

July 6, 1948.

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2,444,481

HAIR DRIER

Filed Oct. 23, 1946

3 Sheets—Sheet 1

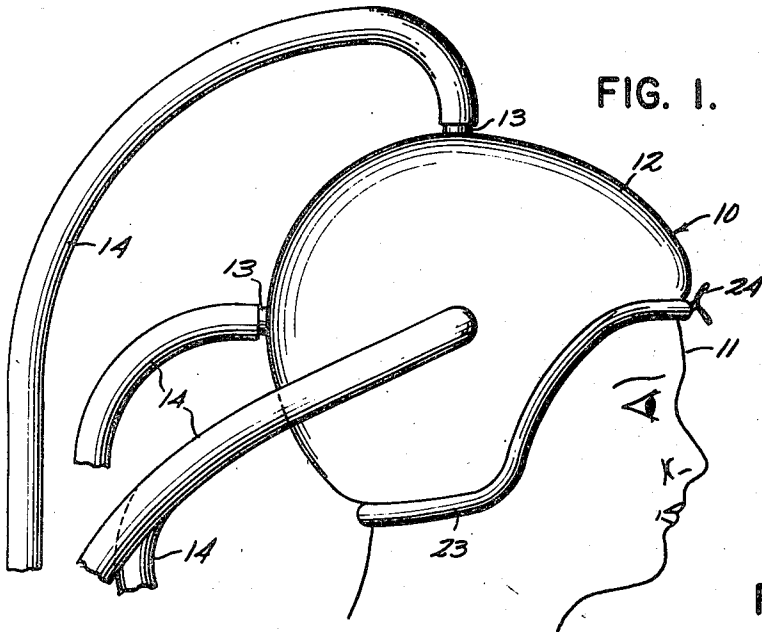


FIG. 1.

FIG. 3.

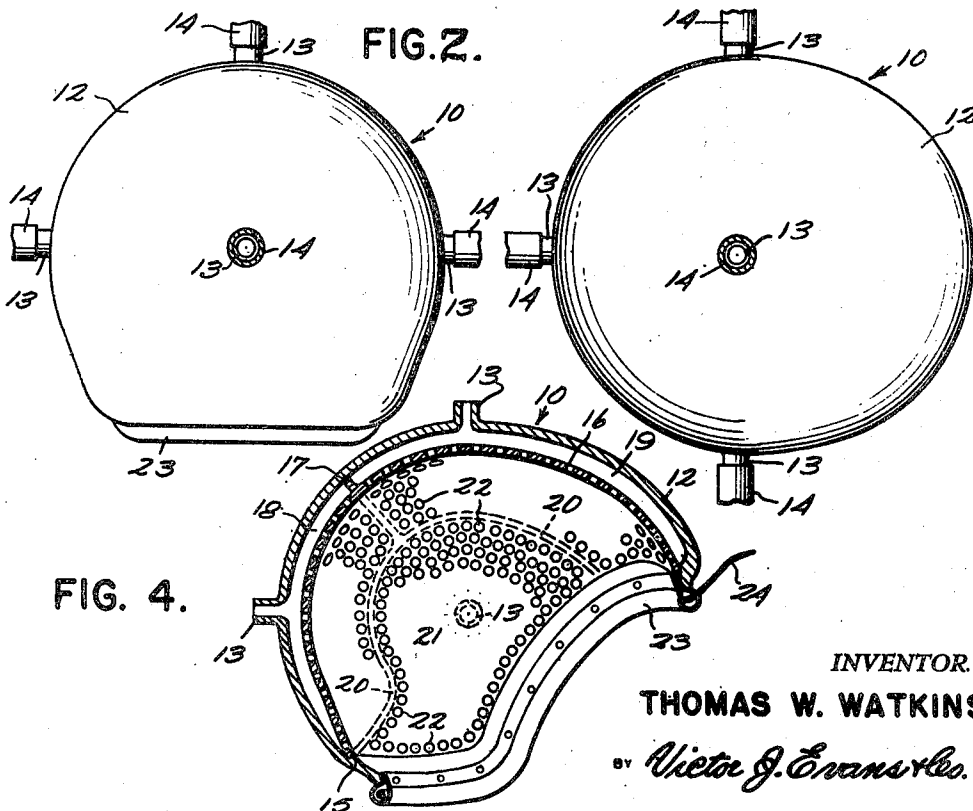


FIG. 2.

FIG. 4.

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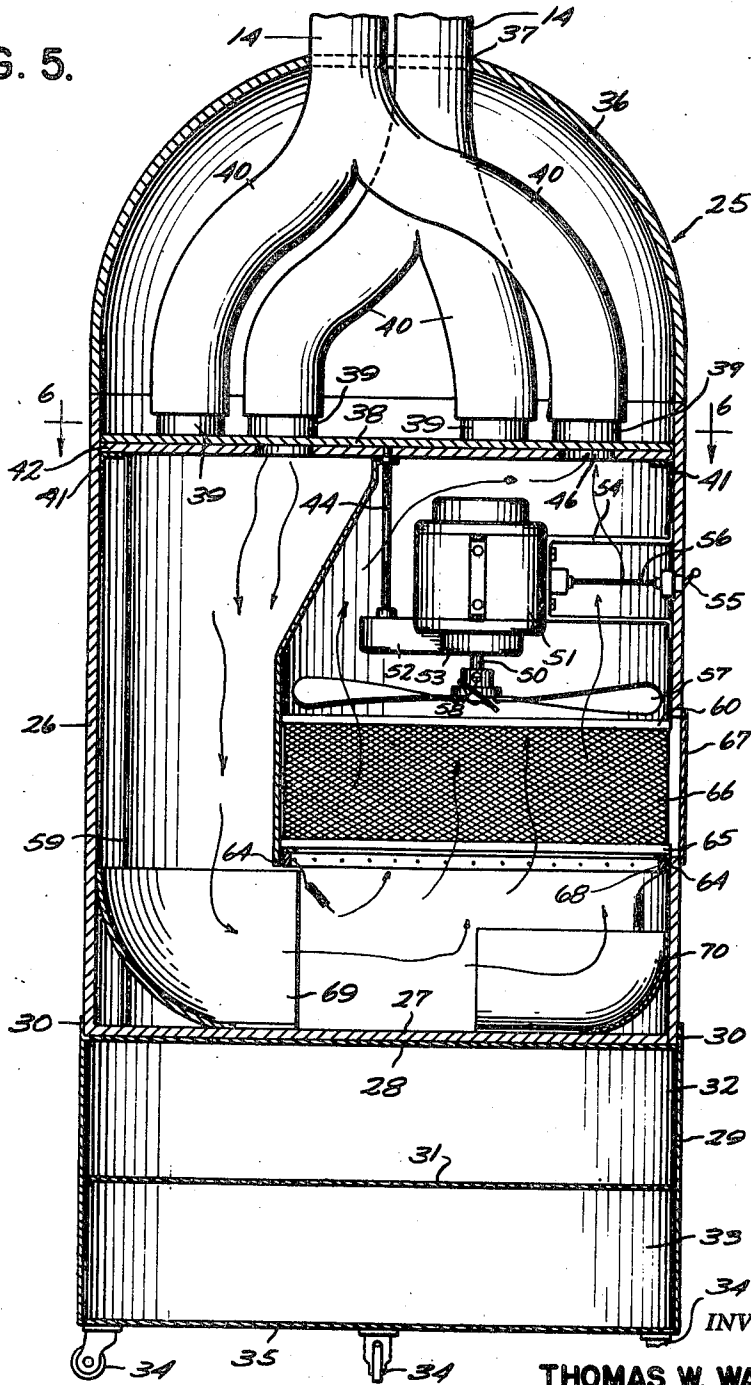
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FIG. 5.



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FIG. 6.

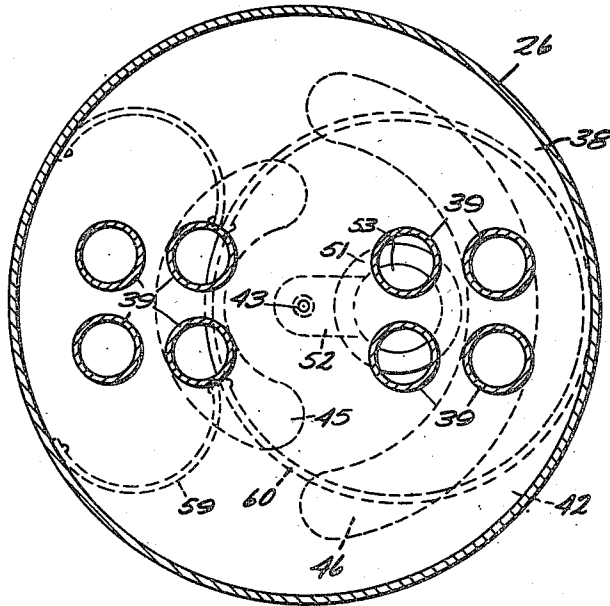


FIG. 7.

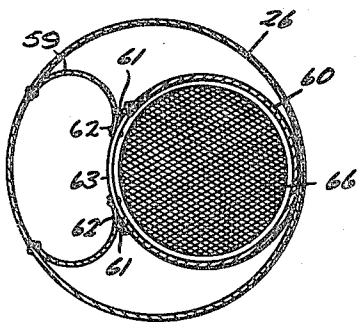


FIG. 8.

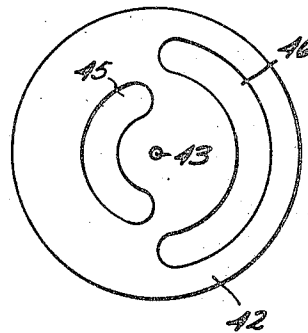
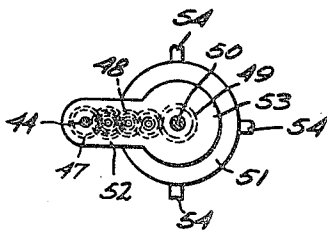


FIG. 9.



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HAIR DRIER

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Application October 23, 1946, Serial No. 705,060

3 Claims. (Cl. 34-80)

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This invention relates to a hair dryer or hair drying system, which is adapted to dry hair by the use of dry air instead of using hot, moist air, as is the present method.

An object of the invention is to provide a hair dryer having chemical means located therein that will absorb all the moisture from the air, leaving a dry air for the drying of the hair.

Another object of the invention is to provide a hair dryer having a headpiece into which dry air is forced, emitting the moisture laden air therefrom to be dried and then returned to the headpiece.

Heating elements may be used with the dryer to speed the process of drying the hair, but they are not necessary, and they are to be used only when the patron is in a hurry and desires a speedy hair dressing.

With the above and other objects and advantages in view, the invention consists of the novel details of construction, arrangement and combination of parts more fully hereinafter described, claimed and illustrated in the accompanying drawings in which:

Figure 1 is an elevational view of the headpiece forming a part of the embodiment of the invention, with the air tubes broken away;

Figure 2 is a rear view of the same;

Figure 3 is a top plan view of the same;

Figure 4 is a vertical sectional view of the headpiece;

Figure 5 is a vertical sectional view of the air drying cabinet;

Figure 6 is a sectional view on the line 6-6 of Figure 5;

Figure 7 is a reduced sectional view through the air drying chemical and chamber therefor;

Figure 8 is a plan view of the control valve and

Figure 9 is a sectional view of the gear reducing train for the actuation of the control valve shown in Figure 8.

Referring more in detail to the drawings, the reference numeral 10 indicates the headpiece which is substantially shaped to fit a person's head 11. The headpiece 10 comprises an outer shell 12 which is provided with top side and rear tubular outlets 13 to which flexible hose 14 are connected in the usual manner. The marginal edge of the outer shell is provided with a seat 15 to receive the inner shell 16, and by snapping the shell 16 in the seat 15, it is retained in the outer shell 12.

The shell 16 has a projection 17 thereon which spaces the shell 16 from the shell 12, and forms air chambers 18 and 19 respectively, which com-

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municate with the top and rear outlets 13. Projections 20 are also provided on the shell 16 to space this shell from shell 12, and form air chambers 21 at each side of the headpiece 10, which communicates with each individual side outlet 13.

The shell 16 is provided over its entire surface with openings 22 which provide communication means between the chambers 18, 19 and 21, and the interior of the headpiece for a purpose to be later explained.

Outwardly of the seat 15, the shell 12 has a tubular gasket 23 secured thereto, which has a drawstring 24 therein, so that when the drawstring is tightened and knotted as in Figure 1, the gasket will provide an airtight seal between the person's head 11 and headpiece 10.

Associated for use with the headpiece is the air drying apparatus 25 comprising the outer shell or housing 26, which is cylindrical in cross-section, having a flat closed bottom 27, which is adapted to rest on the top 28 of the storage housing 29 which is also circular in cross-section to conform to the shape of the housing 26. Extending upwardly from the top 28 of the housing 29 is an annular flange 30, which engages the lower end of the housing 26 to retain it in position on the storage housing 29. The storage housing 29 is divided centrally thereof with a transverse portion 31 which divides the housing into storage compartments 32 and 33 respectively for a purpose to be later described, and each compartment is provided with a door, not shown, to gain access thereto. Caster wheels 34 are mounted on the bottom 35 of the housing 29 so that the apparatus may be easily moved over the floor. The housing 26 has a curved top 36 provided with central openings 37, through which the flexible hose 14 extends into the interior of the housing 26.

Below the curved top 36, the housing 26 is provided with a transverse partition 38 which is provided with upstanding tubular inlets or outlets 39, there being eight in number, arranged in groups of four on opposite sides of the center of the partition 38.

There are eight inlets or outlets 39, since the hose 14 is divided at its end interiorly of the housing 26 into branches 40, which are connected to the inlets or outlets 39 as shown in Figure 5.

Secured to the inner wall of the housing 26, below the partition 38 is the annular angle iron track 41 which is adapted to receive and rotatably mount the outer marginal edge of the rotary disc-shaped valve 42 thereon.

The valve 42 has the central opening 43 for

mounting the valve on the driven shaft 44, and a short arcuate shaped port 45 to coincide with the inner pairs of inlets and outlets 39, and a longer arcuate shaped port 46 to coincide with the outer pairs of inlets and outlets 39. The ports 45 and 46 are curved in reverse relation to each other to properly align the ports with the inlets and outlets 39.

The shaft 44 has a gear 47 secured thereto, which meshes with the train of reduction gears 48 which in turn engage and mesh with a gear 49 on the drive shaft 50 of the electric motor 51. The gears 47 and 49, and the reduction gears 48 are all mounted in the gear housing 52 formed integral with the end plate 53 of the motor 51, and lubrication is supplied to the housing 52 for the lubrication of the gears.

Brackets 54 secured to the inner surface of the housing 26 and the casing of the motor 51 support the motor in the housing 26 so that the shaft 44 is in vertical relation to the horizontal plate of the valve 42.

A toggle switch 55 mounted for access exteriorly of the housing 26 is connected by a cable 56 to the motor 51 for controlling the operation thereof. A fan 57 is mounted on the end of the shaft 50 of the motor 51 by a screw 58, and operation of the motor controls the rotation of the fan and the slower rotation of the valve 42.

Secured to the inner surface of the housing 26 is a funnel-shaped partition 59 which communicates with one set of four air inlets and outlets 39, and with a circular partition 60 which is positioned below the fan 57. The partition 59 has cutout ears 61 for securing the partition 59 to the partition 60, and aligned passageways 62 and 63 permit communication between the partitions.

Arranged at the lower end of the partition 60 is an annular angle iron support 64 which supports a ring 65 thereon, which carries the circular shaped chemical means 66, which may be silica gel or any other moisture absorbing chemical means available.

A door 67 on the housing 26 permits access to the interior thereof for the replacing of the chemical as desired. The support 64 may also carry on its lower surface, an electric heating medium 68 which can be used to heat the air with the apparatus 25 if desired.

Air is drawn by suction through the medium of the fan to be forced outwardly of the housing 26 through the hose 14, into the headpiece 10, and air leaving the headpiece 10 will return through the hose 14 into the housing, to be recirculated in the housing, and curved deflectors 69 and 70, at the bottom of the housing 26, secured to the inner surface of the housing and the upper surface of the bottom 27 aid in the circulation of the air within the housing 26.

In operation, the motor is energized to control the operation of the fan 57, and valve 42. With the fan operating, air is forced through one pair of each set of four inlets and outlets 39 when the ports 45 and 46 coincide with these inlets and outlets, and the remaining pairs will be closed. Upon rotation of the valve 42, the closed pairs will be opened and the opened pairs closed. Thus air is alternately fed into and out of the chambers 18, 19 and 21. Air entering the headpiece will have the moisture absorbed therefrom by the

chemical 66, and moisture laden air returning from the head will be redried to be returned to the headpiece, the moisture being caused by the moistened head of the person on whom the piece is placed.

The chemical will be replaced when it has absorbed moisture to its full capacity and refills may be stored in the compartments 32 and 33.

It is believed that the operation and construction of the invention will be apparent to those skilled in the art, and it is to be understood that changes in the minor details of construction may be resorted to, provided they fall within the spirit of the invention and the scope of the appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A device of the character described, comprising in combination, an air dryer apparatus and a headpiece to be placed on a human head, means for connecting said headpiece to said apparatus so air may be forced from said apparatus into said headpiece, chemical means in said apparatus for absorbing moisture from said air, a transverse partition in said apparatus, a plurality of upstanding tubular air inlets and outlets formed on the upper surface of said partition, the means for connecting said headpiece to said apparatus being connected to said outlets, a funnel shaped partition in said apparatus below said transverse partition, a circular shaped partition in said apparatus below said transverse partition and parallel with said funnel shaped partition, passages in said partition forming a communicating way between said partition to control the flow of air in said apparatus, air deflectors in said apparatus below said partitions to aid in directing the air through said funnel shaped and said circular shaped partitions, and means in said apparatus for circulating said air.

2. The invention as in claim 1 wherein rotating valve means is provided in said apparatus, arcuate shaped ports in said valve means in spaced relation to each other, said ports being adapted to coincide alternately with the inlets and outlets in said transverse partition to alternately force dry air through the outlets into said means for connecting said headpiece to said apparatus and for returning air from said headpiece to said apparatus through said inlets.

3. The invention as in claim 1 whereby said headpiece is divided into air receiving chambers.

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