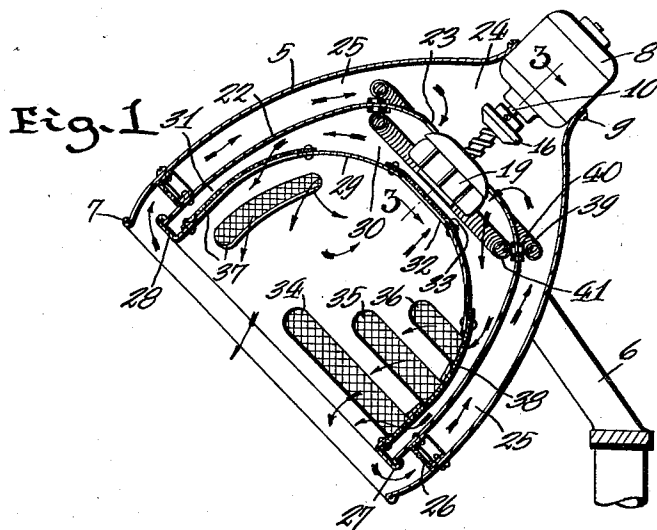
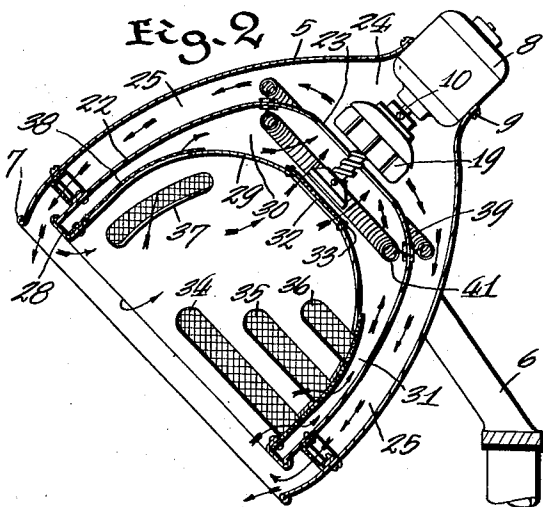
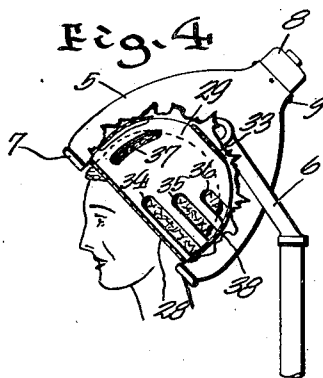
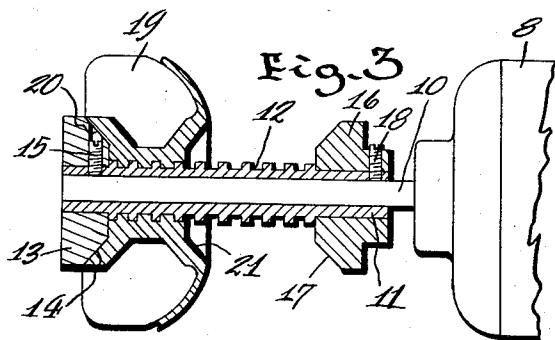
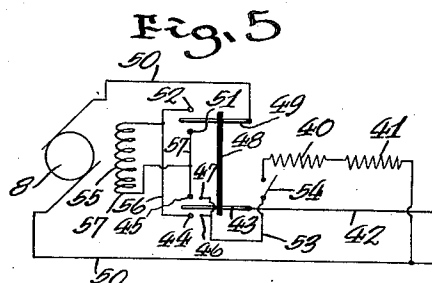


Jan. 7, 1936.

W. L. MARTIN
DRYING APPARATUS

2,026,992

Filed July 1, 1932



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2,026,992

DRYING APPARATUS

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Application July 1, 1932, Serial No. 620,355

7 Claims. (Cl. 34—26)

My invention relates to drying apparatus, and has particular reference to apparatus for use in drying hair or the hands, or the like, and a principal object of my invention is to provide a new and improved apparatus of this type.

In the drawing accompanying this specification, and forming a part of this application, I have shown, for purposes of illustration, one form which my invention may assume, and in this drawing:

Figure 1 is a vertical sectional view of an embodiment of the invention, showing one characteristic operation thereof,

Figure 2 is a similar view showing another characteristic operation thereof,

Figure 3 is an enlarged vertical sectional view taken on the line 3—3 of Figure 1,

Figure 4 is a reduced side elevational view of said embodiment, with the head of a subject in position in the apparatus, while

Figure 5 is a diagrammatic layout of electrical appliances used in connection with said embodiment.

The embodiment disclosed herein comprises a tubular casing 5 pivotally supported by a pedestal 6, having a beaded front edge 7, tapering toward the rear and provided with a neck portion for the reception of the housing of a motor 8, secured to the casing 5 by screw bolts 9, and the armature shaft 10 of the motor 8 extends axially into the casing 5 and is of appreciable length, and has a sleeve 11 mounted thereon, threaded along part of its length, as indicated at 12, provided at its forward end with an abutment member 13 having a beveled face 14, held in position by a set screw 15 which extends through the sleeve 12 and against the shaft, and provided at its opposite end with a similar abutment member 16 having a beveled face 17, held in position on the sleeve and shaft by set screw 18, and threaded upon the threaded sleeve 11 and between the abutment members 13 and 16 is a centrifugal fan 19 having recesses provided with beveled faces 20 and 21 respectively adapted for engagement with the beveled faces 14 and 17 of the abutment members 13 and 16, the fan 19 being adapted to assume a position against either the abutment member 13 or the abutment member 16, as hereinafter referred to.

Disposed within the casing 5 is a dome-shaped shell 22, tapering rearwardly and having an aperture 23 of greater diameter than the fan 19, and the shell 22 is of such length that said aperture lies at the rear of the fan 19 when the latter is in its forward position, the shell 22

terminating at its front end short of the front end of the casing 5, and by reason of its size and configuration cooperates with the casing 5 to define a chamber 24 and passage 25, covered at the forward end of the apparatus by a web of screening 26 secured in position by suitable fastening elements.

Secured to the forward portion of the shell 22 as by a curled seam 27 is the flange 28 of a dome-shaped hood member 29, extending in spaced relation with reference to the shell 22 to define a chamber 30, and a passage 31, and at the rear having an opening 32, covered by a screen 33, and also having a plurality of transverse arcuate slots, the slot 34 being adapted to be disposed in closest proximity to the ends of the hair adjacent the neck of a subject treated, extending circumferentially about half way around the hood member, the next slot 35 a somewhat less extent, and the next one 36 a still less extent, while longitudinally extending slots 37 are provided which reach well toward the hair near the forehead of the subject, as best shown in Figure 4, all of the slots being covered by a strip 38 of screen secured to the remote wall of the hood member 29.

A heating coil 39 is disposed within the chamber 24 and suspended from the shell 22 by fasteners 40, and a similar heating coil 41 is disposed in the chamber 30 and secured in position by the fasteners, insulating washers being interposed between the coils and adjacent portions of the shell 22.

As shown in the diagrammatic layout of Figure 5, line wire 42 leads to a movable switch arm 43 adapted to engage either a contact 44 or a contact 45, or contact 46 or 47, and the switch arm 43 is connected by an insulation bar 48 with a similar switch arm 49 leading to the return wire 50 and adapted to engage contacts 51 or 52. Contacts 46 and 47 are both interposed in a conductor 53 leading to a switch 54 through the heating coils 40 and 41 to the return wire 50. The contact 44 is connected to one end of the field winding 55, of the motor 8 by a conductor 56 which also leads to the contact 52, while the opposite end of the field winding 55 is connected to contacts 45 and 51 by a conductor 57.

When it is desired to bring about a suction effect around the outer periphery of the head of a subject inserted into the hood member 29 and discharge through the apertures 34, 35, 36 and 37 onto said subject, the motor 8 is operated in such manner as to rotate its shaft in a clockwise direction, as indicated in Figure 1. As shown in Fig-

ure 5 this is effected by moving the switch arm 43 into engagement with contacts 44 and 46, causing current to flow via the conductor 56 in one direction through the field winding 55 of the motor, thence through conductor 57, contact 51 and switch arm 49 to the return wire 50, completing the circuit through the motor and causing the armature shaft to revolve in a clockwise direction; also energizing the heating coils 40 and 41 assuming the switch 54 to be closed. Clockwise rotation of the motor shaft 10 and of the sleeve 11 causes the fan 19 to assume or maintain its position against the outer abutment member 13, thus positioning said fan within the passage 30, causing indrawal of air partially through the opening 32 and partially from the chamber 24 and passage 25, the air thus indrawn being thrown off centrifugally into the passage 31 and discharging into the hood member 29 through the apertures 34, 35, 36 and 37, and by reason of the low pressure area at the entrance to the passage 25, a substantial portion of the air discharged into the hood member 29 is entrained and carried into the passage 25 and recirculated.

The direction of rotation of the armature shaft 10 may be reversed by moving the switch arm 43 into engagement with the contacts 45 and 47 and the switch arm 49 into engagement with the contact 52, causing current to flow in a reverse direction through the field winding 55, the circuit being completed through the conductor 56, contact 52, switch arm 49 and line wire 50.

Reverse rotation of the shaft 10 causes the fan 19 to travel rearwardly along the thread 12 until it comes into contact with the abutment member 16, being then disposed in the chamber 24 and rotating in a counterclockwise direction. Under these conditions, as shown by the arrows in Figure 2, air is drawn into the passage 31 through the apertures 34, 35, 36 and 37 and also drawn inwardly through the aperture 32, passing through the aperture 23 into the chamber 24 and being discharged into the passage 25 emerging from said passage at the front of the casing, and by reason of the low pressure existing within the hood member 29 a substantial portion of the air discharged from the passage 25 is entrained and again enters the hood member 29 and is recirculated.

The direction of flow of the air thus may be reversed, among other advantages enabling the outlet and inlet areas of the apparatus to be reversed; furthermore by reason of the location and differential sizes of the apertures 34, 35, 36 and 37, the flow is concentrated where the hair of the subject is most difficult to dry, greatly facilitating the drying operation.

It will be apparent that the embodiment herein described accomplishes the principal object of the invention, and is adapted for uses and purposes not herein particularly referred to, and may be variously changed and modified without departing from the spirit of my invention, and accordingly it will be understood that such embodiment is illustrative only and my invention is not limited thereto.

I claim:

1. Apparatus, as of the type described, for subjecting a person to the action of a stream of gaseous-like fluid, comprising: an open-front housing having a plurality of orifice areas, and means cooperating with said housing and defining a plurality of cooperating passages communicating with said orifice areas; and circulating means within said housing, axially shiftable from pas-

sage to passage, and operable in one passage to induce flow through said passages and orifice areas in one direction, and operable in another passage to induce flow in the opposite direction through said passages and orifice areas; said housing also comprising means whereby gaseous fluid discharged from one passage is entrained in the stream of gaseous fluid entering the other passage and thus recirculated.

2. Apparatus, as of the type described, for subjecting a person to the action of a stream of gaseous-like fluid, comprising: a casing having a hood member provided with orifices restricted to portions of said hood member adapted to be disposed adjacent the neck and forehead of a head inserted into said hood member, and varying in size from the larger adjacent the neck portion to the smaller remote from said neck portion; a shell extending between said hood member and therewith defining a first passage communicating with said orifices, and cooperating with said casing to provide a second passage communicating with said first passage and with another orifice area; a motor carried by said casing and having a shaft extending axially thereunto and provided with a threaded sleeve with spaced abutment members and a centrifugal fan threaded upon said sleeve between said abutment members, operation of said motor and shaft in one direction causing said fan to operate in said first passage, and operation of said motor and shaft in an opposite direction causing said fan to shift in its position to said second passage and reverse the direction of flow; means for reversibly controlling said motor.

3. Apparatus, as of the type described, for subjecting a person to the action of a stream of gaseous-like fluid, comprising: an open-front housing having a plurality of orifice areas, and means cooperating with said housing and defining a plurality of cooperating passages communicating with said orifice areas; and a fan axially shiftable from passage to passage, and operable in one passage to induce flow through said passages and orifice areas in one direction, and operable in another passage to induce flow in the opposite direction through said passages and orifice areas; and means for reversing the direction of rotation of said fan, whereby said fan is axially shifted from one passage to another.

4. Apparatus, as of the type described, for subjecting a person to the action of a stream of gaseous-like fluid, comprising: an open-front housing having a plurality of orifice areas, means cooperating with said housing and defining a plurality of cooperating passages communicating with said orifice areas; a centrifugal fan within said housing axially shiftable from passage to passage, and operable in one passage to indraw through certain of said orifice areas an inflowing stream of fluid through one of said passages, and to expel said fluid in an outflowing stream through another of said passages and certain other of said orifice areas, and operable in another passage to induce flow of said streams of fluid in the opposite direction; and driving means for said fan including means for automatically shifting said fan into alignment with one or the other of said passages; said centrifugal fan and said passages cooperating to impress upon one of said streams an annular formation doubled back and surrounding the other of said streams.

5. Apparatus, as of the type described, for subjecting a person to the action of a stream of gaseous-like fluid, comprising: an open-front,

housing having a plurality of orifice areas, and means cooperating with said housing and defining a plurality of cooperating passages communicating with said orifice areas; and circulating means within said housing, automatically bodily shiftable from passage to passage, and operable in one passage to induce flow through said passages and orifice areas in one direction, and operable in another passage to induce flow in the opposite direction through said passages and orifice areas; and power means for driving said circulating means, said power means comprising means operable to shift said circulating means from passage to passage dependent upon the direction of movement of said circulating means.

6. Apparatus, as of the type described, for subjecting a person to the action of a stream of gaseous-like fluid, comprising: an open-front housing having a plurality of orifice areas, and means cooperating with said housing and defining a plurality of cooperating passages communicating with said orifice areas; a motor having a threaded armature; a fan threaded on said

armature, said fan being automatically shiftable from passage to passage by the rotation of said motor, to induce flow through said passages and orifice areas in one direction, and operable in another passage to induce flow in the opposite direction through said passages and orifice areas, dependent upon the direction of the rotation of said motor.

7. Apparatus, as of the type described, for subjecting a person to the action of a stream of gaseous-like fluid, comprising an open front housing having a plurality of orifice areas, means cooperating with said housing and defining a plurality of cooperating passages communicating with said orifice areas; shiftable circulating means adapted to be shifted from passage to passage to induce flow of a gaseous fluid through said passages and orifices in opposite directions, a rotary power means for actuating said circulating means, and means cooperating with and actuated by said power means for automatically shifting said circulation means in accordance with the direction of rotation of said power means.

WENDELL L. MARTIN.