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HAIR DRYER

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2 Claims. (Cl. 34—100)

The present invention relates to a hair dryer which has a large number of advantages as compared with the usual types of dryer.

It is known that in the usual dryers, the circulation of hot air for drying is effected by means of a fan which blows the air over electric resistance elements. The air set in motion by the fan and heated, normally tends to flow along the wall of the helmet, and it spreads out mainly in the part of the hair in the immediate vicinity of that wall.

The result is that the hair of the crown of the head, which is located opposite the central suction zone of the fan, is only in contact with air which has already been humidified and cooled. In consequence, the drying of the top of the head is very slow. In order to complete this drying, it is necessary to prolong in an undesirable manner the drying of the contour of the hair close to the walls of the drying helmet, which causes local over-heating with dehydration of the hair and the production of static electricity which is troublesome for subsequent work on the hair. The dryer in accordance with this invention has for its object to remedy these drawbacks and to effect in a rapid manner a drying which is comparable in its effects to natural drying.

The dryer is characterised in that, on the path of the hot air circulated by the fan along the wall of the helmet, there are arranged one or more means for guiding a portion of this hot air, bringing it into the central zone corresponding to the hair on the top of the head, during the course of drying.

In particular, as a guiding means, use is made of frusto-conical deflectors concentric with the wall of the helmet and spaced apart therefrom, the said deflectors diverting the hot air so as to compel it to flow into the central zone of the helmet.

By this means, the blown air is distributed in a balanced manner between the top of the hair and the contour of the hair. There is obtained an effective and rapid drying under good conditions of comfort and pleasure, without over-heating and without undesirable production of static electricity. To these advantages is added a substantial economy in electric current.

There may be any number of these frusto-conical deflectors. There is an advantage in providing at least two of them, in order to form multiple passages which guide and distribute the hot diverted air towards the central zone. In the passages between successive deflectors, it is advisable to provide fixed fins or vanes, which on the one hand distribute the hot air into the passage, and on the other hand tend to prevent production of vortex movements of the hot air.

The dryer, thus provided with guiding deflectors for the air in the central zone of the helmet, is provided with heating means constituted by electric resistance elements. In particular, it is an advantage to arrange these resistance elements in the vicinity of the deflectors.

In accordance with a particular construction, these resistance elements are in the form of rings in suitable

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glass tubes. It is preferably to provide two concentric rings which can be put into use separately or simultaneously, depending on the intensity of heating to be obtained.

With these heating rings in the vicinity of the deflectors, there is obtained a good effectiveness of heating, the air being preferentially heated in its portion which is directed towards the crown of the hair.

The accompanying drawings show by way of example one form of construction of the dryer in accordance with the invention.

Fig. 1 is a view of the dryer in longitudinal cross-section.

Fig. 2 is a view in cross-section taken along the line II—II of Fig. 1.

Fig. 3 is a partial view in cross-section of an alternative form.

The dryer is composed of a helmet in three portions assembled together: an entry portion 10, a body 11 and a bottom 12. The body 11 comprises a full base 13, which carries the fan 14 with its motor 15, the latter being arranged in the bottom 12.

In front of the fan 14 is mounted a protective grid 16 carried by rods 17 fixed on the bottom 13.

The same rods 17 also serve to support the deflectors 18, 19. The latter are formed of concentric nested frusto-conical elements. They delimit a passage 20 which diverts a part of the hot air blown peripherally by the fan 14, and guides it towards the central zone 21 of the helmet on the top of the hair.

One of the deflectors, 18 for example, carries fins 22 which divide the passage 20 into radial channels and prevent the production of vortices of the hot air passing along this passage 20.

With the deflectors 18, 19, there can be used the usual heating means for hair-dryers, in particular, electric resistance elements arranged in the vicinity of the wall of the body 11, so as to be swept by the air blown by the fan 14. There is however an advantage in arranging this heating in such manner as to make its effect more marked in cooperation with the deflectors 18 and 19.

As shown in Fig. 1, in this case the heating is provided by annular resistance elements mounted in glass tubes 23 and 24, which is resistant to heat (Pyrex glass for example). These resistance elements are arranged concentrically in the vicinity of the protective grid 16 at the side of the fan 14. The resistance element 23 is placed opposite the opening 25 of the passage 20 formed between the deflectors 18 and 19. The resistance element 24 is arranged in the interior of the resistance element 23.

In practice, during drying, the inner annular resistance element 24 is kept continuously at work: it ensures the maintenance of the temperatures of the air drawn-in by the fan 14. The annular outer resistance element 23 serves as a supplementary heating device and is controlled by a thermostatic regulator.

A lamp 26 is mounted inside the helmet to light its interior and serves as a check for the application of electric current. The entry portion 10 of the helmet, which is preferably of transparent material (Plexiglas for example) is provided with fins 27.

The helmet thus constituted is mounted on a housing 28 which carries the articulation 29 pivoting with the foot 30. In this housing 28 are mounted the members 31 and 32 which control the fan and the heating, together with their regulation. A screw 33 co-operating with a heel 34 of the pivot 29 serves to adjust the angle of the helmet on the foot 30.

In the dryer so constructed, the air delivered by the fan 14 is divided into two streams, one following the arrow A along the wall of the helmet and the other into the passage 20 following the arrow B, which is directed

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on to the central portion of the helmet and thus on to the top of the hair. The top of the head is thus dried by a direct deflected and hot flow of air and not by the return of air from the periphery. The moist air drawn-in at the center along the arrow is immediately dried by the resistance element 24 before again passing through the previous cycle.

With this dryer, the drying period for a normal head of hair is of the order of 12 minutes, while the usual dryers require at least 30 minutes under the helmet. In a general manner, this period is reduced by about 70% as compared with the usual period, which is greatly appreciated by the hairdresser's clients. This gain of time is also accompanied by reduced periods of use of the dryer and a better utilization of the equipment. The power consumed is also reduced in a proportion of about 80%.

In addition, the dryer according to the invention only requires a moderate heat. For this reason, and because of the short duration of drying, the dried hair is not de-hydrated, but remains flexible and glossy. Also the hair is not electrified, so that it is easy to dress it afterwards without being troubled by the static electricity produced by the drying.

Instead of the deflectors 18 and 19 or in combination with these, there may be provided in the vicinity of the wall 11 of the helmet (Fig. 3) a deflector comprising a cylindrical portion 35 and a frusto-conical portion 36, the function of which is to divide and deflect the current of hot air close to the wall so as to direct a part of it towards the central zone of the dryer and the top of the head.

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The deflectors 18 and 19, and also the deflector 35—36 can be displaced in the longitudinal direction, depending on the distribution effects which it is desired to obtain for the blown air.

What I claim is:

1. A hair dryer comprising a member forming a helmet enclosing the head of a person having a fan for blowing air, a deflector unit positioned adjacent said fan having at least two concentric and nested deflectors positioned to define oblique passages to the axis of said deflector unit to direct air along parallel paths onto the crown and other portions of the head respectively, annular heating elements positioned between said fan and said unit for heating the air blown by said fan, one of said annular heating elements being placed at the entrance of one of said passages, and another of said annular heating elements arranged concentrically with and inside said one element.

2. A hair dryer according to claim 1 in which a supply of electrical energy is connected to said heating elements, and means for separately controlling said supply to said heating elements.

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