

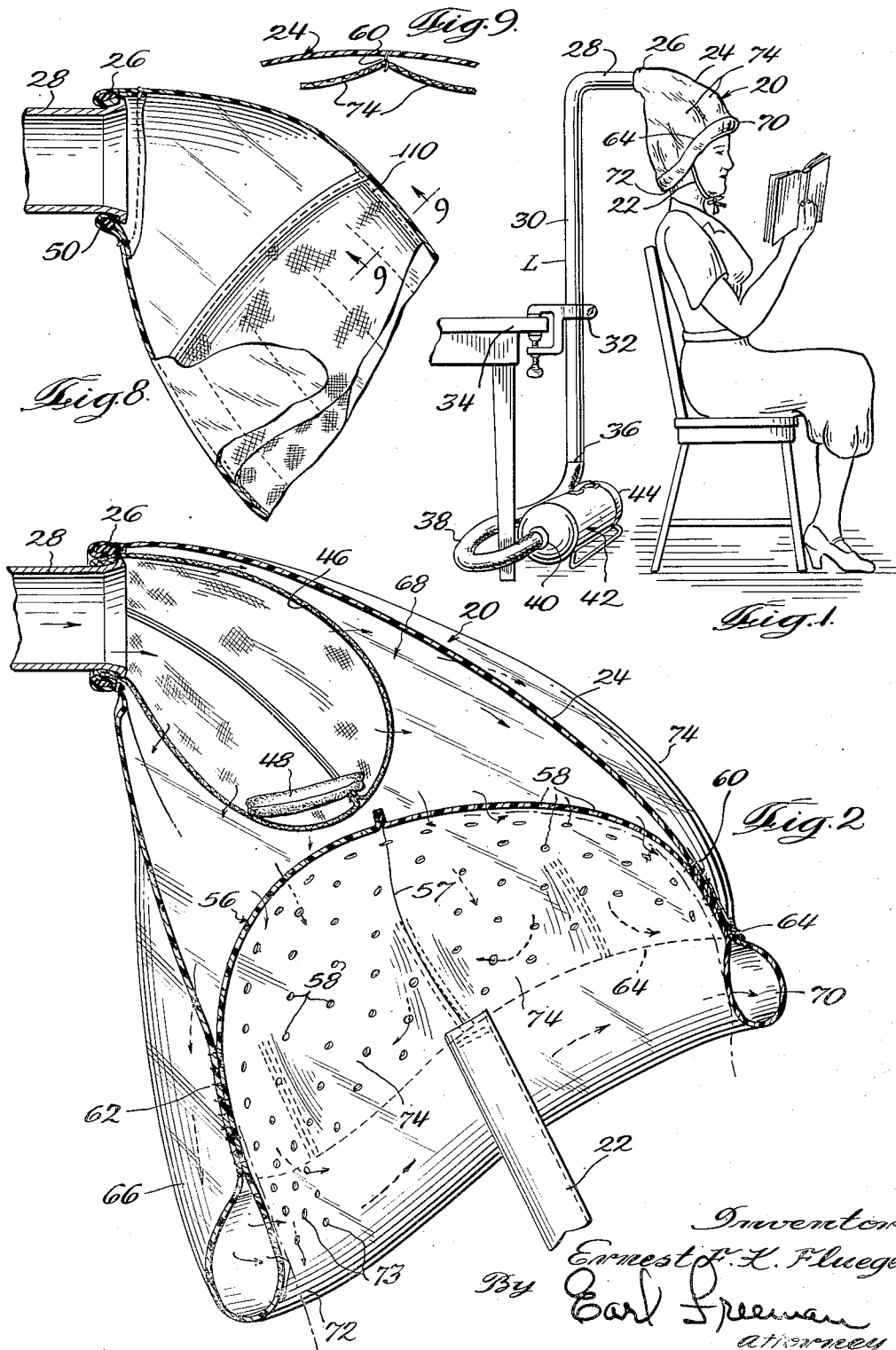
Sept. 6, 1949.

E. F. K. FLUEGEL
HAIR DRYING DEVICE

2,481,407

Filed April 14, 1948

3 Sheets-Sheet 1



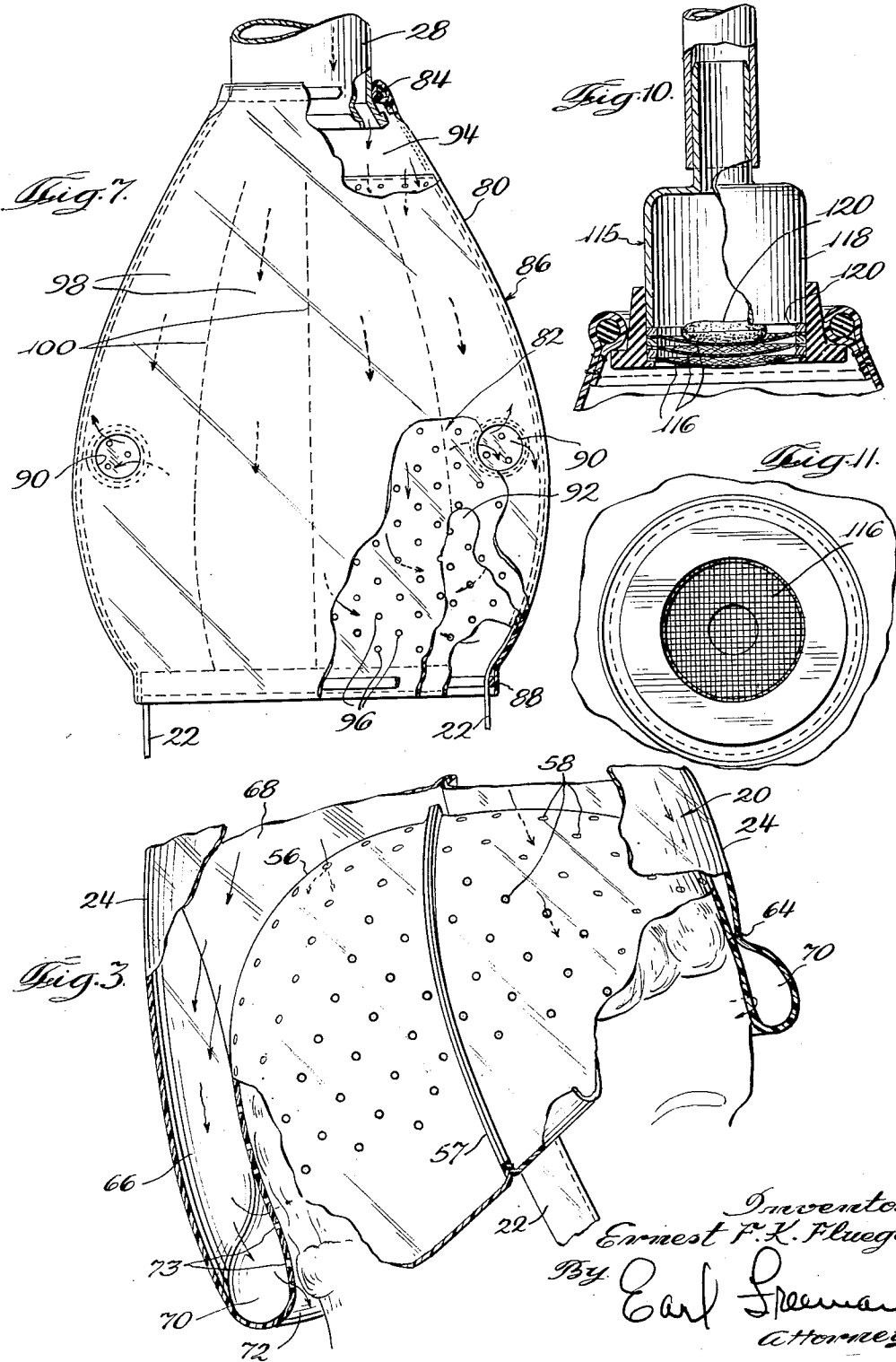
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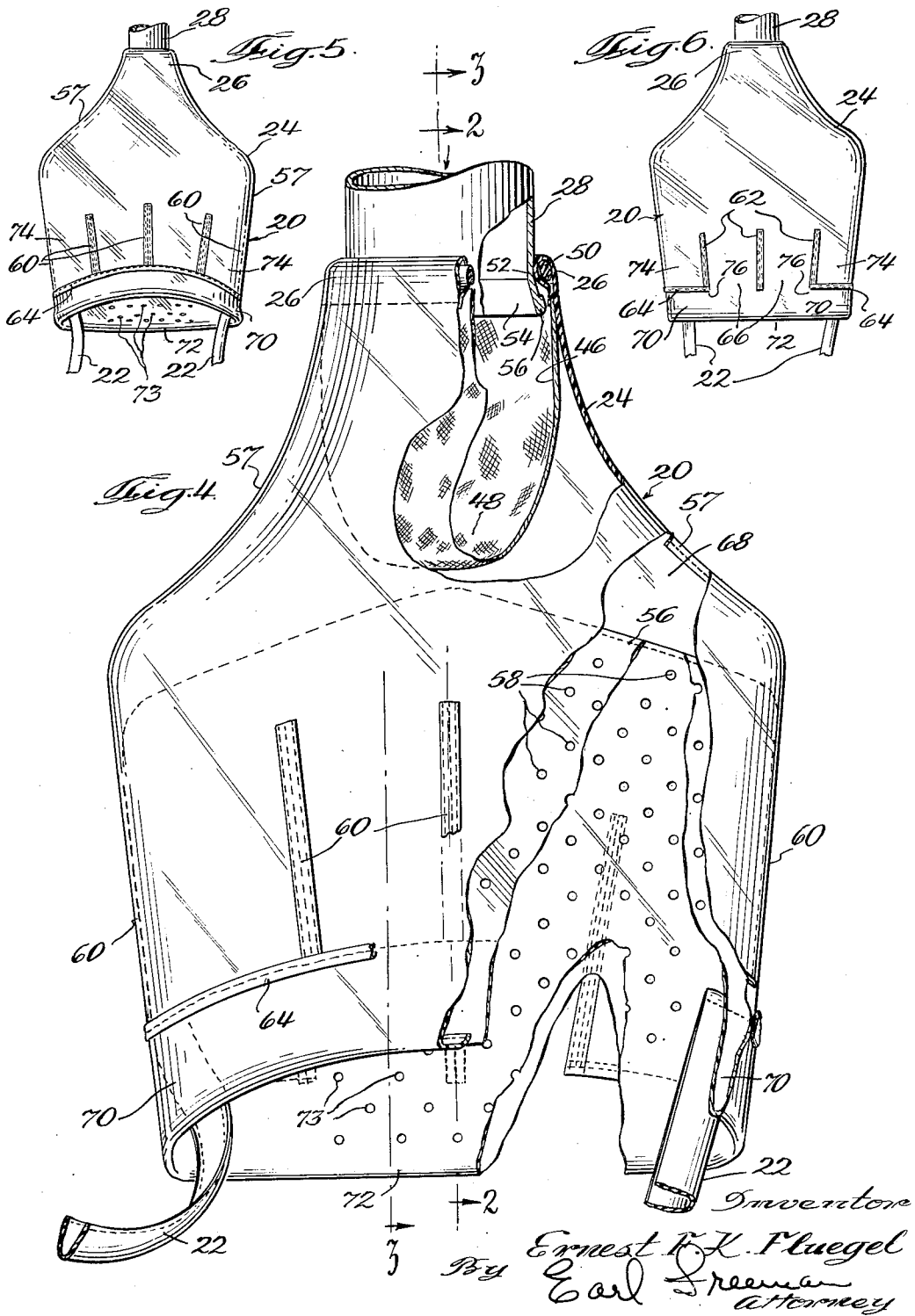
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UNITED STATES PATENT OFFICE

2,481,407

HAIR DRYING DEVICE

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13 Claims. (Cl. 34—82)

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My invention relates to certain new and useful improvements in hair drying devices of the hood type, the characteristics of which will be hereinafter fully described and claimed.

The primary object of my invention is to provide a hair drier that will completely dry a woman's head of hair in approximately one-half of the time required by the present hair drying devices now in use.

Another object of my invention is to provide a hood constructed of a flexible material which will eliminate the undesirable conduction of heat usual in the use of the present rigid or metallic hair drier hoods.

Another object of my invention is to provide a construction in a hood for hair drying that will utilize one hundred per cent of the heated air for the drying of the hair by a method of sealing the hood to the user's head without the discomfort and high heat transmission prevalent in the prior rigid hood type hair driers.

Another object of my invention is to provide a hair drying hood that will distribute the heated air evenly to all parts of the user's hair and which will flexibly conform to all head contours and all head sizes, thereby increasing the rapidity and efficiency of the drying process.

A further object of my invention is to provide a hair drier which will channel the air to the back of the user's head where the greatest mass of hair is located, the air passing down and out of the hood along the back of the neck, thereby eliminating the discomfort of the heated air passing over the user's eyes and face.

A still further object of my invention is to provide a hair drying device that is adapted to be used with any type of heating and blower source and particularly adapted to be used in the home with the vacuum cleaner as its source of heated air.

Yet another object of this invention is to provide an inexpensive and sanitary hair drier which can be folded and compactly stored.

Another object of my invention is to provide a hair drier which, when used by commercial operators, may be sterilized in quantities and then placed in sealed containers for the exclusive use of each individual customer.

A further object of my invention is to provide an inexpensive hair drier which may be used in almost every home, its drying speed lending itself for use in drying children's hair and thereby eliminating one of the primary causes of contracting colds and sinus conditions.

Other objects and advantages of the invention

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will become apparent from the ensuing description in the course of which reference is had to the accompanying drawings, in which:

Fig. 1 is a perspective view illustrating the application of the drying hood to the user;

Fig. 2 is an enlarged sectional view taken on line 2—2 of Fig. 4 of my preferred type of drying hood;

Fig. 3 is a sectional view similar to Fig. 2 but taken on a slightly different plane as illustrated by the directional arrows 3—3 on Fig. 4;

Fig. 4 is an enlarged elevational view of the hood with portions broken away to more clearly illustrate the structural details of the drying hood;

Fig. 5 is a small front elevational view of the hood;

Fig. 6 is a small rear elevational view of the hood;

Fig. 7 is a modified form partially broken away to illustrate its structural details;

Fig. 8 is another modified form illustrating a variation in the inner head section;

Fig. 9 is a sectional detail taken on line 9—9 of Fig. 8;

Fig. 10 is a modified detail of the air diffuser; and

Fig. 11 is a bottom view of Fig. 10.

Referring to the three sheets of drawings of my hair drier and more specifically to the preferred form of hair drier illustrated by the Figs. 1 to 6, inclusive, Fig. 1 illustrates a hair drier 20 having a pair of tying ribbons 22 that helps retain the hair drier 20 on the head of the user. The hair drier 20 is made of a flexible non-porous material 24 and is formed in the shape of a hood having a reduced portion 26 that is resiliently mounted to a nozzle 28 of a tubular member 30. This tubular member 30 can be of any desired shape but my preferred construction is that of an inverted L.

The tubular or conduit member 30 can be affixed by any suitable clamping means 32 to a table 34 or any other projecting ledge and terminates at 36, a point substantially above the floor level. The terminating point 36 has connected to it a flexible hose 38 which is connected to the exhaust end 40 of a standard floor type vacuum cleaner 42. This type of vacuum cleaner has its motor encased in the housing of the vacuum cleaner 42.

The suction end of the vacuum cleaner draws in air at the point 44, the air passing through the vacuum cleaner 42, and through and around the enclosed motor. The heat generated by the motor

is then carried by the airflow through the exhaust end of cleaner 42, through the flexible hose 38 and tubular member 30 and then passes into the flexible and non-porous hood portion 24 of hair drier 20.

The intruding warmed air flows through a porous mesh-like material 46 which diffuses the incoming air and also acts as an air silencer. The porous member 46 also serves as a strainer for catching any foreign substance that may get into the intake of the vacuum cleaner 42. The porous member 46 may also serve to retain a sachet or the like for the scenting of the drying hair.

The reduced portion 26 of the flexible hair drier 20 has a resilient band 50 which firmly encircles the base 52 of a flared portion 54 of the nozzle 28. The end of the flared portion 54 may have a slight projection on it to further aid in the retention of the resilient band 50 to the nozzle portion 28.

The flexible non-porous material 24 has an inner perforated head encompassing portion 56 which may be continuous with the other covering portion of the flexible non-porous material 24. However portions 24 and 56 are shown as being made of two separate pieces and sewn together at their edges 57. The stitching of these two members may be a rather finely sewn stitch for the prevention of air escape, and being of a plastic material the two sections may be either cemented or heat welded instead of sewn.

The inner headpiece 56 has a multiplicity of perforations 58 for the passing of the heated incoming air to the head and hair of the user. The headpiece 56 is sewn to the outer flexible member 24 at the points illustrated by the reference numeral 60, more clearly shown in Figs. 2, 4 and 5. It is also sewn to the back portion at 62 as shown in Fig. 6. All of these sewings at 60 and 62 run substantially parallel to each other and spaced apart circumferentially around the hood.

The headpiece 56 is also sewn annularly to the flexible member 24 at 64 around the complete annular forehead portion of the hair drier 20 except for two spaced portions 66 at the back of the flexible hair drier 20. The particular reasons for these various sewn portions 60, 62 and 64 will hereinafter become apparent.

As the air passes through the porous member 46 diffusing and spreading into the interior chamber 68 the warm air under pressure causes the expansion and inflation of the outer flexible non-porous member 24. Simultaneous with the inflation of flexible member 24 the warm air passes down and through the two spaced portions 66 at the rear of the hair drier 20 and passes circumferentially around a head sealing portion 70. Sealing portion 70 expands and prevents any substantial escape of the air around the greater portion of the user's head except at the rear 72, more clearly shown in Fig. 3.

The air entering interior chamber 68 produces arcuate air cushion members 74 around the entire outer and interior head portions of the hair drier 20 thus conforming snugly to any head contour or head size. The warmed air passing through the perforations 58 is evenly distributed to all parts of the user's wet hair. The air under pressure then seeks an outlet. Because of the sealing effect of the pressurized sealing chamber 70 around the greater portion of the head the air seeks an escape through an area of least resistance mainly through openings 73 as provided at the rear of hair drier 20, also because of the sealing chamber

70 terminating, as more clearly shown in Fig. 6, at the points 76—76. The spaced portions 66—66 form a long soft air chamber of a much lesser pressure than the sealing chamber 70, thereby permitting the flow of air out through the rear or back portion 72 of the hair drier 20.

It can readily be seen that the incoming warmed air will be utilized to the fullest efficiency by its equal dispersion over every portion of the user's hair and all of the outflowing air will be concentrated and directed over the rear of the head where the greatest mass of hair is located, thereby making full use of the warm air which would otherwise escape all around the head, and providing a maximum of comfort to the user.

In the modification illustrated in Fig. 7 there is shown a flexible non-porous outer member 80 and a perforated flexible inner headpiece 82. The outer member 80 is connected resiliently at 84 to a nozzle 28 similar to the preferred form as heretofore described.

The hood member 86 has a resilient head sealing portion 88 and two openings 90—90 connected with the outer and inner members 80 and 82. The two orifices 90—90 are provided for the emission of the outgoing air from the chamber 92. The air passing first into an outer chamber 94 also produces a series of arcuate air cushions 98 because of stitching 100. Stitching 100 runs substantially vertical and joins the inner perforated headpiece 82 to the outer flexible member 80.

The air then passes through perforations 96 through the hair and then flows out of the two orifices 90—90.

Another modification illustrated in Fig. 8 may be identical in construction with my preferred embodiments shown in Figs. 1 to 6, inclusive, except for the inner headpiece 110 which is made of a porous mesh-like material instead of a perforated non-porous material.

In Figs. 10 and 11 are illustrated a modified form of an air diffuser 115. This construction may be comprised of a plurality of screens 116 held in a retaining assembly 118, and may be easily disassembled as desired. The retaining assembly 118 may also hold a sachet as shown at 120.

The primary function of the screen members 116 and porous mesh-like member 46 is for the diffusion of the air and for the prevention of a too highly pressurized concentration of air directly on top of the user's head.

In conclusion, although my invention has been disclosed in connection with the specific details of preferred embodiments thereof, it must be understood that such details are not intended to be limitative of the invention except so far as set forth in the accompanying claims.

I claim:

1. A hair drier comprising a flexible substantially conical outer hood, a flexible inner perforated hood, said inner hood being attached circumferentially at spaced intervals to the outer hood producing spaced portions which, when under pressure, become pneumatic head contacting cushions, and said inner hood also being attached to the outer hood annularly and adjacent the bottom except at its rear portion, thus forming a chamber partially around the bottom of the hood, said outer hood having a reduced resilient opening for attachment to a tubular air duct, said air duct connecting to a pressurized heating source.

2. A hair drier comprising a flexible substantially conical outer wall, a flexible inner porous

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headpiece, said headpiece being attached circumferentially at spaced intervals to the outer wall thus creating spaced portions which inflate and become pneumatic head contacting cushions, and said headpiece being also attached to the outer wall annularly and adjacent the bottom except at its rear portion, thereby defining a chamber partially around the bottom thereof, said outer wall having a reduced resilient opening for attachment to a tubular air duct, the air duct connecting to a pressurized heating source.

3. A hair drier comprising a flexible substantially conical outer hood, a flexible inner perforated hood, said inner hood being attached circumferentially at spaced intervals to the outer hood producing spaced portions which, when under pressure, become pneumatic head contacting cushions, and said inner hood also being attached to the outer hood annularly and adjacent the bottom except at its rear portion, thus forming a chamber partially around the bottom of the hood, the outer hood having a reduced resilient opening, a porous air diffusing member attached at said opening, the opening being attached to a tubular air duct, and said air duct connecting to a pressurized heating source.

4. A hair drier comprising a flexible substantially conical outer wall, a flexible inner porous headpiece, said headpiece being attached circumferentially at spaced intervals to the outer wall thus creating spaced portions which inflate and become pneumatic head contacting cushions, and said headpiece being also attached to the outer wall annularly and adjacent the bottom except at its rear portion, thereby defining a chamber partially around the bottom thereof, said outer wall having a reduced resilient opening, a porous air diffusing member attached at said opening, the opening being attached to a tubular air duct, and said air duct connecting to a pressurized heating source.

5. A hair drier comprising a flexible substantially conical outer hood, a flexible inner perforated hood, said inner hood being attached circumferentially at spaced intervals to the outer hood producing spaced portions which, when under pressure, become pneumatic head contacting cushions, and said inner hood also being attached to the outer hood annularly and adjacent the bottom except at its rear portion, thus forming a chamber partially around the bottom of the hood, said outer hood having a reduced resilient opening, the opening being attached to a rigid air duct, said air duct containing a plurality of screen air diffusers, and said duct being connected to a pressurized heating source.

6. A hair drier comprising a flexible substantially conical outer wall, a flexible inner porous headpiece, said headpiece being attached circumferentially at spaced intervals to the outer wall thus creating spaced portions which inflate and become pneumatic head contacting cushions, and said headpiece being also attached to the outer wall annularly and adjacent the bottom except at its rear portion, thereby defining a chamber partially around the bottom thereof, said outer wall having a reduced resilient opening, said opening being attached to a rigid air duct, said air duct containing a plurality of screen air diffusers, and the air duct being connected to a pressurized heating source.

7. A hair drier comprising a flexible substantially conical outer hood, a flexible inner perforated hood, said inner hood being attached circumferentially at spaced intervals to the outer

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hood producing spaced portions, which, when under pressure, become pneumatic head contacting cushions, said inner hood also being attached to the outer hood annularly and adjacent the bottom except at its rear portion, thus forming a chamber partially around the bottom of the hood, and the outer hood having an opening adapted to receive an air supply duct.

8. A hair drier comprising a flexible substantially conical outer wall, a flexible inner porous headpiece, said headpiece being attached circumferentially at spaced intervals to the outer wall thus creating spaced portions which inflate and become pneumatic head contacting cushions, and said headpiece being also attached to the outer wall annularly and adjacent the bottom except at its rear portion, thereby defining a chamber partially around the bottom thereof, and the outer hood having an opening adapted to receive an air supply duct.

9. A hair drier comprising a flexible substantially conical outer hood, a flexible inner perforated hood, said inner hood being attached circumferentially at spaced intervals to the outer hood producing spaced portions which, when under pressure, become pneumatic head contacting cushions, said inner hood also being attached to the outer hood annularly and adjacent the bottom, said outer hood having an opening adapted to receive an air supply duct, and means for permitting the escape of the air at the rear of the hair drier.

10. A hair drier comprising a flexible substantially conical outer wall, a flexible inner porous headpiece, said headpiece being attached circumferentially at spaced intervals to the outer wall, thus creating spaced portions which inflate and become pneumatic head contacting cushions, said headpiece being also attached to the outer wall annularly and adjacent the bottom, said outer wall having an opening adapted to receive an air supply duct, and means for permitting the escape of the air at the rear of the hair drier.

11. A hair drier comprising a flexible substantially conical outer hood, a flexible inner perforated hood, said inner hood being attached circumferentially at spaced intervals to the outer hood producing spaced portions which, when under pressure, become pneumatic head contacting cushions, and said inner hood also being attached to the outer hood annularly and adjacent the bottom, said bottom defining a resilient band for attachment to the user's head, the outer and inner hoods having interconnections, said interconnections having openings therethrough, said openings permitting the escape of the excess air from the area adjacent the user's head and said outer hood having an opening adapted to receive an air supply duct.

12. A hair drier in the form of a dome, comprising a flexible substantially conical outer hood, and a flexible inner perforated hood, said inner hood being attached to the outer hood at spaced intervals, to produce a plurality of spaced portions which, when under air pressure, become pneumatic head contacting cushions, said inner hood also being attached to the outer hood adjacent the bottom thereof, said dome being provided with an inlet opening for connection to a source for supplying of air under pressure between said outer and inner hoods.

13. A hair drier in the form of a hood, comprising a flexible conical shaped outer wall, and a flexible, inner perforated wall, said inner wall

being attached to the outer wall at spaced intervals to produce a plurality of spaced portions which, when under air pressure, become pneumatic head contacting cushions, said inner wall also being attached to the outer wall adjacent the bottom thereof, said hood being provided with an inlet opening for connection to a source for supplying air under pressure between said walls.

ERNEST F. K. FLUEGEL. 10

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