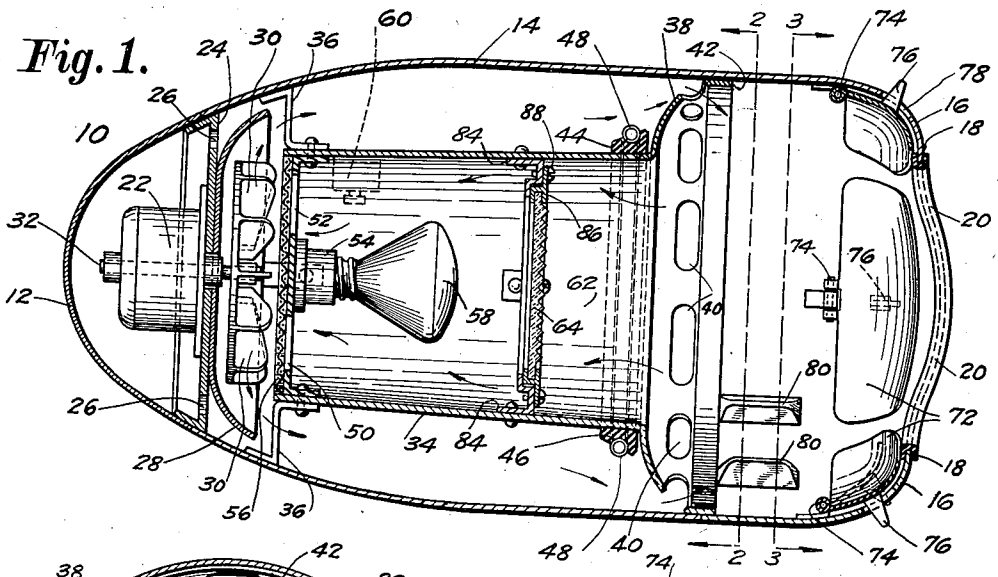
Aug. 25, 1942. A. B. COLBORN 2,293,803

HAIR DRIER

Filed Aug. 14, 1940

Fig. 1.



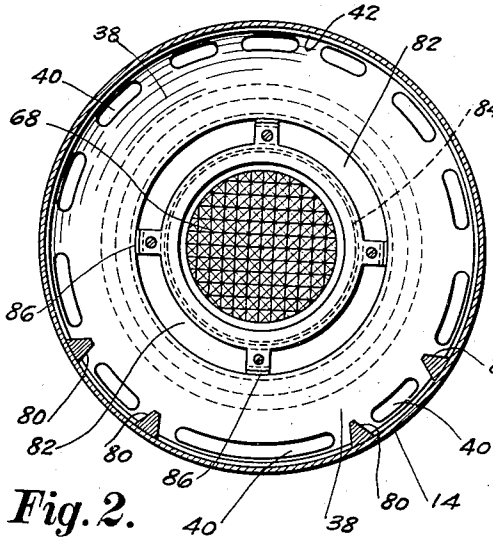


Fig. 2.

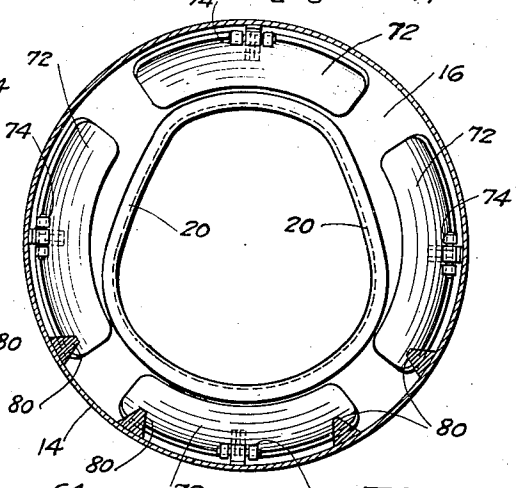


Fig. 3.

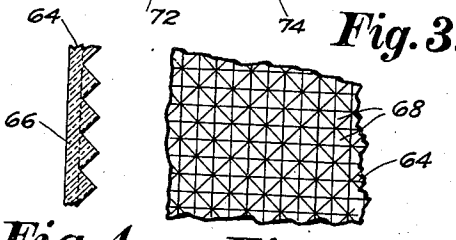


Fig. 4. Fig. 5

Inventor

A. B. Colborn

By

Arthur H. Sturges

Attorney

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HAIR DRIER

Albert B. Colborn, Omaha, Nebr.

Application August 14, 1940, Serial No. 352,527

5 Claims. (Cl. 34—100)

This invention relates to the hair dressing art and more particularly to hair driers.

It is an object of the invention to provide a device which drys hair more rapidly and economically than heretofore whereby the time required for a customer to remain under a hair drier is appreciably less than heretofore.

Another object of the invention is to provide a device for the above stated purposes which is substantially noiseless in operation and trouble-free.

A further object of the invention is to provide a device for the above stated purposes having an infra-red ray generator therein for causing hair to be intimately disposed with respect to said rays for the therapeutic value thereof.

A still further object of the invention is to provide means for causing said infra-red rays to become evenly diffused and distributed over a head of hair.

Other and further objects and advantages of the invention will be understood from the following detailed description thereof.

In the drawing

Figure 1 is a longitudinal section of the new device.

Figure 2 is a transverse section thereof taken on line 2—2 of Figure 1.

Figure 3 is a similar section taken on line 3—3 of Figure 1.

Figure 4 is a section of a fragment of a prismatic glass light diffusing member employed.

Figure 5 is a plan view of said fragment.

Referring now to the drawing for a more particular description 10 indicates generally a housing-frame having a closed upper conical end 12 and a side wall 14 which is annular in cross section. As best shown in Figure 1, the lower end of the side wall 14 is provided with an inwardly dished annular portion 16 provided with an axially disposed opening, the annular edge 18 of which is provided with a rubber guard 20, the latter being U-shaped in cross section and having a contour in plan closely approximating a head of a torso.

In use the housing 10 is vertically disposed and supported by means of a floor standard, not shown, said housing being adjustably attached to said standard whereby the comparatively heavy new device may be adjustably supported with respect to the head of a person seated in a chair during hair drying operations.

In use the upper portion of said person's head is disposed within said axially disposed opening at the lower end of the housing in a manner whereby the sides of the head adjacent the nape of said person's neck is in close proximity to the annular guard 20 and without said guard necessarily being in contact with said nape or forehead of said person.

Within the dome or conical end 12 of the housing an electrical motor 22 is provided, said motor being carried by a transversely disposed supporting-plate 24, the latter being secured to the inner surface of said dome by any suitable means. The supporting-plate 24 is provided with a plurality of annularly disposed apertures 26 for permitting air to circulate about the motor 22 for preventing the latter from overheating during use, a plurality of small holes, not shown, being preferably provided in said dome for a passage of air outwardly of said dome from said motor for further protecting the latter.

That side of the plate 24 which is opposite with respect to the motor is provided with a cup-shaped air deflector 28 for causing air sucked into said deflector by suction fan blades 30 to be distributed as later described. The blades 30 are radially disposed with respect to and connected with the motor shaft 32.

Axially disposed within the housing 10 a sleeve 34 is provided. The sleeve 34 is normally open at each of its ends, being supported in the said position at its upper end by suitable brackets 36. The lower end of the sleeve is spaced away from the guard 20 and provided with an outwardly flared annular portion 38 whereby the lower end of the member 34 is of approximate bell-shape in cross section, said flared portion being provided with a suitable plurality of annularly disposed elongated apertures 40 for air passageway purposes. The lower edge 42 of said portion 38 is secured to the inner surface of the side wall 14 by any suitable means.

A collar of insulation 44 is disposed about the sleeve 34 adjacent the flared portion 38 thereof, said collar being provided with an annularly disposed recess 46 for receiving therein a coiled electrical resistance element 48 for heat generating purposes, the latter being disposed approximately entirely about said collar for providing an even distribution of heat within said housing. If desired a rheostat, not shown, may be included in the circuit for the coil 48 for regulating the output of heat by said coil.

Across and within the upper end of the sleeve 34 a web 50 is provided, having a plurality of openings 52 for permitting passage of air therethrough. The web is secured to the sleeve 34 by any suitable means for supporting an electrical

socket 54, the latter being axially disposed with respect to said sleeve and device.

A foraminous screen 56 is disposed across the upper end of the cylinder 34, said screen being also supported by the web 50 for preventing loose hairs and the like from circulating and particularly from becoming coiled about the shaft 32 of said motor.

Preferably an infra-red-ray electrical lamp bulb 58 is threadedly and removably secured to the socket 54. An infra-red-ray bulb is preferred since a comparatively small bulb in bulk is adapted to generate a comparatively large amount of intense heat. Also a bulb such as is used in connection with the constructions and processes described in Patents No. 1,998,615; and No. 2,057,776 and somewhat described in said patents has been found in actual practice of the present invention to be satisfactory, since said bulbs generate a large amount of heat in proportion to bulb bulk and also generate rays in the near infra-red-color scale of the spectrum. The resistance coil 48, the infra-red bulb 58 and motor 22 are in communication with a suitable source of electrical energy during use, certain electrical switches preferably employed, not being shown.

The intensity of the infra-red-rays generated and emanating from the bulb 58 may be regulated by a rheostat 60 which is preferably included in the electrical circuit employed for actuating the lamp 58 for different types and styles of hair dressing operations.

A lamp-bulb such as the bulb 58 may be purchased on the open market, being so shaped that the comparatively intense light-heat-rays emanating therefrom become directed primarily axially with respect to the sleeve 34 and means are employed for causing said rays to be diffused and evenly spread over the cross sectional area of the interior portion 62 of the sleeve 34, said means including a sheet or disk preferably of glass 64 having a smooth side surface 66 disposed toward the heating lamp 58 and an oppositely disposed side surface provided with a plurality of prisms 68 which cause said heating rays to be diffused evenly upon a head of hair disposed within the device during hair drying and treating operations. Said sheet of glass shields a head of hair during said operations and is removable for permitting exchanging of one heat generating bulb for another at desired times, said sheet or disk being transparent and provided with an annular ferrule 86 which is secured to the supporting bracket 84 in a removable manner by means of screws or similar keepers 88.

The annular dished portions 16 of the side wall 14 is provided with a plurality of reflectors 72 which are pivotally mounted as at 74 to said dished portion, the pivot pins thereof being of snug fit whereby said reflectors are adjustably held in a selected position. Each reflector is preferably concavo-convex in cross section and is provided with a tang 76 which extends through an adjacent aperture 78 provided through the dished portion 16 of said side wall whereby an operator may adjust the angle of inclination of said reflectors with respect to the light rays diffused by the prisms 68 from the lamp 58 and with respect to the shape of the head of hair being dried for causing light rays gathered by said reflectors to be applied to the sides of a head of hair and below the crown of a head disposed within the device.

The device further preferably includes baffle plates 80, four thereof being preferably employed. The baffle plates are secured by any suitable means to the inner surface of the annular side wall 14 and adjacent to the lower edge 42 of the flared portion 38 of the sleeve 34 and in a position whereby the baffle plates 80 are disposed at the back of the head of a person during hair drying operations for deflecting and causing air currents to circulate among the hairs of said head portion.

In operation and assuming that the rheostat 60 is suitably adjusted for regulating said normally intense heat-rays and the motor 22 is in communication with a source of electrical energy for driving the fan blades 30, the latter cause air to be drawn into and through the sleeve 34 in the direction of the arrows, as shown in Figure 1, said air passing the annular edge of the sheet of glass 64 and through the openings 82 of the supporting bracket 84 for said sheet of glass. The bracket 84 is secured to the inner annular surface of the cylindrical member 34 by any suitable means. The air which is caused to ascend through the sleeve 34 and through said openings 82 passes through the screen 56, becoming deflected by the member 28 and diverted outwardly and downwardly into the space or passageway between the sleeve 34 and the inner surface of the annular side wall 14, said air passing through the apertures 40 of the flared portion 38 of the member 34, said air currents coming in contact with said head of hair. Fresh air is drawn into the device through the mouth thereof adjacent the rubber guard 20 and some air is expelled through said mouth during use.

The rubber ferrule guard 20, as best shown in Figure 3, is so shaped in plan that it closely approximates a head of hair and during the said circulation of air the baffle plates 80 cause said currents of air to whirl for causing air to impinge at the back of a head of hair and at the lower edge of said head of hair for drying the latter.

It is well known that an exposure to infra-red-rays will dry synthetic enamels and lacquers in from 5 to 15% of the time formerly required; that infra-red lamps employ the radiant energy in the near infra-red region of the spectrum, whereby said infra-red rays cause a head of hair to dry in an appreciably lesser period of time than heretofore required, said rays being evenly diffused over a head of hair by means of the prisms 68 of the glass 64. Also most any electrical light bulb generates a normal portion of said red rays with respect to rays of other colors of the spectrum. During a circulation of air intimately with said rays said air becomes also advantageously heated for hair drying purposes. The reflectors 72 are caused to be disposed towards each other more or less in accordance with the shape, style or bulkiness of a head of dressed hair for causing said infra-red-rays to be correspondingly applied.

Among other advantages of the invention it is pertinent to state that where infra-red-rays are within said sleeve, said rays are penetrating whereby the roots of hairs are stimulated by means of the present invention and sanitary treatment of hair provided during a hair drying use thereof.

The bulb 58 is preferably of comparatively small wattage provided that the heating coil 48 is employed for certain styling of a mass of hair whereby a compact device is permitted without the employment of a bulb of large wattage which

if close to the scalp might tend to dry the latter unduly.

It has been found in actual practice that a head of hair may be dried without disturbance of the style of dressing thereof in a fraction of the time heretofore required, since in instances where a mass of hair is formed approximately semi-globular in outline, the portions of said mass which are not in alignment with the rays from the heating bulb are heated and dried by the employment of the reflectors uniformly and simultaneously with hairs of the said mass at the crown of the head, the speed of the operation being also governed, in part, by the amount of heat employed.

From the foregoing description it is thought to be obvious that a hair dryer constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and used, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish it to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as claimed.

I claim:

1. A hair drier comprising an elongated housing having an open end, a sleeve within and disposed away from the wall of said housing for providing a passageway between said wall and sleeve, one end of said sleeve being disposed away from said open end for permitting reception of a head of hair of a person within said housing between said open end and sleeve, means for circulating air through said sleeve and passageway over said hair, an electrical bulb disposed within and adjacent the other end of said sleeve, a plurality of reflectors within said housing disposed adjacent the open end thereof, said bulb being adapted to project comparatively intense heat rays upon said reflectors and the upper portions of said head of hair, said reflectors being of concavo-convex contour in cross section for directing said heat rays upon those portions of said head of hair which are disposed at the sides of said head adjacent the nape of the neck of said person, and a shield within said sleeve disposed between said bulb and head of hair for preventing an undue application of heat to the crown of said head, said shield being substantially transparent for permitting said rays to be reflected adjacent said nape for applying a substantially uniform degree of heat to all portions of said head of hair during a hair drying operation, said reflectors being disposed annularly and pivotally attached to the wall of said housing, for directing said heat rays complemental to a selected position of said reflectors with respect to said head of hair.

2. A hair drier as defined in claim 1 in which the shield thereof further includes a surface provided with a plurality of prisms for diffusing and spreading said rays substantially evenly toward said open end of said housing.

3. In a hair drier, a housing having an open end for receiving a head of hair therein, a plurality of swingable reflectors pivotally attached to and within said housing adjacent said open end, and an electrical light bulb within said housing adjacent the other end thereof for projecting heat rays upon the upper portions of said head of hair, certain of said rays being adapted to be projected by said reflectors upon lower portions of said head of hair complemental to a preselected position of said reflectors.

4. In a hair drier, a housing having an open end for receiving a person's head of hair therein, a plurality of reflectors attached to and within said housing adjacent said open end, an electrical light bulb within said housing adapted to project heat-rays upon portions of said hair which are in alignment with said rays and upon said reflectors, said reflectors being arranged to project certain of said rays upon other portions of said hair and a shield disposed between said bulb heat-ray source and said head of hair for preventing the crown of said person's head from becoming uncomfortably heated during a hair drying operation, said shield being of transparent material for permitting said reflectors to cooperatively project heat-rays for a substantially uniform drying of said hair.

5. In a hair drier, a housing having an open end for receiving a person's head of hair therein, an electrical light bulb within and adjacent the other end of said housing, said bulb being adapted to project comparatively intense light-heat-rays upon said hair for a speedy drying thereof, means for preventing the crown of said person's head from becoming uncomfortably heated during a hair drying operation, said means comprising a transparent disk disposed between said bulb and head of hair, said disk being provided with a multiplicity of prisms for spreading said rays over said crown, and a plurality of reflectors within said housing adjacent the open end of the latter, said reflectors being disposed annularly and pivotally attached to the wall of said housing, for directing certain of said rays complemental to a selected position of said reflectors with respect to said head of hair.

ALBERT B. COLBORN.