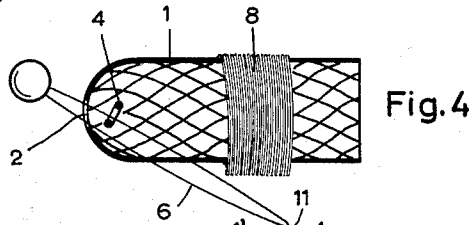


Fig. 4

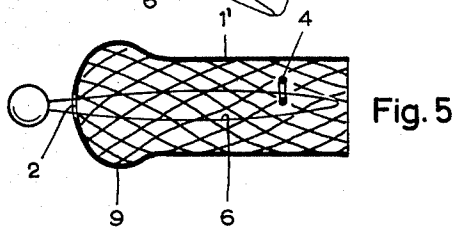


Fig. 5

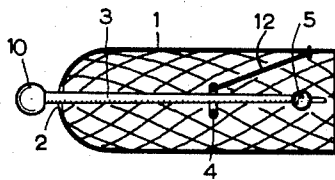


Fig. 6

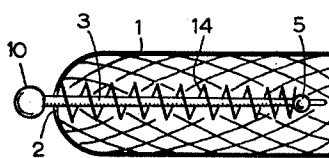


Fig. 7

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HAIR CURLER ASSEMBLY

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9 Claims. (Cl. 132—40)

This invention relates to improvements in hair curlers and in particular to a retaining device which is attached to and cooperates with the hair curler to lock the hair curler in its operative position.

In the conventional use of hair curlers, the hair is wound around the curler, and a pin is pierced through the body of the curler from the outside to prevent the curler from moving and the curl from unrolling. This presents a disadvantage in the use of the curler in that the pins must be picked up from a table for insertion into the curler, and when they are removed from the curler, the pins must be replaced on the table. In doing this, some of the pins may accidentally fall into the user's clothing, or upon the floor, and are liable to be lost or stepped on and crushed.

In conventional hair curlers, the retaining or locking pin has to be pushed through the curler body from the outside of the curler and through two opposite curler walls, in order to mount the pin in its operative locking position. This makes the insertion of the pin a rather difficult operation. A further disadvantage is that the pins lie against the head only alongside the rolled up hair, in the event that it is not desired to pierce the rolled-up hair curl. Such mounting of the pin invariably results in a sideways turning of the curler, because of the fact that the hair curl is tightly rolled under tension. According to the present invention, the curler body is preferably tubular in shape and has a frontal opening through which the pin is guided for sliding movement. The pin is secured against accidental loss within the body of the curler in such a manner that it is possible to push the pin from outside the curler so that its point pierces any desired opening of the curler body and extends through said opening to the outside of the body, in order to retain the curl on the head and prevent it from unrolling.

In order to prevent the removal of the entire pin from the curler body, a separate piece may be provided, as for example, a ring which is situated within the curler body and is loosely mounted on the pin or suspended in the loop of the pin if the pin has a double leg. The pin may be made of as synthetic material having an integral protuberance on or near its point, which protuberance prevents the pin from being pulled completely out of the curler body, particularly in cooperation with the ring or other auxiliary piece. In the event that the pin is made with two legs, the two legs may embrace a bridge portion arranged within the frontal opening of the curler body, such arrangement also insuring that the pin is not pulled entirely out of the curler.

It is an object of the present invention to provide a hair curler of the type described, in which the pin is mounted in the hair curler in such a manner that it cannot be removed therefrom, but may be readily moved to an operative position. For example, the pin is adapted to be mounted in an inoperative position, in which its body is entirely contained within the curler body while the hair is being wound upon the curler. The pin is then

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adapted to be partially withdrawn and brought to a locking position.

Another object of the invention is the provision of a hair curler of the type described, in which the operation of using the curler and applying the pin is extremely simplified and may be performed without the necessity of removing and replacing separate pins, and the consequent danger of losing or damaging the pins.

Additional objects and advantages of the invention will become apparent during the course of the following specification when taken in connection with the accompanying drawings, in which:

Fig. 1 is a plan view of a hair curler and pin made in accordance with the invention, the pin being shown in its fully inserted position in the curler body;

Fig. 2 is a plan view of a portion of a hair curler showing a modified type of pin also made in accordance with the invention, and also shown in fully inserted inoperative position;

Fig. 3 is a plan view similar to Fig. 2, but showing the pin of Fig. 2 withdrawn to its furthest extent from the curler body;

Fig. 4 is a similar plan view but showing a curl of hair set upon the curler body and showing the pin in its operative holding position;

Fig. 5 is a plan view showing a modified type of hair curler body;

Fig. 6 is a plan view similar to Fig. 2, but showing auxiliary elastic means for tensioning the pin; and

Fig. 7 is a plan view similar to Fig. 6, but showing auxiliary spring means for tensioning the pin of the curler.

Referring in detail to the drawings, there is shown a curler body 1 in the usual elongated tubular form, said body being hollow and having a plurality of wall openings. While such curler bodies may be made in a variety of forms and of a variety of materials, in the preferred form shown in the drawings the curler body 1 is made of synthetic thread-forming material, such as nylon, in which the threads are interwoven or in mesh form to provide the body with a continuous succession of mesh openings. At least one end of the body, which is herein designated as the front end, is dome-shaped and has a relatively small central opening 2. A pin 3 is mounted for sliding axial movement within the opening 2. The pin 3 has an enlarged head 10 which serves as a handle, and is inserted through the opening 2 with its point extending into and contained wholly within the curler body. The head 10, in this position, prevents the pin 3 from sliding entirely within the curler body 1. The pin 3 may be made of a plastic material molded to provide an intermediate protuberance 5 which may be ball shaped as shown, or made of any other suitable shape. An auxiliary piece, which may take the form of a ring 4, is slidably mounted on the shank of pin 3 within the curler body 1.

The integral protuberance 5 has a smaller transverse dimension than the openings in the curler body 1, so that the point of the pin may be pierced through a selected mesh opening when the pin 3 is brought to its operative position, as will be presently described. The ring 4 is of larger dimension than the guide hole 2 in the front end of the curler body 1 and has an internal diameter which is smaller than the diameter of the protuberance 5. Therefore, the ring 4 cooperates with the protuberance 5 to prevent the point of the pin from passing out of the front opening 2 and thereby removing the pin 3 entirely from the curler body 1. The pin is therefore mounted in the curler body in such a manner that it cannot be lost, and is, nevertheless, still freely movable for operation.

Fig. 2 shows an alternative form of pin, in which the pin 6, instead of having an integral protuberance, is made in the form of a loop. Pin 6 is formed of a length of

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wire folded over to provide an end bight 11 and pair of substantially parallel legs. In this instance, the ring 4 is slidably mounted on one of the legs of the wire before the ends of the legs are set into the head 10. The loop 4 is thus engaged by the bight 11 when the pin 6 is withdrawn to its fully extended position, shown in Fig. 3, and abuts the edges of the front opening 2, thereby preventing the pin 6 from being removed completely from the curler body 1. Alternately, a bridge piece 7 may be formed integrally in the curler body 1 or secured thereto to extend centrally across the front opening 2. In this event, the legs of the pin 6 straddle the bridge 7, as shown in Fig. 2, and the end bight 11 engages the bridge 7 to prevent the total removal of the pin 6 from the curler body 1. In this instance, the ring 4 may be eliminated entirely, if desired, although it may be retained as an additional retaining member.

In use, the operation and application of the curler made in accordance with the invention is remarkably simple and, at the same time, extremely effective. During the winding of the hair curl around the curler body 1, the pin body, with the exception of the head 10, is contained entirely within the curler body 1, so that it does not interfere with the curling operation. After the hair curl has been wound up onto the curler body 1, the curler and its surrounding curled hair lies flat against the head. The pin is then withdrawn to its fully extended or withdrawn position, such as shown in Fig. 3, and the point of the pin, which, in the embodiment of Figs. 2-5, constitutes the end bight 11, is pushed obliquely through the hollow interior of curler body 1 toward the exterior of the curler body, and is passed through any desired body opening of the curler.

The point is thus brought to a selected position, in which it will brace the curler against the head, preventing unrolling of the curler. In Fig. 4 there is shown the curler with the pin 6 in its operative position. A rolled up curl of hair is indicated by a reference numeral 8. The pin 6 is shown extending obliquely through the curler body 1 with its ends projecting from opposite sides of said curler body. The pin 6 in this position will abut the user's head and thereby prevent the turning back or unrolling of the curler, so that the hair curl 8 will stay in its tightly rolled position.

According to the invention described hereinabove, the connection between the curler and the pin is a very simple and effective one, and is practically unbreakable. It is to be particularly observed that by the provision of such a construction there is no requirement for elastic bands or spring means coupling the pin and the curler body. When the curlers are stored in the usual container, the curlers will be positioned vertically upright in the customary manner. This prevents the heads of the pins from hanging out of the curler, and provides for economy of space in storage of the curlers.

Fig. 6 shows an alternate form of the invention, in which the pin 3 may be held within the curler body 1 by resilient means. For this purpose, an elastic band 12 may be used, the elastic band 12 being secure to the curler body 1 and attached to an intermediate portion of the pin, or to the ring 4 as illustrated. In comparing this to the operative view shown in Fig. 4, it will be seen that if the elastic band 12 is attached to the shank of pin 3, the point of attachment should be to that portion of the pin shank which remains within the interior of the curler body 1 when the pin 3 is in operative position. It will be noted that the elastic band 12 remains at all times within the interior of curler body 1 and is therefore secured against breakage and other damage.

The resilient means may also be secured to the head 10 of the pin. The elastic band or the like, in this case would be drawn out of the curler body when the pin is withdrawn, but would closely hug the pin and would be therefore shielded from damage. In the event that a braided elastic and fabric cord is utilized as the resilient

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means, the extent of stretch of the cord would be self-limited and the ring or other auxiliary retaining means within the curler body may be eliminated.

Fig. 7 shows a further alternate structure, in which the resilient means is in the form of a compression spring 14, said spring 14 being located on pin 3 between the front end wall of the curler body 1 and the point of the pin. Since the spring 14 serves the purpose of holding the pin within the interior of the curler body 1, the ring 4 is unnecessary and may be dispensed with.

It is particularly advantageous to use curlers having large perforations or mesh openings, since these provide ready means for quickly and conveniently extending the pin to its operative position. Such large openings are also important in order to provide faster drying out of the hair.

The pushing of the pin through the curler wall is facilitated if the curler body is spherically shaped at the end through which the pin extends. Such a curler body, having a spherical end 9, is shown in Fig. 5.

While preferred embodiments of the invention have been shown and described herein, it is obvious that numerous omissions, changes and additions may be made in such illustrated embodiments without departing from the spirit and scope of the invention.

What is claimed is:

1. A hair curler assembly comprising a hollow, substantially tubular curler body, around which a hair curl is to be wound, an elongated fastening member comprising a single elongated pin extending into said curler body, said curler body having an opening in an end wall thereof, said fastening member extending for axial sliding movement through said end wall opening and having a retaining abutment at each end of larger size than the opening for preventing the fastening member from being entirely removed through said end wall opening, said curler body having at least one body opening spaced from said end wall opening, said fastening member being movable to an operative holding position in which it extends obliquely through the interior of said hollow curler body with its ends projecting from the respective openings, whereby the fastening member in its operative position is adapted to brace the curler body against the head to prevent unrolling of the curler.

2. A hair curler assembly according to claim 1, including an auxiliary member slidably mounted on said fastening member within the curler body, said auxiliary member being of larger size than said end wall opening.

3. A hair curler assembly comprising a hollow, substantially tubular curler body around which a hair curl is to be wound, an elongated fastening member comprising a pin having a protuberance approximate to an end and a ring slidably mounted on said pin and cooperating with said protuberance to prevent the pin from being entirely withdrawn from the curler body, said curler body having an opening in an end wall thereof of smaller size than said ring and said protuberance, said curler body having at least one opening spaced from said end wall opening, said fastening member being movable to an operative holding position in which it extends obliquely through the interior of said hollow curler body with its ends projecting from the respective openings, whereby the fastening member in its operative position is adapted to brace the curler body against the head and prevent unrolling of the curl.

4. A hair curler assembly comprising a hollow substantially tubular curler body, around which a hair curl is to be wound, an elongated fastening member including a pair of longitudinally extending legs connected by a terminal bight, said curler body having an opening in one end thereof including a bridge piece extending across said opening, said fastening member legs straddling said bridge piece, said curler body having at least one body opening spaced from said end wall opening, said fastening member being movable to an operative hold-

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ing position in which it extends obliquely through the interior of said hollow curler body with its ends projecting from the respective openings, whereby the fastening member in its operative position is adapted to brace the curler body against the head to prevent unrolling of the curler.

5. A hair curler assembly comprising a hollow, substantially tubular curler body, around which a hair curl is to be wound, said curler body having an opening in an end wall and a plurality of openings spaced from said end wall openings, an elongated fastening member extending through the end wall opening of said curler body, resilient means connecting said curler body and said fastening member, said resilient member biasing said fastening member inwardly of the curler body, said fastening member being movable to an operative holding position in which it extends obliquely through the interior of said hollow curler body with its ends projecting from the respective openings, whereby the fastening member in its operative position is adapted to brace the curler body against the head to prevent unrolling of the curl.

6. A hair curler assembly according to claim 5, in which the resilient member is an elastic band connected at one end to the interior of the curler body and coupled at the other end to said fastening member.

7. A hair curler assembly according to claim 5, in which the fastening member has a protuberance adjacent one end, and the resilient member is a compression spring mounted on said fastening member and engaging the in-

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terior of the curler body at one end and the fastening member protuberance at the other end.

8. A hair curler assembly according to claim 1, in which the end of the curler body containing the end opening is substantially sphere-shaped.

9. A hair curler assembly comprising a hollow, substantially tubular curler body, around which a hair curl is to be wound, an elongated pin mounted in said curler body, said curler body having an end wall containing an end wall opening and a side wall containing a plurality of side wall openings, said pin extending through said end wall opening for axial sliding movement, said pin having a head located externally of said curler body and a shank rigid with said head, said pin being movable between an inoperative position in which the shank is wholly contained within the curler body and an operative holding position in which the pin extends obliquely through the interior of the curler body with the end of the shank opposite the head projecting through a selected side wall opening exteriorly of the curler body, and retaining means including a protuberance at each end of said pin larger than the opening in the end wall of said curler body for preventing the pin from being entirely withdrawn through said end wall opening.

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