

May 31, 1955

L. F. WILLAT

2,709,442

HAT SHIELD FOR PERMANENT WAVING OF HAIR ON THE HUMAN HEAD

Filed April 6, 1953

Fig. 5.

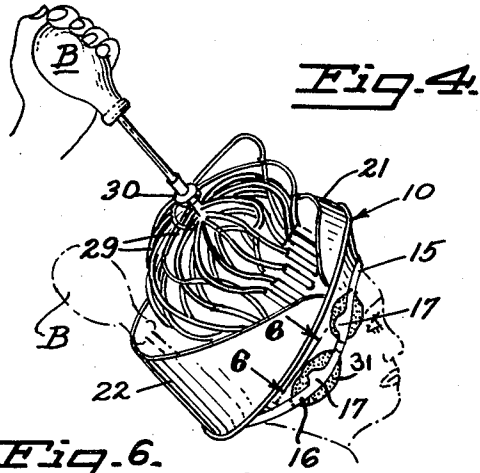
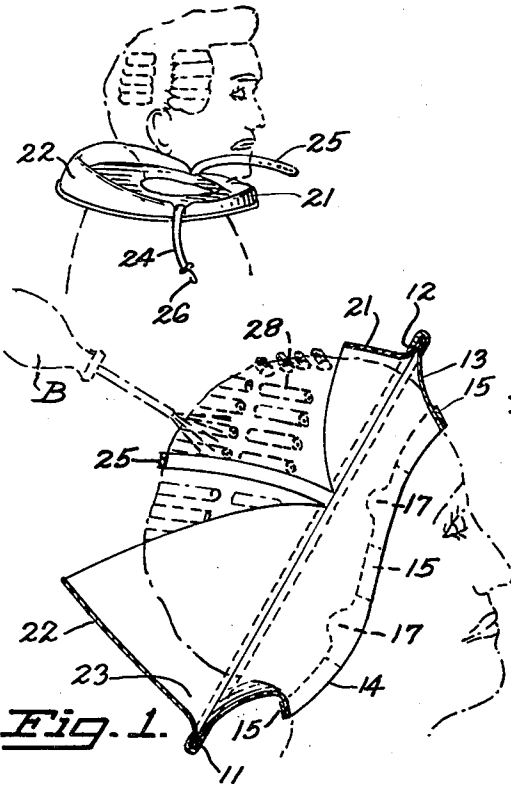


Fig. 6.

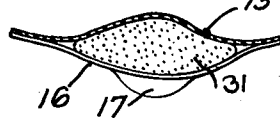


Fig. 3.

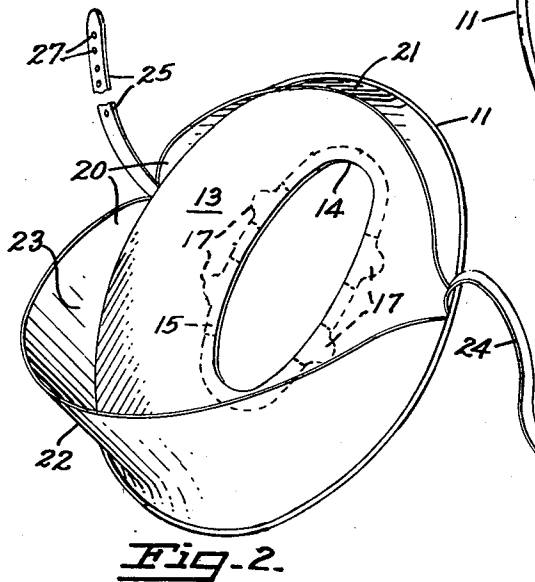
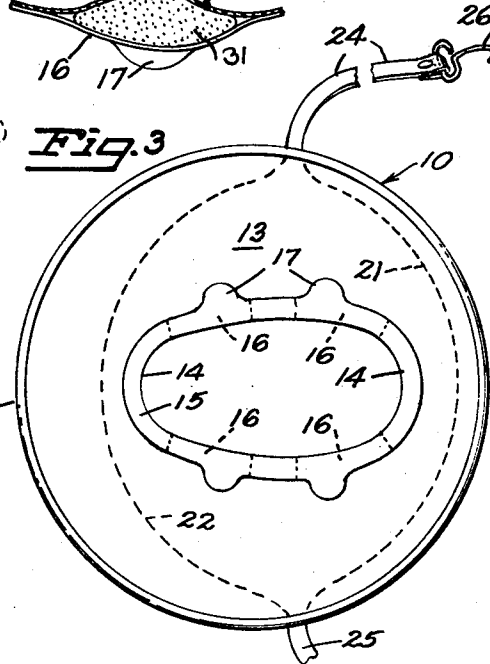
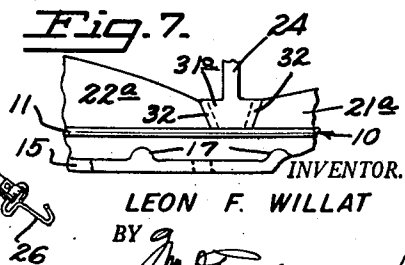


Fig. 7.



INVENTOR.
LEON F. WILLAT
BY *M. J. Dehann*
ATTORNEY

1

2,709,442

HAT SHIELD FOR PERMANENT WAVING OF HAIR ON THE HUMAN HEAD

Leon F. Willat, Mill Valley, Calif.

Application April 6, 1953, Serial No. 346,991

9 Claims. (Cl. 132-9)

This invention relates to hat shields for permanent waving of hair on the human head and particularly relates to hat shields for confining solutions in such permanent waving to the scalp portion of the head and preventing its flow to the face or neck of the patron, while also serving as a collector of the liquid for a repetition of the application of the solution to the hair in the permanent waving operation.

Certain types of permanent waving of hair on the human head provide for flowing of so-called permanent wave solutions through rolls of hair spirally wound upon hollow curler rods which are perforated so that the liquid may be forced through a pressure tube into the curler rod and through the perforations in the curler rod and the hair wound thereon. Other types of such permanent waving provide for winding locks of hair upon curler rods and applying the liquid to the lock before or after winding by external or surface application in any suitable manner. One of the difficulties to be overcome is to prevent the hair waving liquids from flowing into the face or upon the person of the patron and at the same time assure that the hair is completely wetted and maintained thoroughly wet or saturated with the solution while the hair is wound upon the curler rod. Heretofore in those permanent waving operations where solutions were flowed upon or through the wound hair, in order to thoroughly insure the complete and adequate wetting of the hair, it has been deemed advisable and necessary to place the patron in a reclining position so that the liquid employed could be readily drained from the hair.

In some of these types of operations the hands of the operator are in contact with the waving solutions for extended periods of time, which is detrimental to the skin, a factor which it is very desirable to eliminate.

Among the objects of the present invention are to provide a hat shield so that the necessary lotions may be flowed upon or through locks of wound hair without contacting the hands of the operator; to provide a collecting shield so that these hair waving operations may be performed while the patron is seated in an upright position; to eliminate expensive apparatus, and to provide a means for collecting liquid which has been flowed through the hair so that it may be again flowed upon the hair by surface application or through the hair by a pressure system.

The hat shield of the present invention is especially adapted for use in either of said types of permanent waving, or in combination of the modes of application of both of them.

Briefly described, the invention comprises a hat shield to fit snugly and closely around the head of the subject adjacent the hair line of the scalp by means of an elastic liquid-impervious diaphragm mounted within the diameter of a relatively narrow circular rim of metal, plastic or the like, the elastic diaphragm having an elongated ellipse opening through which the head and hair may pass, a reinforcing elastic edge preferably being around the

2

opening. Extending upwardly from the circumferential edge of the rim is a protective wall preferably flexible which is connected around the inner circumference of the rim, the wall having diametrically opposite front and rear portions, the wall portion which in operation would go at the rear of the head being relatively high to provide a sump for solution and the other or front wall being relatively low. The high and low portions of the wall have their respective free edges inclined towards the rim and merging at opposite ends of a perpendicular transverse diameter which is preferably offset forwardly from the geometrical center diameter of the rim. A strap member is attached to the rim substantially at the confluence of the relatively adjacent high wall and the low wall is for passing over the head of the subject or patron to support the hat shield in operative position.

One form in which the invention may be exemplified is described herein and illustrated in the accompanying drawing in which:

Fig. 1 is a transverse section of the invention on front to rear diameter, in mounted position upon the head of the patron or subject, the latter being shown in broken lines.

Fig. 2 is a perspective view of the invention.

Fig. 3 is a bottom or underside view of the invention.

Fig. 4 is a perspective view of the invention mounted in operative position on a head and illustrating one form of use of the invention with liquid forcing apparatus.

Fig. 5 is a perspective view showing an operative position.

Fig. 6 is a fragmentary enlarged horizontal view of a portion of elastic diaphragm and binding band providing a pad-holding slot, which is shown in operation in Fig. 4.

Fig. 7 is a fragmentary side view of a modified form of portions of front and rear walls of the invention.

Referring to the drawing in which like reference characters indicate corresponding parts in the several views, the hat shield is generally indicated 10 and comprises a stiff relatively narrow circular reinforcing rim 11 preferably of metal or hard plastic, U-shaped in transverse section through its body providing an inwardly open annular groove 12 in which is inserted the peripheral edges of a thin elastic diaphragm 13 and also one edge of a wall portion, to be described, which are tightly engaged in the groove by pressing the walls of the groove thereupon, the rim being sufficiently stiff to hold the diaphragm spread radially outwardly from the wearer's head when the device is being worn in operation on a head.

The relatively thin elastic diaphragm 13 normally lies substantially in the plane of the rim 11, and extends completely across the area of opening of the rim, but having at its central portion an elongated elliptical opening 14, the major axis of which is on a diameter of the rim which may be arbitrarily termed the diameter from the front to the rear of the rim, the respective opposite ends of the elliptical opening being more nearly spaced towards the front of the rim than towards the rear of said rim diameter. At what may be termed the exterior or bottom face of the diaphragm 13, there is an additional layer of elastic material around the edge of the opening 14 exemplified herein by a planar reinforcing strip 15 which is illustrated herein as a flat band adheringly attached to the diaphragm for the greater portion of the perimeter of the opening and which may have certain relatively spaced free lip portions 16, preferably four in number, provided with convenient finger grip tab 17 for purposes to be explained.

The wall portion generally indicated 20 is preferably of flexible water impervious material so that it may be folded flat for convenience of packaging or storage, a flexible substantially non-elastic plastic sheeting being a satisfactory material. The wall member has a forward

3

wall portion 21 and a rearward wall portion 22 each wall having a portion of maximum height at the front-to-rear diameter of the rim, the rearward portion being of considerably greater height than the forward portion and thereby providing a sump 23 at the rear into which the liquid solution may flow when the hat shield is mounted at an inclined operative position upon the head of a patron, as shown in Fig. 1.

In Fig. 1 the wall portions 21 and 22 are separate and the upper or free edge portions thereof incline from the high point towards the rim 11, said edges terminating at the rim in closely spaced relation somewhat forwardly of the maximum transverse diameter of the rim, that is, the rear wall 22 is connected to the rim at a greater part of the circumference of the rim than is the forward wall. A flexible strap sufficiently narrow not to interfere with the wound hair and manipulation thereof is connected to the rim at the space on the rim between the adjacently spaced ends of the two wall portions, the strip lengths of which 24, 25 each have one end connected within the groove of rim 11 so that the strap may pass over the head of the patron for supporting the hat upon the head by means of hook 26 and eyelets 27.

In operation the hat shield, due to elasticity of the opening 14 in the elastic diaphragm 13, may be slipped over the head of the patron by inserting the entire head through the opening 14 and temporarily reposing the hat upon the neck or shoulders of the patron and preferably folding the high rear wall 22 inwardly and downwardly or overlappingly upon itself as shown in Fig. 5, whereupon because of its attachment arcuately to the rim it locks against the tendency to rebound inherently to an upstanding position, and thereby the locks of hair, and particularly the locks adjacent to the hair line, are accessible for manual manipulation to be wound upon curler rods 28. If the hair waving operation is to include application of hair waving liquids by means of forcing such liquids through the curler rods, a series of tubes 29 and a manifold 30 are connected to the tubular perforated curler rods while the hat shield reposes on the neck and shoulders of the patron.

After the hair has been wound on the curler rods, and the tubes and manifold connected if that method is to be employed, the rim of the hat shield is elevated to substantially the scalp line or hair line, the upper movement thereby distending the opening 14 of the elastic diaphragm so that the body thereof extends downwardly and closely grips the head of the patron below the hair line, from the forehead to the upper portion of the neck, the elastic edge of strip 15 causing the edges of the opening to engage the face and neck sufficiently tightly to prevent passage of the liquid thereby. The strap members 24, 25 are then connected over the head and the wound hair upon the curler rods to maintain the hat upon the head in operating position as shown in Fig. 1.

Since some persons have a slight hollow in head contour at the temple and also adjacent to the back of the ears, the free lip portions 16 of the strip 15 may be conveniently raised by means of the tabs 17 and a filler pad 31 may be inserted between the lips 16 and the body of the diaphragm to fill such hollows and press the edge of the diaphragm in close impervious contact with the head.

Regardless of whether the application of the hair waving liquid is to be by means of the tubes 29 and manifold 30, as in Fig. 4, or by means of surface application as indicated in Fig. 1, or by both methods combined, the walls 21 and 22 and diaphragm 13 prevent liquid flowed into or upon the wound hair from flowing upon the face or neck of the patron. The liquid after wetting the wound hair is guided by the walls 21 and 22 into the sump 23 where it may be recovered and again flowed upon or through the wound hair by suitable bulb B through the manifold or sprayed by surface application

4

upon the rolled hair for the desired number or periods of time.

In the modification illustrated in Fig. 7, the free edges of the walls 21a and 22a are connected at the gap across the straps by means of an inserted gusset 31a which may be imperviously connected to adjacent ends of the walls 21a and 22a by a heat plastic weld 32, and if desired, the strap member may be an integral part of such gusset. Obviously one edge of the gusset may be held within the groove of the rim in a manner similar to the holding of the edge of the walls within the groove of the rim.

After application of all the desired liquids to the hair, it is desirable to remove remaining liquid from the sump by means of the bulb and then remove the hat shield from its operating position to the original position on the shoulders of the patron until the hair has been unwound from the curling rod, since it is easier to remove the hat shield from the head after the hair has been unwound from the curler rods. Obviously the removal of the hat shield from the head involves only lifting the rim and sliding the elastic opening over the head and hair of the patron.

Having thus described the invention, what is claimed to be new and patentable is:

1. In apparatus for permanent waving of hair on the human head, a hat shield comprising a relatively stiff rim for supporting peripherally a relatively opposed diaphragm and wall, an elastic diaphragm secured to the rim and extending diametrically across one face thereof, said diaphragm having an opening therein spaced from said rim whereby the diaphragm may be slid over the head, a liquid impervious wall having one edge thereof secured to the face of the rim opposite the diaphragm and having a free portion adapted to stand up from the rim, said wall being open at the top whereby the hair on the scalp is accessible for manipulation, the wall including a flexible section at the rear portion of the rim having a free portion which may be folded toward the rim overlappingly upon itself, and a relatively narrow strip for passing over the top of the head of the wearer for supporting the hat adjacent the hair line of the head while the top opening of the upstanding wall is maintained open for manipulation of the hair.

2. A hat shield for permanent waving of hair on the human head, having the elements of claim 1 and in which the rim is arcuate and has an inwardly open groove into which the peripheral edge of the diaphragm and one edge of the said wall are secured, the rim being sufficiently stiff to hold the periphery of the diaphragm radially outwardly from the wearer's scalp.

3. A hat shield device of the character described having the elements of claim 1 and in which the rearward wall portion is of greater maximum height than the forwardly portion of the wall.

4. A hat shield for permanent waving of hair on the human head having the elements of claim 1 and in which there is an additional elastic reinforcing layer to the diaphragm at the edge of the opening, said additional layer having relatively spaced free lip portions for inserting a pad member thereunder.

5. A hat shield device of the character described having the elements of claim 1 and in which there is an elastic band secured to the diaphragm at the edge of the opening and provided with free lip portions relatively spaced, said free lip portions having finger-grip tabs for raising the free portions from the diaphragm whereby pads may be inserted between said free lip portions and the diaphragm.

6. In apparatus for permanent waving of hair on the human head, a hat shield having an arcuate rim providing an inwardly open groove, an elastic diaphragm having its peripheral edge secured in the groove of the rim and normally held by the rim in a plane extending diametrically across one face of the rim, said diaphragm having an opening therein whereby the diaphragm may be slid over

5

the head, an elastic reinforcing member overlying the diaphragm at the edge of the opening, said elastic reinforcing member having relatively spaced portions free of the elastic diaphragm, said free portions having finger grip tabs adapted for lifting the free portion for receiving pads between the reinforcing member and the elastic diaphragm, a liquid impervious wall having one edge thereof secured to the face of the rim opposite the diaphragm, said wall having a free portion upstanding from the rim providing an open top through which hair on the scalp is accessible, said wall including a front wall portion and a rear wall portion, the rear wall portion being secured at the rim for a greater portion of the rim periphery than the front wall, and a strap for passing over the top of the scalp to support the hat adjacent the hair line of the head while the top of the walls remain open for manipulation of the hair through the said open top.

7. A hat shield device of the character described having the elements of claim 6 and in which the elastic reinforcing member is a band around said diaphragm opening and the relatively spaced free portions having the finger grip tabs are a portion of said band.

8. A hat shield for permanent waving of hair on the human head having the elements of claim 6 and in which

6

at least the rear portion of the said liquid impervious wall is flexible, the rear wall portion being of greater maximum height than the front wall portion whereby its free edge portion may be overlyingly folded upon itself and toward the rim and maintain such folded position due to the connection of its other edge arcuately to the rim.

9. A hat shield for permanent waving of hair on the human head having the elements of claim 6 and in which the free edges of the front and rear wall portions are inclined toward the rim at the terminal ends of said front and rear wall portions, said walls terminating at said ends in adjacently spaced relation, and a gusset imperiously connected at its ends to said walls between relatively adjacent ends of the walls and having an edge connected in the groove of the rim.

References Cited in the file of this patent

UNITED STATES PATENTS

1,497,858	Lewis	June 17, 1924
1,612,602	Bowman	Dec. 28, 1926
1,806,155	Farrelly	May 19, 1931
2,445,487	Lester et al.	July 20, 1948
2,600,557	Marriott	June 17, 1952