Feb. 19, 1952 E. HEDIN 2,586,036

HAIR DRIER

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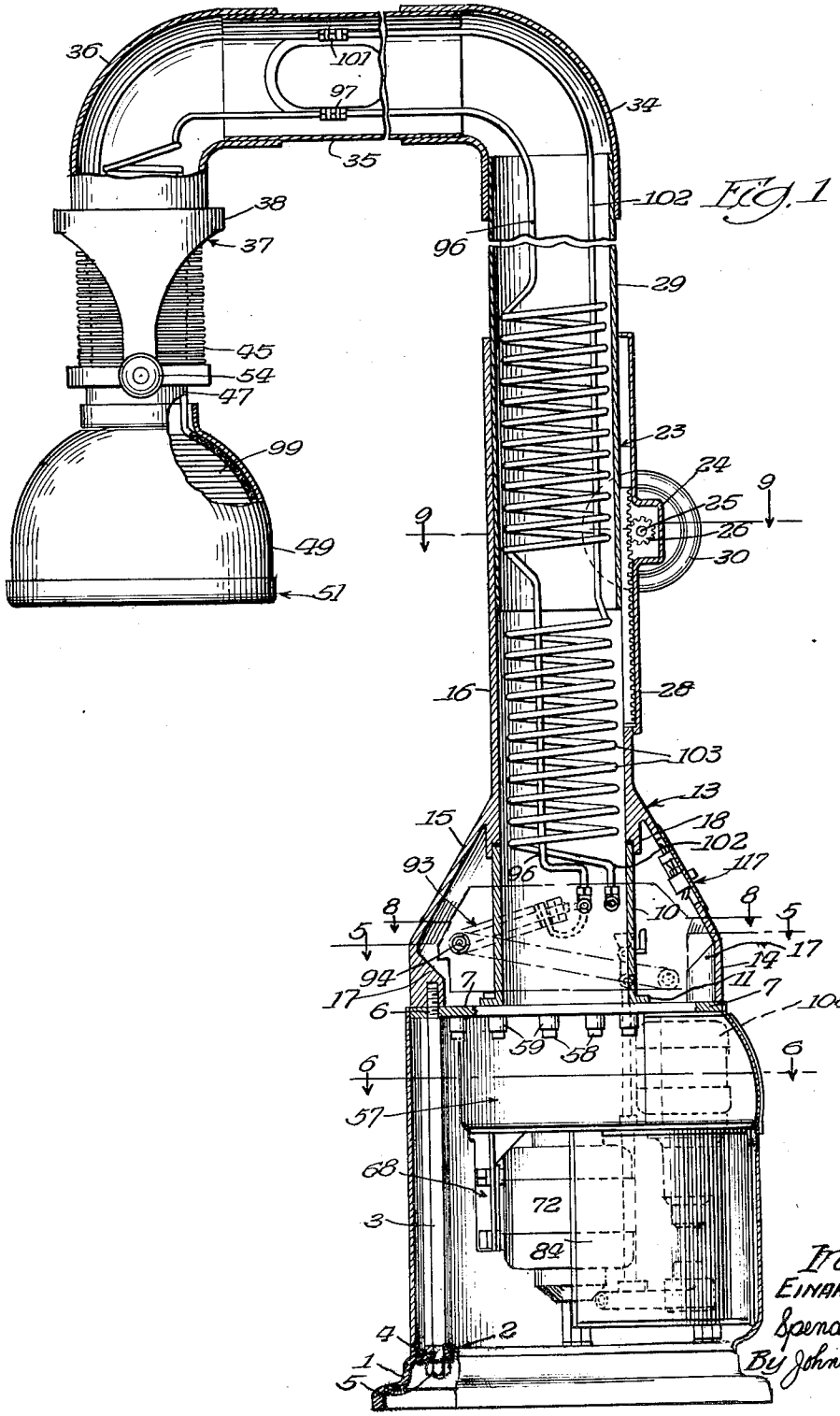


Fig. 1

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FIG. 2

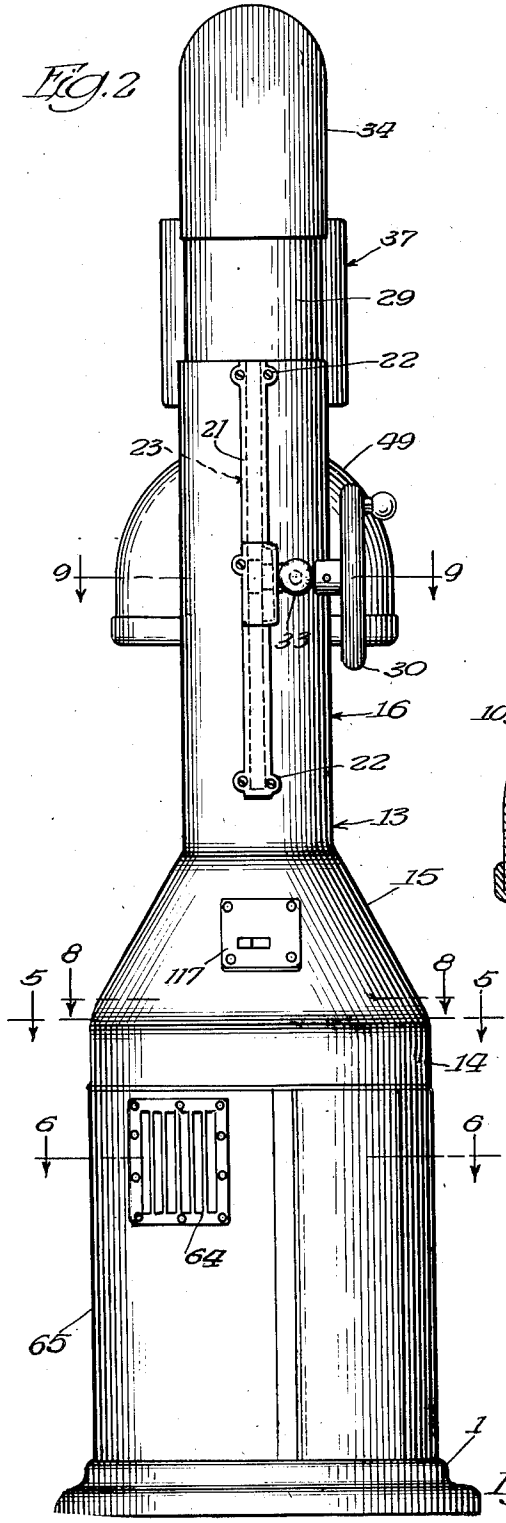


FIG. 3

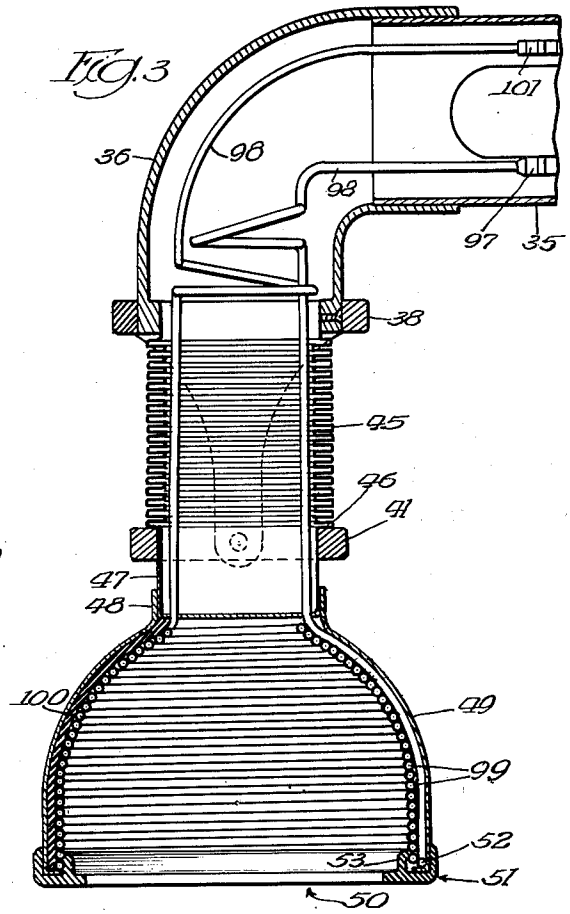
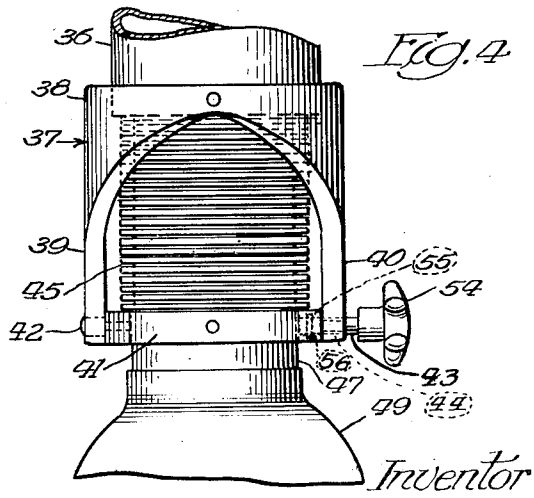


FIG. 4



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Fig. 5

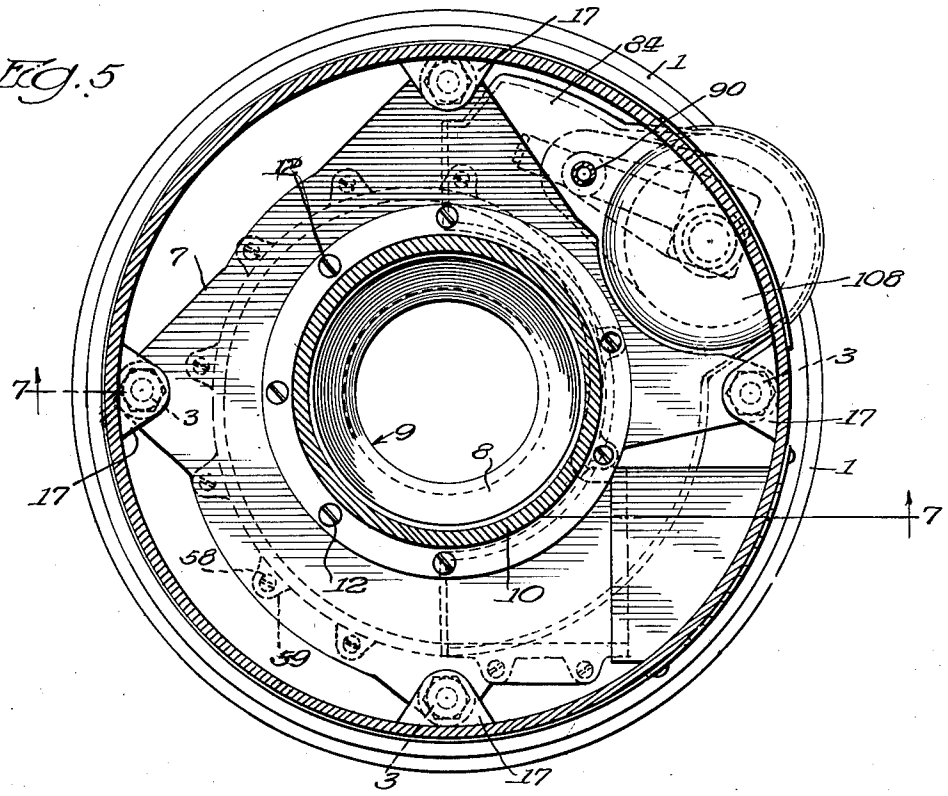
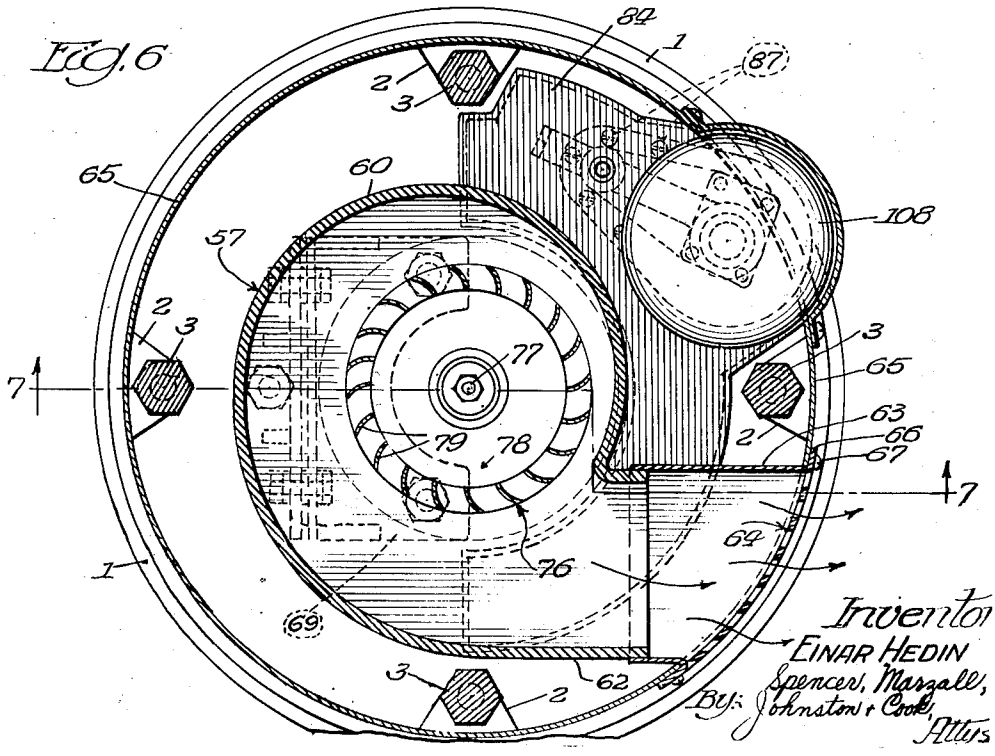


Fig. 6



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HAIR DRIER

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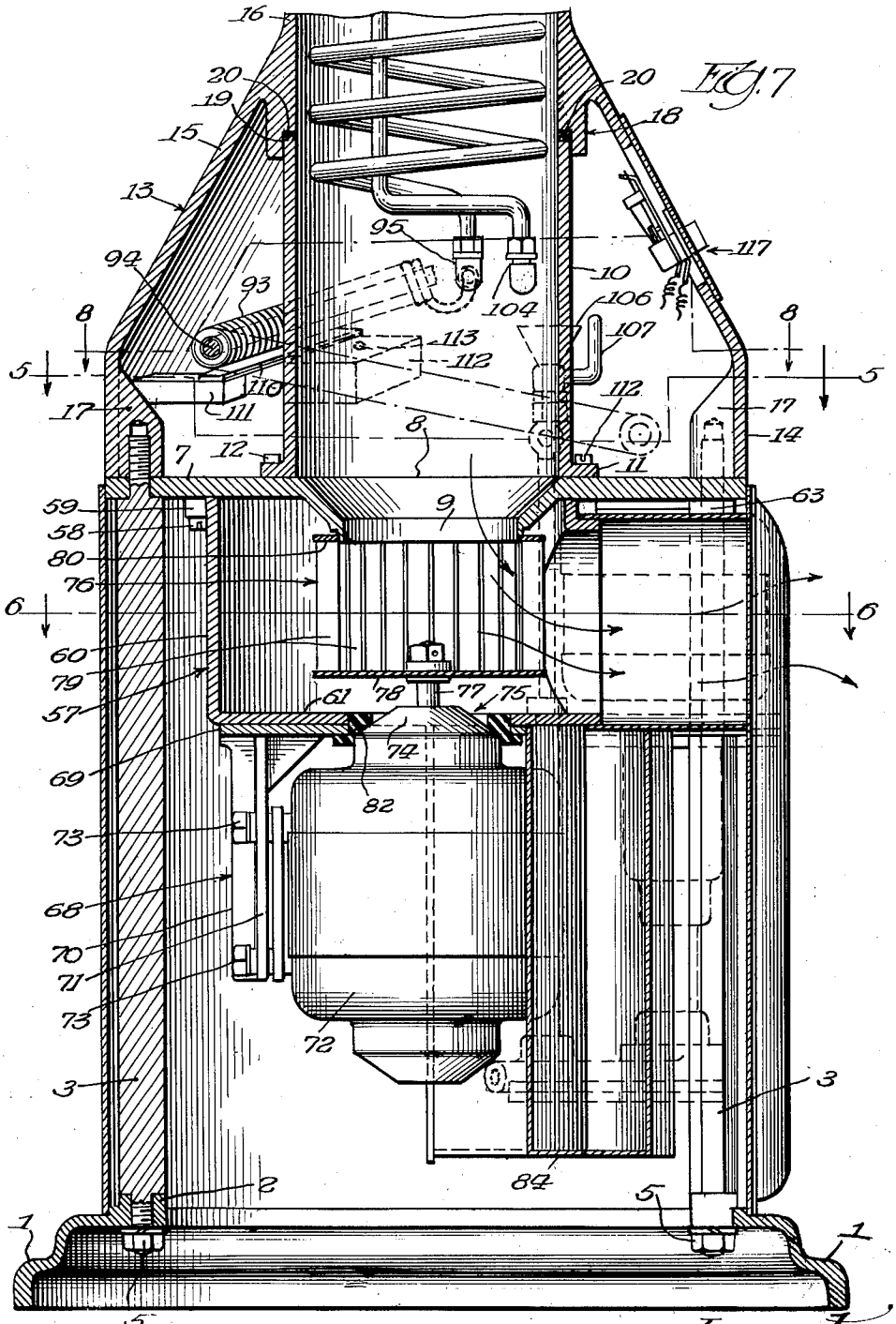


Fig. 7

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FIG. 8

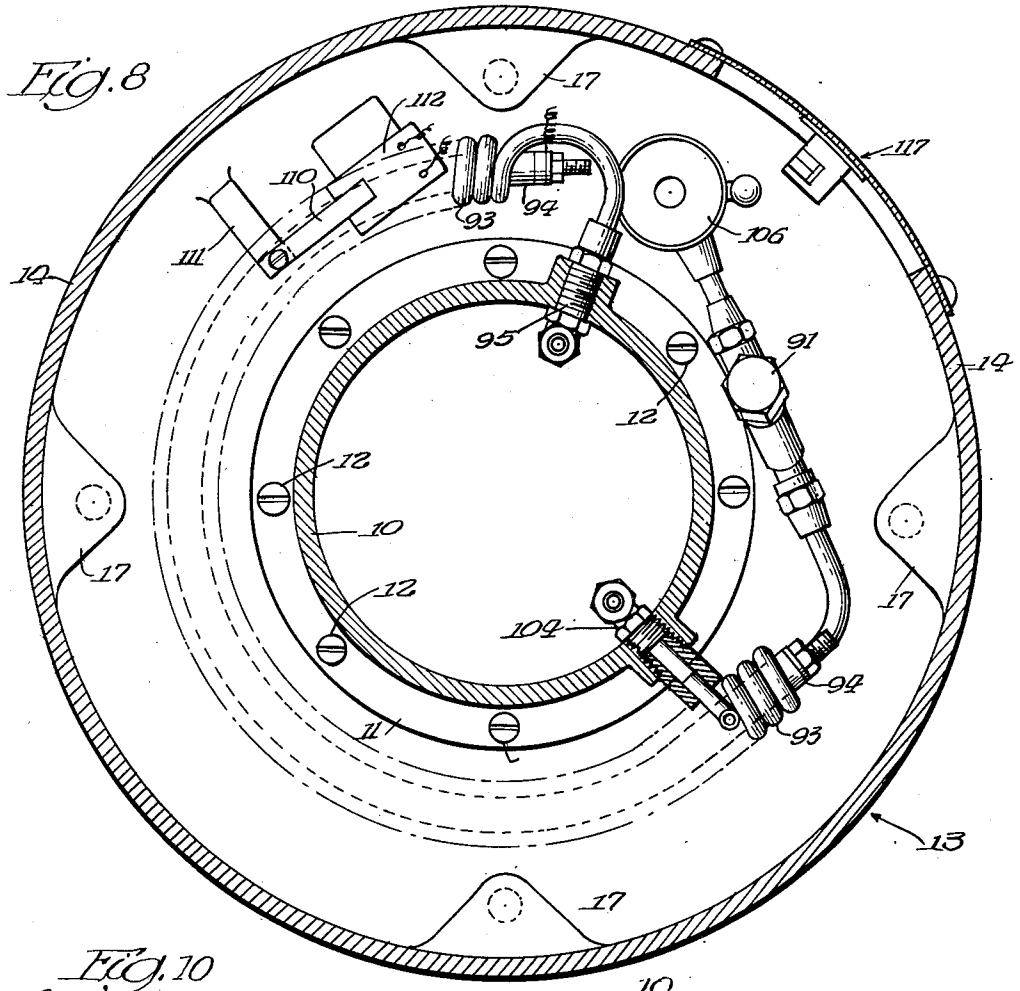


FIG. 10

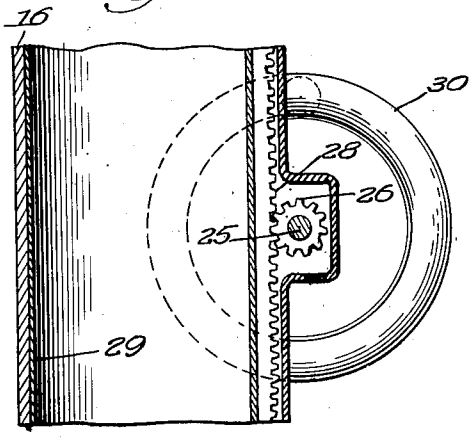
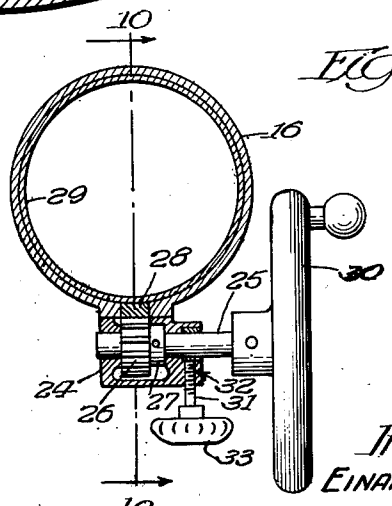


FIG. 9



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FIG. 11

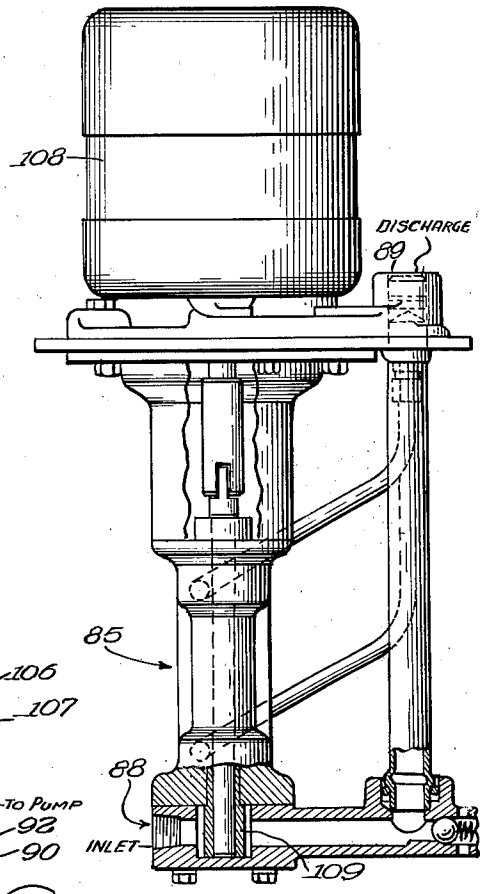


FIG. 12

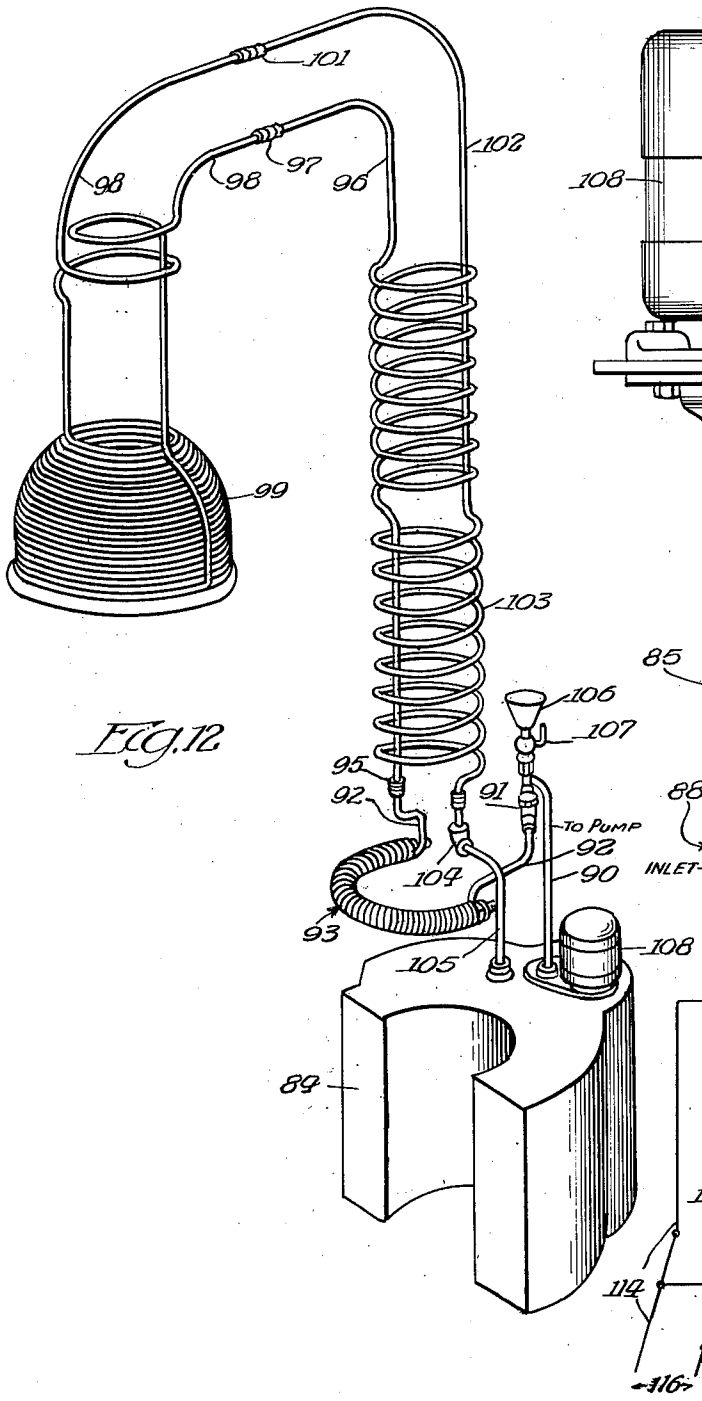
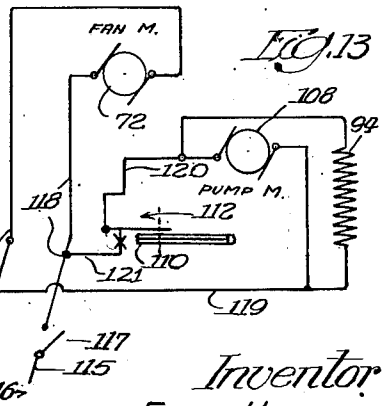


FIG. 13



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UNITED STATES PATENT OFFICE

2,586,036

HAIR DRIER

Einar Hedin, Chicago, Ill.

Application October 11, 1948, Serial No. 53,952

14 Claims. (Cl. 34—48)

1

The invention relates to hair driers in general, and particularly to hair driers of the vertical standard or floor type.

The primary object of the present invention is the provision of a novel hair drier embodying means for causing air to be drawn upward into a drying hood, where the air is warmed, and then ultimately discharging the air out of the base portion of the drier.

Another object of the present invention is the provision of a hair drier embodying improved thermostatically controlled means for permitting the temperature of heating elements within the hood to be controlled within certain predetermined ranges.

A further object of the invention is the provision of a hair drier embodying new and improved means for effecting adjustment of the hood portion thereof.

A still further object of the invention resides in the location and arrangement of the parts to permit the apparatus to be assembled easily and quickly, and permits parts to be removed and replaced so as to facilitate repairs and replacement.

Still another object is to provide a hair drier which has improved means for heating a coil by forcing steam through a predetermined path to the hood of the machine and controlling the temperature thereof; which has novel means for condensing the steam and returning the condensate to its original reservoir; which has simplified means for effecting adjustment of the hood in various directions; which embodies certain blower means for creating a suction system in the hood; and which includes various new and novel arrangements in construction, operation and arrangement of parts.

Numerous other objects and advantages will be apparent throughout the progress of the specification, which follow.

The accompanying drawings illustrate a selected embodiment of the present invention and the views therein are as follows:

Fig. 1 is a detail side elevational view of the improved hair drier, certain parts being broken away for the sake of clearness;

Fig. 2 is a rear elevational view;

Fig. 3 is a detail fragmentary sectional view of the hair drier hood;

Fig. 4 is a fragmentary view showing the means for pivotally supporting the hood;

Fig. 5 is a sectional view on lines 5—5 of Figs. 1, 2 and 7;

Fig. 6 is a sectional view on lines 6—6 of Figs. 1, 2 and 7;

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Fig. 7 is a detail vertical sectional view of the base portion of the hair drier on lines 7—7 of Figs. 5 and 6, certain parts being shown in elevation and other parts being omitted for the sake of clearness;

Fig. 8 is a sectional view on lines 8—8 of Figs. 1, 2 and 7, certain parts being omitted for the sake of clearness;

Fig. 9 is a plan section on the lines 9—9 of Figs. 1 and 2;

Fig. 10 is an enlarged fragmentary vertical section on line 10—10 of Fig. 9;

Fig. 11 is an elevational view of the liquid circulating pump, certain parts being broken away for the sake of clearness;

Fig. 12 is a detail perspective view of the fluid circulating system; and

Fig. 13 is a schematic wiring diagram showing the manner in which various components of the present invention are electrically connected.

The particular embodiment of the invention herein disclosed for the purpose of illustrating the invention comprises an annular base 1 which has preferably a plurality of integral lugs or supports 2. The lugs or supports 2 project radially inward a short distance from the inner edge of the base, Figs. 1 and 7, and these lugs 2 are adapted to support the lower ends of vertical rods 3. Each rod 3 is preferably hexagonal in cross section and has opposite ends which are reduced in diameter. The lower reduced end of each rod 3 is adapted to pass through a bore 4 in its corresponding lug 2 and may be secured to the lug by any suitable means, such as by a nut 5. The upper reduced end of each rod 3 is adapted to pass through a corresponding alined bore 6 in a spaced upper plate 7.

The upper plate 7 serves as a secondary support for a plurality of parts which are included in the present invention. The plate 7 preferably has a frustro-conical depression 8, Figs. 5 and 7, at its center, the depression being open at its lower end, as indicated at 9. An upwardly projecting cylindrical member or tube 10, has an integral outer annular lower flange 11 which rests on the upper surface of the plate 7. The inner diameter of the cylindrical member or tube 10 preferably is equal to the greater or upper diameter of the frustro-conical depression 8. The cylinder or tube 10 is mounted on the plate 7 so that its lower end registers fully with the upper end of the depression 8. The cylinder or tube 10 is held in position by means of a plurality of securing members, such as machine screws 12, which pass through suitable openings in the flange 11 and are threadedly received in the plate 7.

A member 13 which may be in the general shape of an inverted funnel is mounted on the plate 7, and this member 13 which may be a casting, comprises a lower wall portion 14, which is integral with an upper tapered wall 15, Fig. 7. The member 13 terminates into a hollow elongated neck 16 which is integrally joined near its lower end to the upper end of the tapered part 15. A plurality of bosses 17 may be formed on the inner surface of the lower wall 14, to receive the threaded upper ends of the rods 3. The elongated neck 16 has an extension 18 which projects downwardly from the point of junction of the neck 16 with the tapered wall 15. The neck extension 18 may have an inner annular groove 19 at its lower end, which is adapted to engage properly the upper end of the cylinder 10. A packing washer 20, which may be made of any suitable, but preferably resilient, material, may be provided between the upper end of the cylinder 10 and the groove 19 on the neck extension 18, so as to provide a leak-proof, hermetically sealed joint.

The neck 16, Figs. 1 and 2, preferably has an elongated vertically disposed housing 21 which is secured exteriorly of the neck by any suitable means, such as by machine screws 22. The housing 21 is preferably provided with a centrally disposed enlarged portion 24 in which a horizontal shaft 25 is journalled. The shaft 25 has a pinion or spur gear 26 secured thereto, and a collar 27 (Fig. 9) is pinned to the shaft 25 so as to prevent the shaft 25 from moving longitudinally.

The pinion 26, Figs. 1, 9 and 10, is adapted to mesh with a vertically disposed rack 28 which is fixedly secured to a hollow cylindrical tube 29. The rack 28 is capable of longitudinal movement in the slot 23 so that the tube 29 may move telescopically within the neck 16 to raise and lower the tube 29. The tube 29 may be raised or lowered to any predetermined position by rotating a hand wheel 30 which is secured to one end of the shaft 25. Rotation of the hand wheel 30 thereupon causes the pinion 26 to rotate and move the rack 28 to cause the tube 29 to be raised or lowered. The tube 29 may be maintained in any predetermined raised or lowered position by tightening a locking screw 31, Fig. 9, against the shaft 25, the locking screw 31 being threaded in a bore 32 of the enlarged housing portion 24. The locking screw 31 may be adjusted to locking position, or may be released from locking position, by manually turning a hand wheel 33 at the outer end of this screw.

The upper end of the cylindrical tube 29, Fig. 1, may be secured by any suitable means to one end of a right angled tubular elbow member 34. The other end of the elbow 34 may be fastened by any desired means to one end of a straight cylindrical tube 35, Fig. 3, whereby the tube 35 is held in an outwardly extending horizontal position, Figs. 1 and 3. The outer end of the tube 35 is secured to the inner end of a right angled tubular elbow 36, the inner end of the elbow 36 being secured to the tube 35 in such a manner that the elbow is directed downwardly, as clearly shown in Figs. 1 and 3.

The outer downturned end of the elbow 36 has a yoke member 37 secured thereto, Figs. 1, 2 and 4. This yoke member 37 comprises a collar 38 to which a pair of integral arms 39 and 40 extend downwardly. A ring-shaped member 41 may be positioned between the lower ends of the arms 39 and 40, and this ring-shaped member 41

is pivotally journaled in a pair of trunnions 42 and 43. The trunnion 42 is supported at its outer end in the lower end of the arm 39, and the trunnion 43 is threaded intermediate its ends in the lower end of the arm 40, as indicated at 44.

The lower end of the elbow 36 is adapted to have a flexible bellows 45 connected thereto. The bellows 45 extends downwardly between the arms 39 and 40 and may have its lower fold carried by the upper surface of the ring-shaped member 39, as at 46, Fig. 3. The bellows 45 has an integral cylindrical extension 47, which projects downwardly through the ring-shaped member 41. This extension 47 may be fitted within and is secured by any suitable means to a neck 48 which extends upwardly from the top of a hood member 49 which is preferably dome-shaped, being open at its lower end, as at 50, Fig. 3. The lower edge of the hood member 49 may be strengthened or reinforced by a ring 51, having an outer upwardly extending annular flange 52 which may be secured to the outer surface of the hood 49, the ring having an inner, upwardly extending annular flange 53. The hood 49 may be adjusted in a vertical arc by arranging it about the trunnions 42 and 43. Any desired angular position of the hood 49 may be maintained by manually rotating a hand wheel 54 at the outer end of the trunnion 43 so as to cause a tight frictional fit between the end of the trunnion 43. A washer 55 may be mounted in an annular groove 56 on the trunnion 43 within the ring-shaped member 41.

The present invention provides means for causing air to be drawn upwardly through the hood 49. The means for causing the air to be drawn to the desired location comprises a fan housing 57 which is suspended from the lower surface of the plate 7, Figs. 1, 5, 6 and 7. The fan housing 57 may be secured to the plate 7 by means of fasteners 58 which pass through corresponding lugs 59 at the upper end of the fan housing and thread into the plate 7, Fig. 7. The fan housing 57 comprises a curved vertical wall 60 which is integrally joined at its lower edge to a bottom 61. The fan housing 57 is preferably mounted eccentrically with respect to the frustro-conical depression 8 in the plate 7, as shown in Fig. 6. The fan housing 57 has communication with, and is joined integrally to an outwardly projecting tubular extension 62. The outer end of the extension 62 may be tightly fitted within one end of a tube or duct 63, the other end of the duct 63 passing through a suitably shaped exhaust opening 64 in a cylindrical plate 65, which completely encircles the base portion of the hair drier and serves as a housing for the base of the drier. The outer end of the duct 63 may be provided with an integral flange 66 which may be secured to the plate 65 by any suitable means, such as by screws 67.

A motor support bracket member 68, Figs. 1 and 7, may be suspended from the bottom wall 61 of the fan housing 57. This bracket 68 embodies an upper C-shaped plate 69, which is integrally connected to a downwardly projecting arm 70. A pair of integral longitudinal flanges 71 project outwardly from the opposite sides of the arm 70, and an electric motor 72 for a fan is preferably mounted in a vertical position on the flanges 71 by means of bolts 73. A hub 74 at the upper end of the electric motor 72 projects upwardly through a circular opening 75 which is formed in the bottom wall 61 of the housing 57 for a fan 76.

The fan 76, which is in the form of a squirrel

cage, is bolted to the upper end of the shaft 77 of the motor 72. The fan 76, Figs. 6 and 7, comprise a circular bottom plate 78 to which a plurality of vertically disposed blades 79 are fastened at their lower ends, the upper ends of the blades 79 being secured to the lower surface of an annular shaped plate 80. The motor 72 is mounted on the bracket 68 so that its shaft 77 and the fan 76 are in axial alignment with the opening 9 in the frustro-conical depression 8 of the plate 7. An outer annular groove 81 may be provided at the lower end of the frustro-conical depression 8 so that the upper annular plate 80 on the fan member 76 will properly encircle the lower end of the depression 8. A resilient member 82 may be inserted between the motor hub 74 and the bottom plate 61 of the fan housing 57 so as to provide a leak-proof, hermetically sealed joint. A grille or louver plate 83 may be positioned over the air exhaust opening 64 at the end of the duct 63 so that a child or other person may not force his arm through the duct 63 and have his hand or arm caught by the revolving fan 76.

The operation of the air suction system is such that when the motor 72 is operated, the fan 76 will revolve at a high rate of speed and draw air upwardly into the hood 49. The air passing upwardly through the hood 49 travels through the bellows 46, the elbow 36, the tube 35, the elbow 34, the neck 16, the cylinder 10 and thence downwardly through the opening 9 in the depression 8, and then into the fan housing 57 where it is finally discharged outwardly through the duct 63.

It is highly desirable that heat be employed in drying hair; therefore, means are provided to create heat at the proper temperature. Heat is generated by a fluid circulating system which is disclosed principally in Figs. 1 and 12. This fluid system embodies a tank 84 which is C-shaped in cross section, the tank being secured at its top, by any suitable means, to the lower surface of the plate 7, and having a conventional pump 85 (Fig. 11) mounted therein. The pump may be suspended from the top wall of the tank 84 by means of a bracket 86, which may be secured thereto by means of machine screws 87. An inlet port 88 and a discharge outlet 89 are provided for the pump. The discharge outlet 89 is connected to, and communicates with, the lower end of a hollow tube 90 which extends upwardly therefrom, the upper end of the tube 90 being connected to, and having communication with, one side of a check valve 91. The other side of the check valve 91 is connected to, and has communication with, the inlet end of a length of tubing 92 which is formed into a coil 93. The coil 93 surrounds or jackets an electrically operated resistance heating element 94 which extends throughout the entire length of the coil. The other end of the tubing 92 has communication with a suitable coupling member 95. The coupling member 95 is joined to one end of an extended length of tubing 96 which spirals upwardly through the neck 16, and then passes through the tube 29, around the elbow 34, and half way through the tube 35, where it may connect to and communicate with one side of a coupling member 97.

The other side of the coupling member 97 connects to and communicates with a length of tubing 98 which extends through the other half of the tube 35, through the elbow 36, and thence downwardly through the bellows 45 into the hood 49. After entering the hood 49, the tubing 98 extends downwardly along the inner surface of the hood to a point adjacent the reinforcing ring 51. The tubing 98 is then formed into a tight closed coil 99, which progresses upwardly against the inner surface of a heat insulating member 100 secured by any suitable means to the inner surface of the hood member 49. The tubing 98 then returns by passing through the bellows 45, the elbow 36, and into the tube 35 where it may be connected with one side of a coupling member 101. The other side of the coupling member 101 may be connected to an extended length of tubing 102. The tubing 102 passes through the remainder of the tube 35, through the elbow 34, and then spirals downwardly, as at 103, through the tube 29, whereupon it passes through the neck 16 and the tube 10 where it finally joins at its other end with a coupling member 104, which passes through the wall of the latter tube. This coupling member 104 has communication with a tube 105 which extends downwardly into the tank 84.

The tank 84 may be filled with any suitable liquid, preferably water, by pouring the liquid into a funnel 106, which is joined at its lower end to one side of a manually operated valve 107. The other side of the valve 107 is connected to the tube 90, which extends upwardly from the discharge outlet of the pump 85. The valve 107 is normally closed during operation of the drier and is opened only when it is necessary to pour liquid into the tank 84 by way of the funnel 106.

The pump 85, Fig. 11, may be operated by means of an electric motor 108, which is coupled to an impeller 109. The motor 108, when operated by means of an electric control circuit hereinafter described, causes the impeller 109 to rotate, whereby liquid is drawn in through the inlet port 88 from the tank 84 and is discharged outwardly from the discharge outlet 89. As the liquid arriving from the discharge outlet 89 progresses through the coil 93, it is heated by means of the electric heating element 94. The heating element 94 produces sufficient heat to cause the liquid passing through the coil 93 to change into the vapor phase before it leaves this coil. The resulting vapor, after leaving the coil 93, passes upwardly through the tubing 96 and ultimately downwardly into the coil portion 99 in the hood 49, where it is gradually and progressively cooled by air which has been drawn over the coils by the suction system described heretofore. As the vapor in the coil 99 is cooled, it is condensed and changes back into the liquid phase. During the condensation process, the liquid gives off a latent heat of condensation, thereby causing the interior of the hood 49 to be warmed to a proper degree. After the condensed liquid passes through the coil 99, it returns through the tubings 98 and 96 by the path heretofore described. The check valve 91 prevents the vapor, which might be at considerable pressure, from forcing the liquid through the pump 85 in a reverse direction.

The pump 85 is preferably hermetically sealed within the tank 84 so that the pump effectively operates in a closed pressure system. The work done by the pump is mainly, therefore, in pumping the liquid upwards against a gravity head. Furthermore, since the liquid is circulating through a closed system, the same liquid may be used continuously over a long period of time without the necessity of replacement.

The present hair drier embodies novel means for controlling the upper and lower temperature limits of the liquid and vapor in the fluid circulating system. This temperature control means

embodies a bimetallic strip 110, which may be fastened at one end to a lug 111, this lug being secured to the inner surface of the lower wall 14 of the casting 13. The strip 110 is preferably positioned so that it is normally against the bottom of the tubing coil 93.

An electric switch 112, which is provided to control the operation of the heating element 94 and the pump motor 108, is positioned below the strip 110. This switch 112 is preferably of the sensitive type, that is, its contacts may be opened by the application of a very small force. The switch 112 has a movable operating pin 113 which projects upwardly therefrom and is adapted to be operated by the strip 110 to operate the switch. The free end of the strip 110 is positioned directly above the switch operating pin 113 so that when the strip 110 is warmed by means of heat transferred from the tubing coil 93, the bimetallic strip 110 bends downwardly as a cantilever, and, at a predetermined temperature, its free end engages the pin 113 to open the contacts of the switch 112.

The electrical operation of the present invention may be best understood by referring to Fig. 13, which shows the manner in which the various electrical parts of the invention are related. A pair of conductors 114 and 115 are each electrically connected at one end to a suitable source of electric power 116 (not shown schematically). The conductor 114 is electrically connected at its other end to one terminal of the fan motor 72, while the conductor 115 is connected at its other end to one contact of a switch 117. The other contact of the switch 117 is electrically connected, by means of a suitable conductor 118, to the other terminal of the fan motor 72.

The pump motor 108, Fig. 11, and the electric heating element 94, Fig. 7, are electrically connected in parallel. One of the two common terminals is electrically connected to the conductor 114 by means of a sutiable conductor 119. The other of the two common terminals is electrically connected, by means of a suitable conductor 120, to one contact of the switch 112, the other contact of the switch 112 being electrically connected, by means of a suitable conductor 121, to the conductor 118. The contacts of the switch 112 are opened and closed by movement of the bimetallic strip 110.

The hair drier may be used by first properly positioning the hood 48 about a person's head so that the head is positioned within the hood. The switch 117, which may be mounted on the tapered wall 15 of the funnel-shaped casting 13 (Fig. 2), is then closed manually, thereby causing electric power to be applied to the fan motor 72, the pump motor 108, and the resistance heating element 94. The fan member 76 rotates to draw air upwardly into the hood 49 and around the person's head and over the hair. As air is drawn into the hood, it passes over the coil 99 and is heated, this heated air causing a pleasant drying action and is not excessive, as is usual with conventional hair driers. A preferred embodiment of the present invention has been designed so as to draw air into the hood 49 and across the coil 99 at a velocity which simulates air conditions which might be encountered on a pleasant summer day. The hair drier operates at a proper predetermined temperature within close temperature ranges. Should the liquid and vapor being forced through the fluid circulating system reach a predetermined high temperature range, the bimetallic strip 110 will bend downward a sufficient distance to open the contacts of the switch 112, thereby causing the pump motor to stop and permit the electric heating element to cool. The bimetallic strip 110 will bend upwardly as the liquid and vapor cool, and when a predetermined low temperature is reached, the switch 112 will close to apply electric power again to the pump motor 108 and to the heating element 94. The temperature range is such that the maximum temperature reached will not be excessive but will be pleasant and comfortable to the person. Also, the minimum temperature is such that it will always maintain the proper drying characteristics.

The invention provides a hair drier which is thermostatically controlled and employs an electrical system which permits the drying temperature to be maintained at an even temperature within a narrow range. The device provides an efficient air suction system for drawing air upwardly into the hood and about a person's head so that the person may experience pleasant, comfortable hair drying action. Adjusting apparatus which may be operated easily is provided so as to position the hood properly about a person's head. The drier may be assembled and dismantled easily and rapidly and is strong and durable in construction. The device is extremely efficient in operation, may be operated inexpensively, and its parts will not get out of order easily.

Changes may be made in the form, construction and arrangement of the parts without departing from the spirit of the invention or sacrificing any of its advantages, and the right is hereby reserved to make all such changes as fall fairly within the scope of the following claims.

The invention is hereby claimed as follows:

1. A hair drier comprising a hood adapted to be applied over the head of a person, said hood being of a size larger than a person's head so as to provide a space about the head interiorly of the hood, a suction pipe line communicating with the interior of the hood, suction means for creating a suction in said hood to draw air into the hood through the said space, an expansible bellows-like member interposed between the hood and the pipe line to permit vertical adjustment of said hood, a fluid circulating coil in said hood, and means extending in said suction pipe line for circulating a fluid in said coil, including a fluid pipe connected with said coil, said pipe extending in said suction pipe line and having a helical coil to accommodate movement of said hood with respect to said suction pipe line.

2. A hair drier comprising a hood adapted to be applied over the head of a person, said hood being of a size larger than a person's head so as to provide a space about the head interiorly of the hood, a suction pipe line communicating with the interior of the hood, suction means for creating a suction in said hood to draw air into the hood through the said space, a heating coil disposed interiorly of said hood, means to circulate a heating fluid through said coil, and thermostatically controlled means to control the operation of said last named means.

3. A hair drier comprising a hood adapted to be placed about the head of a person, means for circulating air through the hood, a coil interiorly of said hood, a liquid supply tank to which said coil is connected, heating means to heat liquid in said tank to convert the liquid into steam, means to force the steam so converted into said

coil to heat said coil, and thermostatic means for controlling the operation of said heating means.

4. A hair drier comprising a hood adapted to be placed about the head of a person, means for circulating air through the hood, a coil interiorly of said hood, a liquid supply tank to which said coil is connected, heating means to heat liquid in said tank to convert the liquid into steam, circulating means to force the steam so converted through said coil, to heat the same, and thermostatic means for controlling the operation of said heating and circulating means.

5. A hair drier comprising a hood adapted to be placed about the head of a person, a coil interiorly of said hood, a liquid supply tank to which said coil is connected, heating means to heat liquid in said tank to convert the liquid into steam, means to force the steam so converted through said coil, to heat the same, means to prevent operation of the heating means when the temperature in the coil reaches a predetermined value, and means operable to circulate air in said hood.

6. A hair drier comprising a hood adapted to be placed about the head of a person, a coil interiorly of said hood, a liquid supply tank to which said coil is connected, heating means to heat liquid in said tank to convert the liquid into steam, means to force the steam so converted through said coil, to heat the same, means to prevent operation of the forcing means when the temperature reaches a predetermined value, and means operable to circulate air in said hood.

7. A hair drier comprising a hood adapted to be placed about the head of a person, a coil interiorly of said hood, a liquid supply tank to which said coil is connected, heating means to heat liquid in said tank to convert the liquid into steam, means to force the steam so converted through said coil, to heat the same, means to prevent operation of the heating means when the temperature in the coil reaches a predetermined value, and to prevent operation of the forcing means when the temperature reaches a predetermined value, and means for creating a suction in said hood.

8. A hair drier comprising a hood adapted to surround the head of a person, a pipe line leading to said hood, a flexible element interposed between said hood and said pipe line, a coil in said hood, a supporting stand for said pipe line, means to adjust said pipe line vertically, a tank containing liquid in said stand, heating means to heat the liquid to produce steam, a hollow feed tube in said pipe line leading from the tank to the coil whereby the coil will be heated by the steam produced, a pump in said stand to force steam through said tube, and a return tube connected to the coil and leading to said tank.

9. A hair drier comprising a hood adapted to surround the head of a person, a pipe line leading to said hood, a flexible element interposed between said hood and said pipe line, a coil in said hood, a supporting stand for said pipe line, means to adjust said pipe line vertically, a tank containing liquid in said stand, heating means to heat the liquid to produce steam, a hollow feed tube in said pipe line leading from the tank to the coil whereby the coil will be heated by the steam produced, a pump in said stand to force steam through said tube, a return tube connected to the coil and leading to said tank, and thermostatic control means to cause the heating means and the pump to become inactive when the coil reaches a predetermined maximum temperature.

10. A hair drier comprising a hood adapted to surround the head of a person, a pipe line leading to said hood, a flexible element interposed between said hood and said pipe line, a coil in said hood, a supporting stand for said pipe line, means to adjust said pipe line vertically, a tank containing liquid in said stand, heating means to heat the liquid to produce steam, a hollow feed tube in said pipe line leading from the tank to the coil whereby the coil will be heated by the steam produced, a pump in said stand to force steam through said tube, a return tube connected to the coil and leading to said tank, and thermostatic control means to cause the heating means and the pump to become inactive when the coil reaches a predetermined maximum temperature, and to cause said heating means and said pump again to become active when the coil reaches a predetermined minimum temperature.

11. A hair drier comprising a hood adapted to surround the head of a person, a pipe line leading to said hood, a flexible element interposed between said hood and said pipe line, a coil in said hood, a supporting stand for said pipe line, means to adjust said pipe line vertically, a tank containing liquid in said stand, heating means to heat the liquid to produce steam, a hollow feed tube in said pipe line leading from the tank to the coil whereby the coil will be heated by the steam produced, a pump in said stand to force steam through said tube, a return tube connected to the coil and leading to said tank, thermostatic control means to cause the heating means and the pump to become inactive when the coil reaches a predetermined maximum temperature, and to cause said heating means and said pump again to become active when the coil reaches a predetermined minimum temperature, and suction means in said stand to create a suction in said pipe line and consequently in said hood.

12. A hair drier comprising a hood adapted to surround the head of a person, a pipe line leading to said hood, a flexible element interposed between said hood and said pipe line, a coil in said hood, a supporting stand for said pipe line, means to adjust said pipe line vertically, a tank containing liquid in said stand, heating means to heat the liquid to produce steam, a hollow feed tube in said pipe line leading from the tank to the coil whereby the coil will be heated by the steam produced, a pump in said stand to force steam through said tube, a return tube connected to the coil and leading to said tank, thermostatic control means to cause the heating means and the pump to become inactive when the coil reaches a predetermined maximum temperature, and to cause said heating means and said pump again to become active when the coil reaches a predetermined minimum temperature, a motor driven blower in the stand to create suction in said pipe line and consequently in said hood.

13. A hair drier comprising a hood adapted to surround the head of a person, a pipe line leading to said hood, a flexible element interposed between said hood and said pipe line, a coil in said hood, a supporting stand for said pipe line, means to adjust said pipe line vertically, a tank containing liquid in said stand, heating means to heat the liquid to produce steam, a hollow feed tube in said pipe line leading from the tank to the coil whereby the coil will be heated by the steam produced, a pump in said stand to force steam through said tube, a return tube connected to the coil and leading to said tank, thermostatic control means to cause the heating means and

the pump to become inactive when the coil reaches a predetermined maximum temperature, and to cause said heating means and said pump again to become active when the coil reach a predetermined minimum temperature, a motor driven blower in the stand to create suction in said pipe line and consequently in said hood, said stand having an opening therein to provide an exhaust for said blower and a grille over said opening.

14. A hair drier comprising a shell forming a hood adapted to be applied over the head of a person, a liner of heat insulating material within the shell, a coil disposed interiorly of said hood and within said liner, said coil comprising a series of turns sized to conform the coil as a whole to generally dome-like shape, means to circulate a fluid heating medium through said coil to heat the same, said shell, liner and coil being sized to provide a space about the head of a person, within the coil, and means communicating with

the hood for circulating air through the said space within the hood.

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