

Dec. 10, 1963

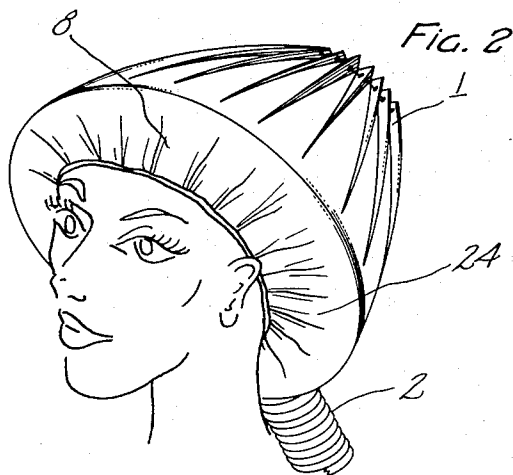
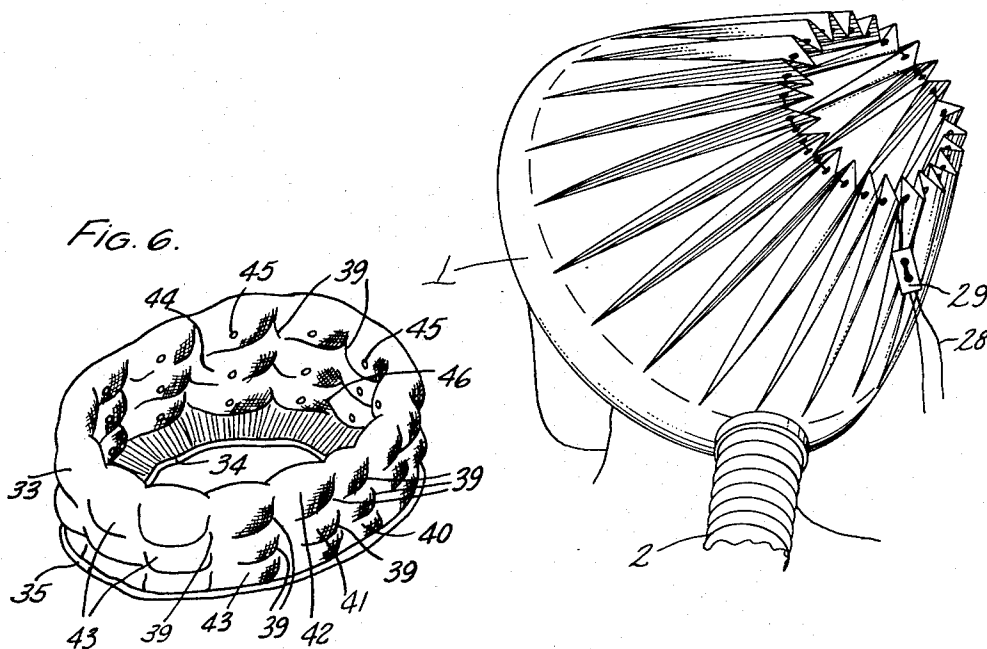
J. H. CLARK, JR
HAIR DRYER BONNET

3,113,848

Filed Nov. 12, 1959

3 Sheets-Sheet 1

FIG. 1.



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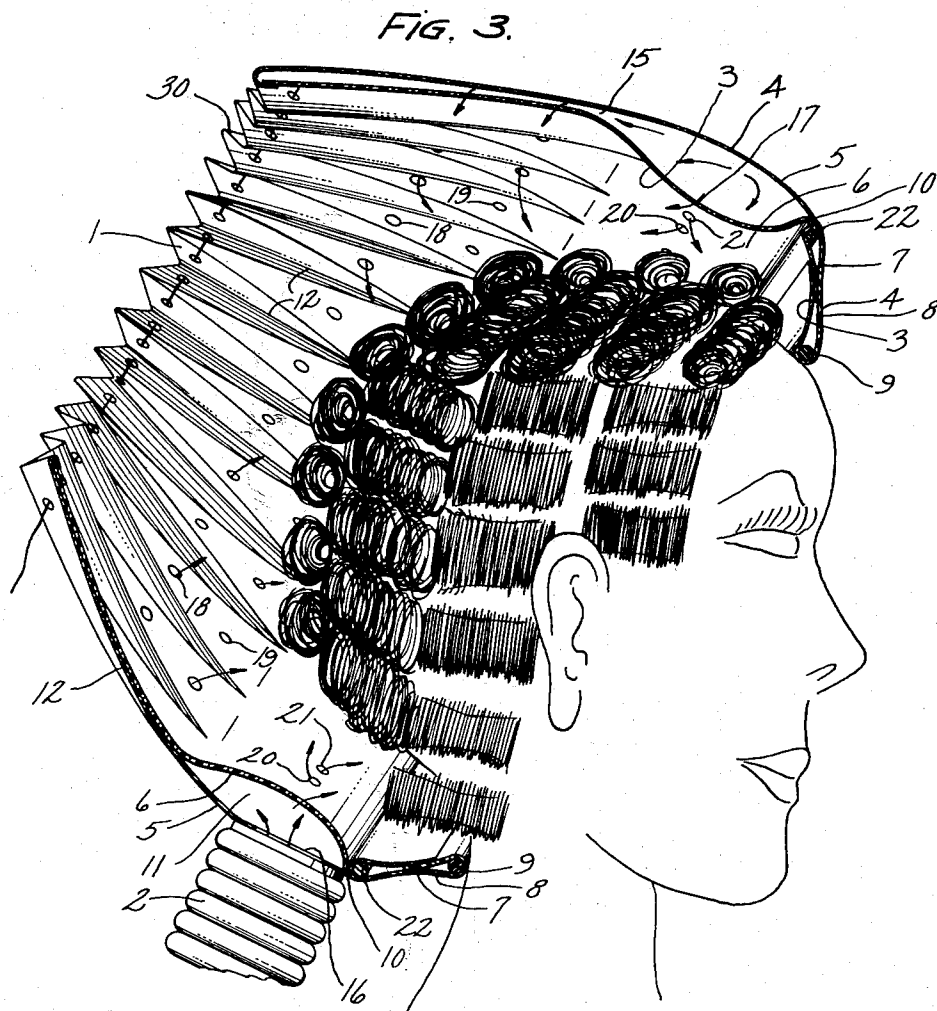
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3 Sheets-Sheet 2



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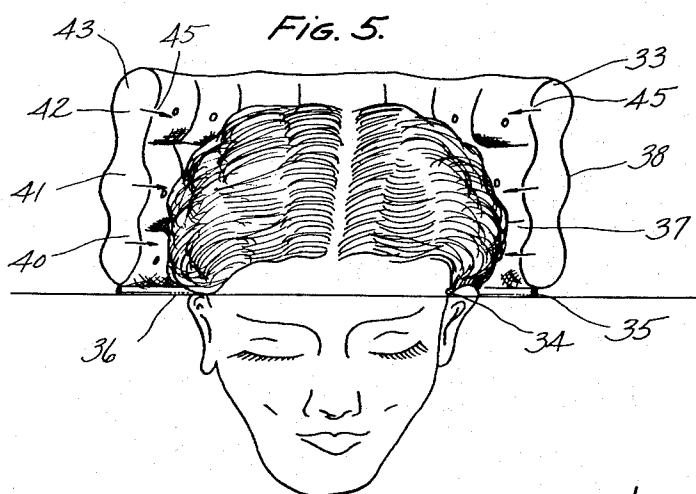
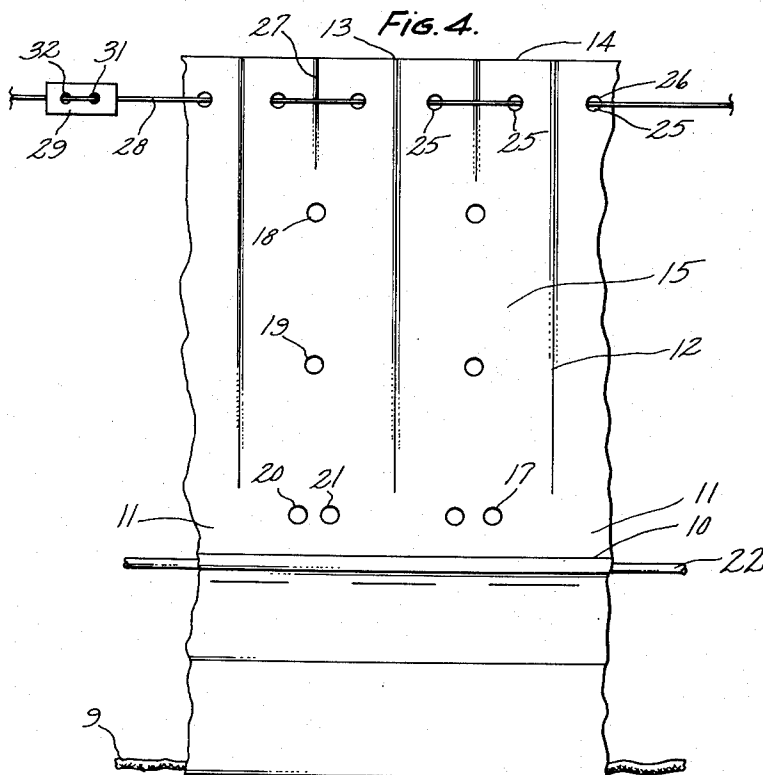
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HAIR DRYER BONNET

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6 Claims. (Cl. 34-99)

This invention relates to household hair dryers and more particularly to an improved flexible hair dryer bonnet.

Household hair dryers comprising a power unit for providing heated air and a cap or bonnet for distributing the heated air through the hair to be dried provide a very valuable addition to the household cosmetology art; but the extent of their use depends to a great degree on the comfortableness of the bonnet and its effectiveness in drying hair. A dryer bonnet which distributes the heated air so as to uniformly and quickly dry all of the hair of a user is especially desirable.

Accordingly, it is a primary object of this invention to provide an improved hair dryer bonnet which may be comfortably worn for uniformly and quickly drying the hair of a user.

It is another object of this invention to provide an improved hair dryer bonnet which is simple in construction and capable of being manufactured at low cost.

In accordance with one aspect of this invention, there is provided a flexible hair dryer bonnet comprising a flexible inner wall member surrounded by a flexible outer wall member. The wall members are connected to each other at spaced locations to form a plurality of air distributing channels. An elastic band is positioned between the inner wall and the outer wall for holding the bottom portion of the bonnet into close contact with the head of the user below the hair line. An air inlet opening is located in the outer wall of the bonnet for permitting air to fill the air channels and a plurality of air discharge openings are formed in the inner wall of the bonnet for directing heated air toward the hair to be dried. A ring substantially larger than the outer periphery of the head of the user is provided for spacing the inside of the bonnet away from the hair to be dried. By this arrangement, compression of the hair between the inner wall of the bonnet and the head is avoided so that the air discharge openings are unobstructed thus allowing them to distribute the heated air so that every portion of the hair receives a uniform amount of heated air.

Other objects and attendant advantages of this invention will be apparent from the following description taken in connection with the accompanying drawing in which:

FIG. 1 is a rear perspective view of my improved hair dryer bonnet showing its application to the head of a user;

FIG. 2 is a front perspective view of the hair dryer bonnet shown in FIG. 1;

FIG. 3 is a cross-sectional view of the hair dryer bonnet showing it applied to the head of a user;

FIG. 4 is a fragmentary view of the hair dryer bonnet taken from the inside thereof with the elastic band and draw-string being shown in loosened positions;

FIG. 5 is a cross-sectional view of another embodiment of my hair dryer bonnet showing it applied to the head of a user; and

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FIG. 6 is a perspective view of the hair dryer bonnet shown in FIG. 5.

Referring now to FIG. 1 there is shown a preferred embodiment of my hair dryer bonnet 1 applied to the head of a user. As shown the bonnet is pleated at the top to provide an overall generally conical appearance, and a hot air tube 2 is connected to the bonnet in any suitable manner for supplying heated air to the bonnet.

As shown more particularly in FIG. 3, my unique easily formed bonnet includes a generally cylindrical inner wall 3 and a generally cylindrical flexible outer wall 4. The walls may be made of two sheets 5 and 6 of flexible vinyl plastic or other suitable material. The bonnet is formed to provide smooth and gentle contact with the head of a user below the hair line. Thus, as shown more particularly in FIG. 3, the outer plastic piece of material 5 may be made slightly wider than the inner piece of material 6 so that it may be folded on itself and heat welded at 7 to the bottom of the inner sheet 6 to provide a hem 8. In this manner, the weld 7 is spaced from the head of a user while the smooth hem portion 8 contacts the user's head.

An elastic ribbon 9 may be strung between inner wall 3 and outer wall 4 at hem 8 to provide an elastic band for comfortably holding the bottom of the bonnet against the head of the user below the hair line. As shown more particularly in FIG. 2, it can be seen that the hem 8 is gathered at the hair line to fit the head of the wearer. In order to achieve a snug comfortable fit the tension of elastic ribbon 9 may be adjusted to the head of the user by simply tying the ends thereof in any one of a plurality of adjusted positions.

A plurality of air distributing channels may be simply and conveniently formed in my improved bonnet construction by connecting the inner wall 3 to the outer wall 4 at a plurality of spaced locations. It is to be understood that any suitable means such as heat welding, stitching, gluing or the like may be used for connecting the walls to each other. In accordance with the preferred embodiment of my invention illustrated in FIGS. 3 and 4, a circumferential heat weld 10 connects the bottom portion of the inner wall to the outer wall 4. This weld extends completely around the bonnet and forms the lower edge of an air distributing channel 1. The weld 10 also prevents heated air from entering the space between hem 8 and the weld. A plurality of vertical heat welds 12 connect the upper portions of walls 3 and 4 to each other. As shown, these welds 12 are formed generally parallel to each other and extend from the upper edge 13 of the bonnet downwardly to within two inches or so of circumferential heat weld 10. A circumferential heat weld 14 connects the upper edges of walls 3 and 4 to each other to cooperate with welds 12 to provide a plurality of vertical air distributing channels 15. An air inlet opening 16 is located in the rear portion of outer wall 4 between circumferential weld 10 and the lower extremities of vertical welds 12, and the air tube 2 may be conveniently connected to the rear portion of the outer wall 4 by any suitable coupling means. With this arrangement, heated air entering channel 11 from tube 2 billows wall 3 away from outer wall 4 to fill the generally horizontal hot air distributing channels 11 and the

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plurality of generally vertical air distributing channels 15 with heated dry air.

A plurality of small air holes 17 are uniformly spaced throughout the inner wall 3 for directing jets of drying air against the hair for uniform circulation and penetration of air throughout the strands of hair. In the preferred embodiment of my invention illustrated in FIGS. 3 and 4, a pair of vertically arranged air holes 18 and 19 may be formed in the inner wall of each of the generally vertical air distributing channels 15 and a pair of horizontally arranged air holes 20 and 21 may be formed in the inner wall of horizontal air duct 11 below each pair of air holes 18 and 19 to permit the heated air in ducts 11 and 12 to be forced through the hair of the wearer.

I provide means for maintaining the inner plastic wall 3 out of contact with the hair and head of the user, and for spacing the air discharge holes 18, 19, 20 and 21 from the hair of the user so that comfortable, almost imperceptible jets of drying air may contact all of the hair of the wearer. In the arrangement illustrated in FIGS. 3 and 4, a semi-flexible ring 22 of plastic or other suitable material is positioned between inner wall 3 and outer wall 4 directly below weld 10 for holding the inner wall 3 of the bonnet away from the hair of the user. The ring 22 is substantially larger than the outer periphery of the head of the user regardless of the user's head size, and in the preferred embodiment illustrated in FIGS. 3 and 4 its diameter is approximately 4 to 6 inches greater than the greatest dimension across the head of the user. Thus, as shown in FIG. 3, ring 22 functions to keep inner plastic wall 3 away from the hair to be dried. With this arrangement, inner wall 3 is held from the hair to be dried so that it does not lie against wet hair and thus prevent drying air from flowing through the strands of hair to be dried.

As shown more particularly in FIGS. 2 and 3, ring 22 cooperates with elastic band 9 and the inner and outer walls 3 and 4 below weld 10 to provide a generally flat circular baffle wall 24. This baffle wall 24 provides a definite barrier between the hair to be dried and the face, neck and ears of the user to keep the hot air away from the sensitive areas on the user's head, thus, providing for a maximum amount of comfort while the hair is being dried.

In accordance with the preferred embodiment of my invention illustrated in FIGS. 1, 2, 3, and 4, adjustable means is also provided for varying the flow of moist air away from the hair of the user, for additionally controlling the distance that air outlet holes 18, 19, 20 and 21 may be spaced from the hair to be dried, and for pleating the upper portion of the bonnet to provide a pleasing ornamental appearance. This is readily accomplished by stamping a plurality of holes 25 through both the inner wall 3 and the outer wall 4 at the upper portion thereof. A circumferential heat weld 26 is provided at the edge of each hole during the stamping operation to prevent the air in channels 15 from flowing through the holes 25. Fold lines 27, may be readily formed between each hole 25 by heat welding the inner wall 3 to the outer wall 4. Accordingly, welds 12 define the inner fold lines for the pleats while small welds 27 define the outer fold lines for the pleats. With this arrangement, a draw string 28 may be threaded in one hole 25 and out the adjacent hole 25 for gathering the upper portion of the bonnet into pleats to provide an adjustable moist air discharge opening 30. As shown more particularly in FIGS. 1 and 4, a deformable plastic slide plate 29 may be provided with two holes 31 and 32 for receiving the end portions of draw string 28 for holding the draw string 28 in any one of a plurality of adjustable positions.

Operation

The improved hair dryer bonnet construction may be comfortably worn for uniformly and quickly drying the

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hair. The bonnet may be placed on the head by simply spreading the gathered hem 8 with both hands and arranging the hem 8 below the hair line. The hem 8 should grip the head comfortably but snugly. If necessary, the elasticized head band 9 may be adjusted by untying and retying the ends thereof to vary the effective length of the band. In operation, dry heated air enters the generally horizontal air distributing channel 11 through air duct 2 and flows from channel 11 to the vertical air channels 15 to cause the air channels to billow full of air under pressure. As shown more particularly in FIG. 3, ring 22 holds the bonnet away from the hair of the user, and the air from air distributing ducts 11 and 15 is forced through openings 18, 19, 20 and 21 to uniformly penetrate the hair to be dried. Warm moist air is discharged through the enlarged draw-string opening 30 formed at the top of the bonnet. The opening 30 may be enlarged to speed drying the hair at the sides, or reduced to concentrate heat on the top of the head by causing the upper air holes 18 to be positioned closer to the hair to be dried and thus speed the drying of the hair in the vicinity of these holes. During the drying operation the user may reach in the enlarged draw-string opening 30 to feel the hair and check its degree of dryness. To enlarge the draw-string opening, it is merely necessary to pull the locking slide 29 and then spread the opening with the fingers. Conversely, the opening may be closed by pushing the slide upwardly along draw-string 28.

A further embodiment of my invention is illustrated in FIGS. 5 and 6. As shown in these figures, a substantially cylindrical bonnet 33 which may be constructed in generally the same manner as the bonnet shown in FIGS. 1, 2, 3 and 4 is provided. The bonnet includes an elasticized band 34 for holding the bonnet to the head of the user, a semi-flexible ring 35 for holding the air distributing channel portions of the bonnet away from the hair of the user, and an air baffle wall 36 for preventing the heated air from impinging on the ears and other sensitive areas of the user's head. As shown, the bonnet includes a generally cylindrical flexible inner wall 37 and a flexible outer wall 38 surrounding the inner wall.

Referring now more particularly to FIG. 6 it can be appreciated that the inner wall is connected to the outer wall at a plurality of vertically and horizontally arranged spots 39 to provide a quilted appearance. Thus, three generally horizontal air distributing channels 40, 41 and 42 are intersected by a plurality of vertically arranged air distributing channels 43 to provide a plurality of generally rectangular air pockets 44. Since the inner wall is simply spot welded to the outer wall at a number of horizontally and vertically arranged locations the air distributing channels 40, 41, 42 and 43 are in air communication with each other. In accordance with this embodiment of my invention a small air hole 45 is formed in the inner wall of each of the air pockets 44. With this arrangement, jets of air flow inwardly toward the center of the bonnet from the holes 45 to produce a uniform flow of air toward the head of the user. The bonnet 33 is preferably approximately five or six inches in height when inflated so that it completely surrounds the hair to be dried. Accordingly, the warm moist air from the hair readily passes through enlarged opening 46 formed at the top of the cylindrical bonnet.

While there has been shown and described particular embodiments of this invention, it will be obvious to those skilled in the art that various other changes and modifications can be made therein without departing from the invention, and therefore it is aimed in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A hair dryer bonnet comprising a flexible inner wall

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member, a flexible outer wall member surrounding said inner wall member, a plurality of vertically and horizontally arranged spot welds connecting said inner wall to said outer wall at a plurality of spaced locations for providing a plurality of intersecting generally vertical and horizontal air distributing channels, an elastic band positioned between said inner wall and said outer wall for holding the bottom portion of said bonnet into close contact with the head of a user below the hair line, means defining an air inlet opening formed in the outer wall of said bonnet for permitting air to fill said intersecting air channels, means defining a plurality of air discharge openings formed in the inner wall of said bonnet for uniformly distributing the heated air from said air channels throughout the hair, ring means substantially larger than the outer periphery of the head of the user and substantially larger than said elastic band, said ring being located outwardly from said elastic band between said flexible inner wall member and said flexible outer wall member, first seal means connecting said flexible outer wall member to said flexible inner wall member immediately above said ring means, and second seal means connecting said flexible outer wall member to said flexible inner wall member below said ring means for positioning said ring means between said inner wall and outer wall and upwardly from the bottom portion of said hair dryer bonnet for spacing the air distributing channels of said bonnet away from the hair of the user.

2. A hair dryer bonnet comprising flexible means forming a flexible outer wall and a flexible inner wall; said flexible inner wall and outer wall defining a plurality of air channels extending upwardly; each of said channels having an inner wall integrally formed with and forming a part of the inner wall of said bonnet, an outer wall integrally formed with and forming a part of the outer wall of the bonnet, a lower portion and an upper portion, means connected to the outer wall of the bonnet for attaching the bonnet to the head of a user; means defining an air inlet opening in the outer wall of said bonnet for permitting air to fill the vertical channels; the upper portions of said channels being formed to converge toward each other to provide an enlarged opening for the discharge of air from the bonnet, said enlarged opening being dimensioned for permitting insertion of the user's fingers while the bonnet is in operation on the user's head to permit the user to feel the hair for determining dryness without removing the bonnet; a plurality of apertures formed in the inner wall of each of said vertically extending air channels so that air may enter the channels, flow through the apertures to the hair of the user and then upwardly and outwardly through the opening formed at the top of the bonnet.

3. A hair dryer bonnet comprising flexible means forming a flexible outer wall and a flexible inner wall; said flexible inner wall and outer wall defining a plurality of air channels extending upwardly; each of said channels having an inner wall integrally formed with and forming a part of the inner wall of said bonnet, an outer wall integrally formed with and forming a part of the outer wall of the bonnet, a lower portion and an upper portion, an elastic band connected to said bonnet for holding the bottom portion of said bonnet into close contact with the head of a user below the hairline, means defining an air inlet opening formed in the outer wall of said bonnet for permitting air to fill said air channels, means defining a plurality of air discharge openings formed in the inner wall of said bonnet for uniformly distributing the heated air from said air channels throughout the hair, ring means substantially larger than the outer periphery of the head of the user and substantially larger than said elastic band, said ring being located outwardly from said elastic band between said flexible inner wall member and said flexible outer wall member, first seal means connecting said flexible outer wall member to said flexible inner wall member

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immediately above said ring means, and second seal means connecting said flexible outer wall member to said flexible inner wall member below said ring means for positioning said ring means between said inner wall and outer wall and outwardly from the bottom portion of said hair dryer bonnet for spacing the air distributing channels of said bonnet away from the hair of the user.

4. A hair dryer bonnet comprising flexible means forming a flexible outer wall and a flexible inner wall; said flexible inner wall and outer wall defining a plurality of air channels extending upwardly; each of said channels having an inner wall integrally formed with and forming a part of the inner wall of said bonnet, an outer wall integrally formed with and forming a part of the outer wall of the bonnet, a lower portion and an upper portion, an elastic band connected to said bonnet for holding the bottom portion of the bonnet into close contact with the head of a user below the hairline, means defining an air inlet opening formed in the outer wall of said bonnet for permitting air to fill said air channels, means defining a plurality of air discharge openings formed in the inner wall of said bonnet for uniformly distributing the heated air from said air channels throughout the hair, seal means connecting said flexible outer wall member to said flexible inner wall member at the top of said channels, the upper portion of said bonnet defining an enlarged opening for the discharge of air from said bonnet formed at the top of said channels, said enlarged opening being dimensioned for permitting insertion of the user's fingers while the bonnet is in operation on the user's head to permit the user to feel the hair for determining dryness without removing the bonnet, air ring means substantially larger than the outer periphery of the head of the user and substantially larger than said elastic band, said air ring being located outwardly from said elastic band between said flexible inner wall member and said flexible outer wall member, seal means connecting said flexible outer wall member to said flexible inner wall member immediately below said air ring means, and said vertical air channels extending above said air ring means, said air ring means between said inner wall and outer wall of said bonnet spacing the air distributing channels of said bonnet away from the hair of the user.

5. A hair dryer bonnet comprising flexible means forming a flexible outer wall and a flexible inner wall; said flexible inner wall and outer wall defining a plurality of air channels extending upwardly; each of said channels having an inner wall integrally formed with and forming a part of the inner wall of said bonnet, an outer wall integrally formed with and forming a part of the outer wall of the bonnet, a lower portion and an upper portion; an elastic band connected to said bonnet for holding the bottom portion of the bonnet into close contact with the head of a user below the hairline; means defining an air inlet opening in the outer wall of said bonnet for permitting air to fill said upwardly extending channels; the upper portions of said channels being formed to converge toward each other to provide an enlarged opening for the discharge of air from the bonnet; a plurality of apertures formed in the inner wall of each of said upwardly extending air channels so that air may enter the channels, flow through the apertures to the hair of the user and then upwardly and outwardly through the opening formed at the top of the bonnet.

6. A hair dryer bonnet comprising flexible means forming a flexible outer wall and a flexible inner wall; said flexible inner wall and outer wall defining a plurality of air channels extending upwardly; each of said channels having an inner wall integrally formed with and forming a part of the inner wall of said bonnet, an outer wall integrally formed with and forming a part of the outer wall of the bonnet, a lower portion and an upper portion; an elastic band connected to said bonnet for holding the bottom portion of the bonnet into close contact with the head of a user below the hairline; means defining an air

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inlet opening in the outer wall of said bonnet for permitting air to fill said upwardly extending channels; the upper portions of said channels being formed to converge toward each other to provide an enlarged opening for the discharge of air from the bonnet, said enlarged opening being dimensioned for permitting insertion of the user's fingers while the bonnet is in operation on the user's head to permit the user to feel the hair for determining dryness without removing the bonnet; a plurality of apertures formed in the inner wall of each of said upwardly extending air channels so that air may enter the channels, flow through the apertures to the hair of the user and then upwardly and outwardly through the opening formed at the top of the bonnet.

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