

[54] **METHOD OF REPLACING HAIR**
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[22] Filed: **July 6, 1971**

[21] Appl. No.: **159,957**

[52] U.S. Cl. 3/1, 128/330

[51] Int. Cl. A61f 1/00, A61b 17/04

[58] Field of Search 132/53; 3/1; 128/1

[56] **References Cited**
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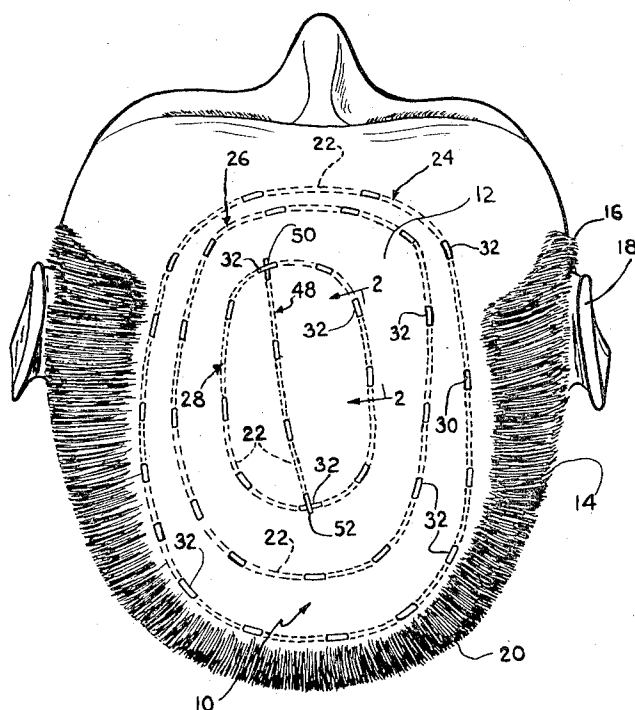
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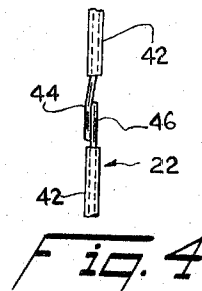
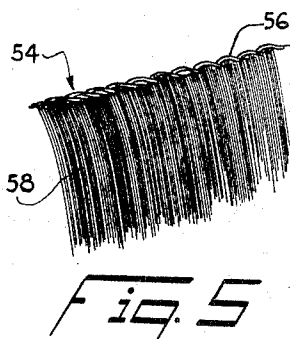
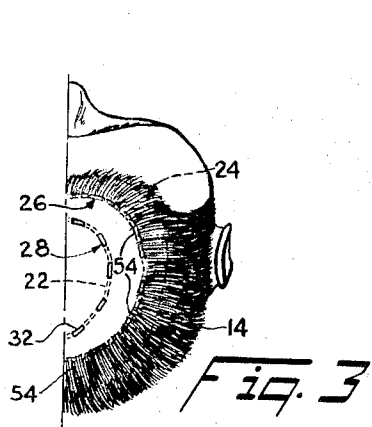
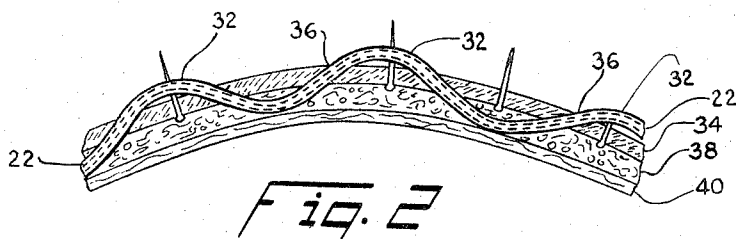
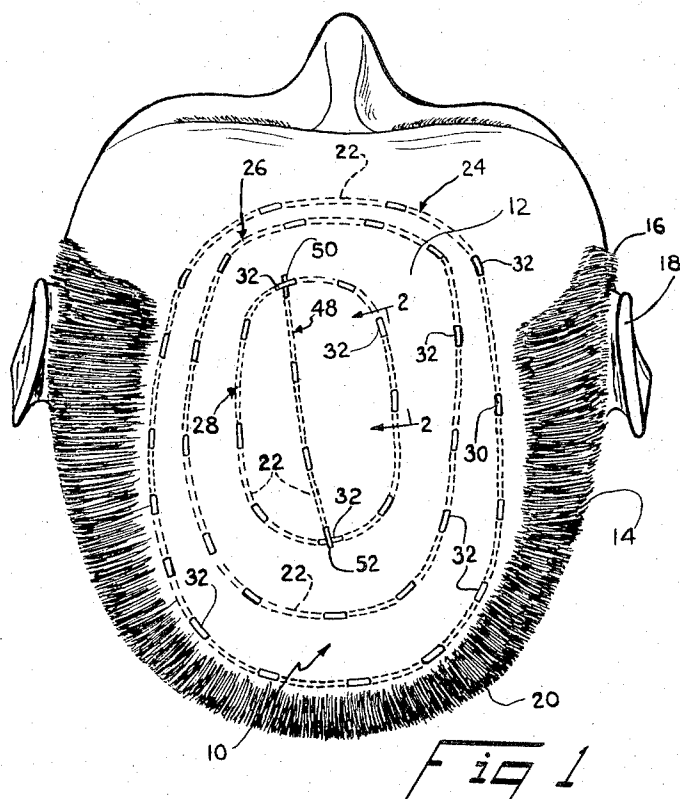
Primary Examiner—Channing L. Pace

[57] **ABSTRACT**

A method of replacing hair to a delineated area of a body. After surgically preparing the area, a series of continuous sutures are embedded therein by a surgeon in a concentric ring pattern. Each suture is of inert material and is embedded so as to form a pattern of loops alternately projecting above and below the surface of the delineated area. Subsequently, wefts of human or synthetic hair are sewn to one or more of the loops until the area is covered with hair.

3 Claims, 5 Drawing Figures





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METHOD OF REPLACING HAIR

BACKGROUND OF THE INVENTION

This invention relates to a method of replacing hair in an area of the body previously devoid thereof. It is recognized that loss of hair resulting in complete or partial baldness is a common occurrence among human beings. Many times such loss results in serious emotional problems, particularly among young males and females.

Through the years a variety of methods have been used in an attempt to replace lost hair as through the use of a wig, wiglet, toupee or the like. The major problem with such hair replacement methods has been in the techniques used to secure the hair piece to the human scalp. These have included the use of an adhesive between the scalp and hair piece, mechanically tying the hair piece to existing hair often called "hair weaving," clips, and totally encompassing elastic head gear (wigs). Heretofore, the most effective method of attaching replacement hair to the scalp has been to embed a plurality of anchor points in the scalp around a delineated area to be covered and then to secure a net thereto. Subsequently, sufficient tufts of hair are attached to the net to cover such area. This method is disclosed in U.S. Pat. No. 3,553,737 issued Jan. 12, 1971 to J. Bauman.

This method, however, has a number of disadvantages. For example, the area of the scalp immediately beneath the net frequently develops scale or other unhealthy conditions. This is particularly true at the edge of the net where often the net has to be overlapped one or more times to conform to the anchor points thereby further reducing the ventilation under the net. In addition, with time, the net frequently gets pulled out of shape thereby causing an unflattering cosmetic appearance. Furthermore, the method can be quite unsanitary when the area to be covered has some existing hair because such hair can't grow upward but instead becomes entrapped under the net. Accordingly, there has long been a need to find a method to attach replacement hair to the scalp, which over a long period of time will maintain a neat and healthy appearance.

SUMMARY OF THE INVENTION

The present invention contemplates a method of permanently replacing lost hair in a delineated area of a human scalp so that the scalp takes on the appearance of having a natural, healthy head of hair.

This is accomplished by surgically preparing the delineated area in contemplation of surgery. Subsequently, a series of continuous sutures of inert materials are embedded in the delineated area in a concentric ring pattern. Each suture is embedded so that a pattern of loops project from the scalp. Finally, wefts of human or synthetic replacement hair are directly secured as by sewing to one or more of the loops until the delineated area is substantially covered with hair.

This method provides greater flexibility in planning how to fill the delineated area with replacement hair than previous methods. For example, the concentric rings can be placed close together or relatively far apart, and the spacing between the rings can be uniform or variable. In addition, the size and shape of the loops can also be varied to obtain desired variations in

the final appearance and location of the wefts of hair.

Since the sutures are permanently embedded in the scalp there is no chance that the concentric rings or pattern of loops will change their shape, thereby assuring a long life. Furthermore, their inert characteristics ensure that the scalp will remain healthy. Likewise, the use of a concentric ring pattern evenly distributes the stresses and pressure, caused by an upward pull on the wefts of hair, across a greater area of the scalp. With the method of U.S. Pat. No. 3,553,737, this upward movement lifted the net to which all the wefts were attached off the scalp and thereby concentrated the majority of stresses on the few anchor points holding the net in place. This, oftentimes, caused the anchor points to tear out of the scalp. In addition, by using a concentric ring pattern, the scalp is more easily accessible to medically treat wounds that may occur or if medical therapy is indicated. Furthermore, the concentric ring pattern provides sufficient ventilation and room to allow any natural hair that does exist in the delineated area to grow naturally upward from the scalp instead of becoming matted or trapped as is the case when a net, wig or gridwork is used.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top plan view of a male scalp, showing a concentric ring pattern of continuous sutures each having a pattern of loops embedded in the scalp according to the method of this invention;

FIG. 2 is an enlarged fragmentary sectional view of a portion of a continuous suture, the plane of the section being indicated by the section line 2—2 in FIG. 1;

FIG. 3 is a partial top plan view of the concentric ring pattern shown in FIG. 1 having wefts of hair attached to some of the projecting loops according to the method of this invention;

FIG. 4 is a detail view of a weld connecting the ends of a suture; and

FIG. 5 is a front elevation of a weft of hair prior to its being sewn to the loops as shown in FIG. 3.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1, there is shown a person's scalp 10 having a delineated area 12 devoid of hair. It will, of course, be recognized that the delineated area may also have some hair on it. For purposes of illustration the person depicted in the accompanying drawings is of the male sex although this invention is equally applicable to the scalps of women. Surrounding the delineated area is a fringe 14 of natural hair immediately adjacent the temples 16, ears 18 and nape of the neck 20.

A hair restoration operator initially delineates the area to be covered with replacement hair. The operator in making the delineation takes into account the contour of existing hair and the personal preference of the person as to the final style the replacement hair should have. Although the delineated area 12, as shown in FIG. 1, is oval it will, of course, be recognized that such an area can take on a variety of other shapes without deviating from the essence of the method of this invention.

The services of a medical doctor are then called upon to embed a series of continuous sutures 22 in a substantially concentric ring pattern comprising rings 24, 26

and 28 in the area. Each suture is made of an inert material and is embedded so as to form a pattern of loops projecting from the scalp. Preferably, the concentric ring having the largest periphery (in this case 24) follows the outline of the fringe 14 surrounding the delineated area as well as extending into a portion of the forehead. Although for simplicity of illustration the outermost concentric ring 24 as shown immediately adjacent a portion of the fringe it will, of course, be recognized that it can also encroach upon the fringe area to better match up the person's natural hair with the replacement hair. Moreover, although a pattern of three concentric rings is generally used as shown in FIG. 1, the number of rings may vary depending on the size of the delineated area. In addition, if desired, the distance between each ring, and shape of each ring, may be varied to achieve a particular effect. Preferably, this distance is from 1 to 2½ centimeters. The shape of the concentric ring pattern has a distinct advantage over a square or straight line pattern in that the sutures are less likely to pull out of the scalp due to the gliding mechanism that exists when a force is applied thereto. This is true because the stresses created by such force can be more easily distributed over the entire periphery of each ring than at a corner of a square.

Prior to embedding the sutures 22, the delineated area 12 is surgically prepared, i.e., the scalp including the delineated area is cleaned with an antiseptic solution followed by numbing the area using a local anesthetic. Aseptic conditions are maintained during the embedding of each successive concentric ring.

Upon completion of the surgical preparation, the surgeon selects a single continuous suture of inert material for each of the concentric rings 24, 26 and 28. The inert material typically comprises a braided stainless steel wire covered with an equally inert Teflon sleeve. Stainless steel has the additional desirable characteristic of being a weldable material. The stainless steel is of heavy gauge, preferably size 0, to ensure that it won't cut through and pull out of the scalp if subjected to a pulling force.

The concentric rings 24, 26 and 28 are formed in the delineated area 12 under operating conditions by the surgeon. Thus, starting at point 30 for ring 24, the surgeon applies a continuous suture 22 to the scalp in an in-and-out fashion thereby forming a pattern of spaced, outwardly projecting loops 32. This is best shown in FIG. 2 wherein the suture 22 penetrates the skin 34 at point 36 and continues down into the subcutaneous fat tissue 38 where it turns back up towards the skin avoiding the galea aponeurotica region 40 of the scalp. The suture emerges from the skin and forms a loop 32 before it reenters the skin. This alternating pattern of loops, projecting above and below the scalp as shown, continues until ring 24 is completed by returning to the starting point 30. The Teflon coating 42, FIG. 4, is then stripped from the ends 44 and 46 of the suture to expose the stainless steel wire, after which the stripped ends are welded together with a suitable welder such as one utilizing the stored energy principle. In the alternative, the stripped ends can be secured together by inserting them in the ends of a short, deformable sleeve (not shown) which is then crimped to maintain the wire ends therein. The crimping is done so as to flatten the sleeve laterally rather than vertically whereby it presents a flat side rather than an edge to the scalp.

Subsequently, inner concentric rings 26 and 28 are formed in like manner. It will be noted that the diameter of each successive concentric ring decreases as it moves towards the center of the scalp thereby providing a foundation across the entire area to be covered. Furthermore, none of the rings touch each other or overlap so that adequate ventilation is provided and the possibility of an accumulation of undesirable scale and the like is reduced.

Once the innermost concentric ring 28 is embedded, it is often desirable to employ a single or double straight line suture 48 substantially diametrically across ring 28. Suture 48 is maintained in position by individually looping its ends 50 and 52 around exposed loops 32 of the ring 28 as shown in FIG. 1, and welding the ends to such loops in the manner previously described. In this manner bulky under-the-scalp knots which can lead to pressure discomfort and ulceration are avoided.

After the suture begins to heal, a protective lining forms around each embedded suture in the scalp. It is believed that this lining results from the coating of the embedded suture with epithelial or skin-like cells.

Following the formation of the loops in the delineated area, wefts of hair 54 shown in FIG. 5 are individually sewn to one or more loops as shown in FIG. 3. These wefts of hair are commercially available and comprise long pieces of nylon thread 56 to which are tied numerous pieces 58 of human or synthetic hair. The hair is generally at a 90° angle with the thread to which it is attached. This hair replacement procedure is continued in overlapping or shingle fashion until sufficient wefts are in place to satisfactorily cover the thinned or bald areas. The wefts of hair are selected to match any existing hair, and their length and size can be varied to facilitate their comingling with existing hair.

In summary, this method of replacing hair has greatly reduced the major causes of discomfort associated with previous replacement methods such as sutures tearing out, unhealthy, non-ventilated conditions existing next to the scalp and the concentration of any pulling force on a net or wig at just a few anchor points. The present invention eliminates these discomforts by embedding a series of substantially concentric rings in the scalp such that they provide a ventilated foundation, free of contamination and pressure build-up, to which replacement hair can be attached. The pressure build-up is relieved by the gliding effect the sutures exhibit within the scalp along the periphery of the concentric rings.

As will be apparent to those familiar with the art, the invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof.

We claim:

1. A method of replacing hair in a delineated area of a living human body which has been surgically prepared comprising the steps of:

embedding a series of sutures in a concentric ring pattern in the delineated area by inserting the sutures into the body below the surface of the delineated area and looping the sutures above the surface of the delineated area; and

directly attaching wefts of replacement hair to the loops formed by the sutures thereby substantially covering the delineated area with hair.

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2. A method of replacing hair as defined in claim 1 which, after the smallest diameter concentric ring has been embedded in the delineated area, includes the step of embedding at least one continuous suture in a straight line substantially diametrically across the smallest diameter ring.

3. A method of replacing hair in a delineated area of a living human scalp which has been surgically prepared comprising the steps of:

embedding a series of sutures in a concentric ring pattern in the delineated area by inserting each suture so that the suture enters the layer of skin covering the scalp, extends downward into the subcutaneous tissue and then loops back up and out through the layer of skin thereby forming a pattern of loops alternately projecting above and below the

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scalp; continuing the embedding procedure until each ring has been completed with free ends of the suture exposed;

securing the free ends together to form a final outwardly projecting loop and make the suture continuous, the concentric ring at the periphery of the delineated area having a larger diameter than the remaining inner rings and each successive ring extending inwardly from the outer ring having a correspondingly smaller diameter; and

directly attaching wefts of replacement hair to the outwardly projecting loops formed by the sutures thereby substantially covering the delineated area with hair.

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