

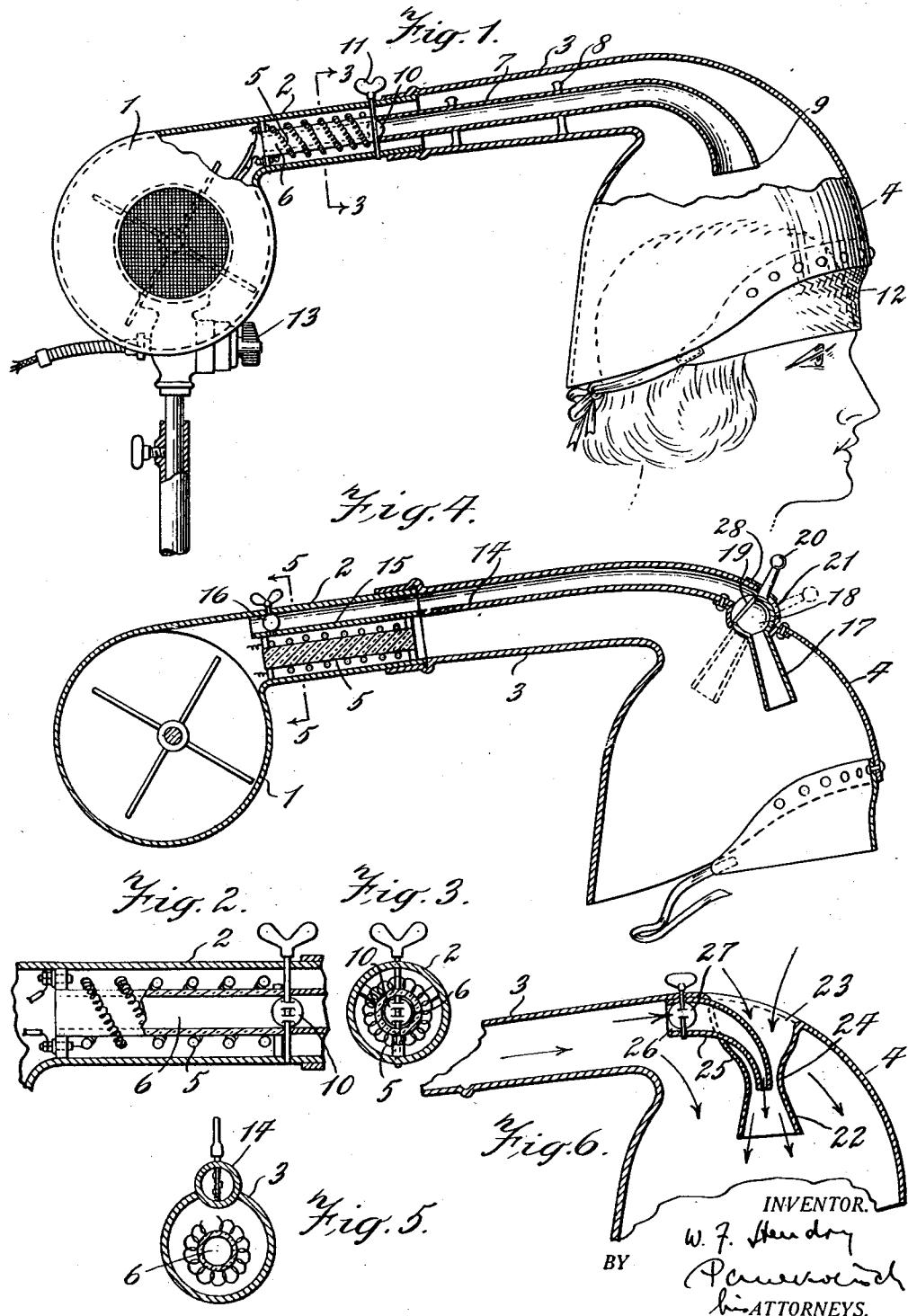
April 2, 1929.

W. F. HENDRY

1,707,554

HAIR DRIER

Filed Feb. 13, 1928



UNITED STATES PATENT OFFICE.

WILLIAM F. HENDRY, OF OSSINING, NEW YORK, ASSIGNOR TO HALLIWELL-SHELTON ELECTRIC CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

HAIR DRIER.

Application filed February 13, 1928. Serial No. 253,966.

This invention relates to hair drying machines.

An object of the invention is the provision of a helmet for conducting hot air to the head of hair to be dried and incorporating in the helmet means for blowing a stream of cool air onto a portion of the head.

In the drying of hair on the head of a person currents of heated air have been used, 10 these currents being directed at random on the hair. Hoods or helmets for fitting over the head and directing a current of heated air over the head are also known to the art. When hoods or helmets are used for directing 15 hot air over the head and around the hair of a person, it many times happens that when the air is sufficiently hot to dry satisfactorily the hair hanging down at the sides of the head, which is relatively thick, the top of the 20 head where the hair is thin, because of partings or because of a natural sparseness, may be made uncomfortably hot. The temperature of the heated air is therefore necessarily regulated so as to prevent discomfort at the 25 top of the head. Such regulation naturally slows up the drying operation, as with reduced air temperature, the hair hanging at the sides of the head is dried less speedily.

It has been proposed to direct a jet of cool 30 air against the top of the head where it is least protected by the hair so as to permit air of higher temperature than otherwise permissible to be blown through the hair hanging at the sides of the head, to carry out the drying 35 process more quickly.

According to one feature of my invention I provide an improved means for forcing a jet of cool air onto the top of the head, and also provide means for directing said jet onto any 40 desired portion of the head so that, if, due to different partings or unevenness of distribution of hair, one portion of the head becomes uncomfortably hot, the jet may be directed against such portion, and if another portion 45 becomes too hot the jet may be directed against such other portion.

A more complete understanding of the invention may be had by reference to the following description and accompanying drawings.

In the drawings Fig. 1 illustrates in elevation and partly in section a hair drying device constructed in accordance with my invention.

Fig. 2 is a vertical longitudinal sectional view of the heater shown in Fig. 1.

Fig. 3 is a vertical transverse sectional view of the heater taken along lines 3—3 of Fig. 1.

Fig. 4 is a sectional view of a modified form 60 of helmet having an adjustable cool air nozzle.

Fig. 5 is a sectional view taken along lines 5—5 of Fig. 4.

Fig. 6 is a view of another form of helmet 65 having a cold air inspirator arrangement.

Referring more particularly to the drawings, reference numeral 1 indicates a blower having a discharge pipe 2 to which is attached, by a suitable joint, a pipe 3, terminating in a helmet or hood 4. Positioned within a blower discharge pipe 2 is a heating element 5 having an interior perforation 6 communicating with a pipe 7 positioned concentrically within the pipe 3 and supported 70 therefrom by connections 8. This pipe 7 is bent downwardly to a position approximately central of the helmet 4 and terminates in a sort of nozzle 9. Placed in the pipe 7, for example, at the end nearest the heater 5, is 80 a valve 10, which may be operated from the outside of the pipe 3 by a handle 11. Some suitable means such as a flexible band 12 may be provided for preventing air flowing into the hood 4 from being blown down over the 85 face of the person being treated. The blower 1 and heating element 5 may be of the usual construction well known to the art and may be operated in a well known manner. For example, the blower may be driven by an electric motor controlled by a switch 13, which 90 also controls the current passing through the heater 5.

In the modification shown in Fig. 4 the blower 1 and pipe 2 are substantially similar 95 to that shown in Fig. 1. The pipe 3 attaches to the discharge pipe 2 in the same manner as shown in Fig. 1 and terminates in a similar hood 4. The heater 5 is positioned in the pipe 2 so as to heat all of the air passing 100 through the pipe 3, and for conducting cool air to a given point inside the helmet an auxiliary pipe or conduit 14 is provided. This conduit 14 has an extension 15 inside of the pipe 2 which serves to conduct cool air from 105 the fan, past the heater without the air being raised in temperature very much by the heater. The flow of cool air through the

pipe 15 is controlled by a valve 16 similar to the valve 10 shown in Fig. 1. The conduit terminates in a nozzle 17 fastened to the head 4 by means of a ball and socket joint 18. The ball of the ball and socket joint is made hollow and is provided with an opening 19 for the admission of air. The position of the nozzle 17 may be adjusted from the outside of the hood by means of a handle 20 connected to the ball and passing through an opening 21 in the conduit 13. For preventing air from escaping through the opening 21 a cover plate 28 may be provided. The blower 1 illustrated in connection with this modification may be similar to the blower shown in Fig. 1, of the ordinary type well known to the art. The relation of the conduit 14 to the pipe 3 is shown in Fig. 4.

In the modification shown in Fig. 6 an interior nozzle 22, interconnected with the hood 4, is provided. This nozzle is open to the atmosphere at 23 and is provided with a sort of Venturi throat 24 with which cooperates a pipe 25 having an opening 26 directed toward the current of air forced through the pipe 3 by the blower, not shown. The air rushing through the pipe 3 enters the opening 26 of the pipe 25 and is forced out through the nozzle 22 drawing with it a large quantity of cold air through the opening 23. The opening 26 is provided with a valve 27 for controlling the flow of air through the said pipe.

The operation of the device shown in Fig. 1 is as follows:

With the blower 1 running and the heater 5 energized hot air is being forced over the head of the person being treated, the temperature of the air being proportional to the amount of heat generated by the heater 5. In order to dry the hair quickly this temperature is kept relatively high, and in order to prevent discomfort due to the highly heated air striking the bare scalp at the parting of the hair, or where the hair is thin, as it necessarily is when the hair is combed down at the sides, the valve 10 is opened to the desired degree and air from the blower 1 forced through the perforation 6 in the heater 5 out of the nozzle 9 on to the top of the head. This air will be relatively cool as most of the heat from the heater 5 is absorbed outside of the perforation 6 and does not enter therein. By regulating the valve 10 the amount of cool air issuing from the nozzle 9 may be varied in order to produce the most agreeable feeling and to insure the best results.

The device shown in Fig. 4 operates in substantially the same manner as that shown in Fig. 1 except that the cool air direct from the blower is by-passed entirely around the heater 5. This air is directed on to any desired portion of the head merely by adjusting the position of the nozzle 17 by means of the

handle 20. This arrangement is particularly advantageous where heads of hair of different types are treated as the greatest protection would be needed at the parting of the hair. This parting may be in different positions on the head and it is possible by means of the adjustable nozzle to keep that portion of the head cool.

The device shown in Fig. 6 operates as follows:

Hot air enters through the pipe 3 and is forced down through the helmet 4 in the direction indicated by the arrows. This hot air spreads around the head and circulates through the hair, drying the same. When it is desired to cool the top of the head the valve 27 is open, permitting a portion of the air stream to flow through the pipe 25. This air is expelled through the Venturi throat 24, causing cool air to be sucked through the opening 23 and forced out of the nozzle 22 on to the head. The amount of cool air ejected from the nozzle 22 can be regulated by opening or closing the valve 27.

As cool air, used for cooling the top of the head, strikes the head with considerable velocity very efficient cooling may be obtained and the temperature of the hot air passing through the pipe 3 correspondingly increased. It will be understood that the adjustable nozzle 17 can be applied to the device, as shown in either Fig. 1 or Fig. 6 equally well, in order to secure the advantages of a directable air stream.

The entire drying hood unit may be removed from the discharge pipe 2 merely by disconnecting the pipe 3 from the discharge pipe 2, and in place of the hood may be substituted the ordinary nozzle well known to the art. Where it is desired to remove the hood and replace it by an ordinary nozzle, the connection between the pipe 3 and the discharge pipe 2 should be of some standard type such as, for example, a bayonet joint or a friction joint.

The above detailed description and drawings of a particular form of my invention are intended merely for the purpose of illustration and it is to be understood that such various modifications and adaptations as would occur to one skilled in the art may be made without a departure from the spirit of the invention, as set forth in the appended claims.

What I claim is:

1. A hair drying machine comprising a blower, means for heating air from said blower and directing it over a large portion of the head, and means for directing a concentrated stream of cold air on any desired portion of the head.

2. A hair drying machine comprising an air blower, two conduits leading from said blower, one of said conduits leading to a hel-

met for fitting over the head and the other of said pipes leading to an adjustable nozzle positioned within the said helmet.

3. A hair drying machine comprising a helmet for fitting over the head, means for blowing hot air into said helmet around said head, means within the helmet for directing a concentrated blast of cold air on a portion of said head, and means outside said helmet for pointing said means within the helmet at any desired portion of the head.

4. A hair drying device comprising two conduits, one within the other, one of said conduits terminating in a helmet for fitting over the head and the other of said conduits terminating in a nozzle within the said helmet, an adjustable mounting for said nozzle, and means outside the helmet for varying the direction of said nozzle.

5. A hair drying machine according to claim 4 wherein the nozzle is provided with a ball and socket connection so that it can be pointed in any desired direction.

6. In a hair drying device, a helmet, means for conducting hot air to said helmet, means for by-passing a concentrated blast of relatively cool air to said helmet, and means for varying the localization of said blast on the head.

7. In a hair drying machine, a heating tube, means for blowing a stream of air past said tube to heat the said air, means for blowing another stream of air past said tube without substantially heating said other stream,

means for conducting the heated stream over 35 a person's head, and means for directing the unheated stream onto a particular spot on the head.

8. In a hair drying device, a hood for fitting over the head, means for blowing air 40 into said hood, a pipe adjustably fastened through the wall of said hood so that it may be pointed in any desired direction, a tube connecting said pipe with the atmosphere for forming a variable by-pass for a concentrated 45 blast of cool air.

9. The method of drying hair which comprises projecting a blast of heated air upon the major portion of the head, simultaneously projecting a localized blast of cool air 50 upon the head, and varying the localization of said cool blast.

10. A hair drying machine having a blower, a pair of pipes for directing air from said blower on a head, means for heating the air 55 passing through one of said pipes, a helmet for fitting over the head and connected to one of said pipes, the other of said pipes being provided with a nozzle within the helmet for directing air on to a localized portion of the 60 head, said nozzle being adjustable so as to direct the localized air onto any portion of the head.

In testimony whereof, I have signed my name to this specification, this 11 day of Feb- 65 ruary, 1928.

WILLIAM F. HENDRY.