Feb. 28, 1933. G. W. PETERSON 1,899,352

HAIR DRYING APPARATUS

Filed Aug. 3, 1931 2 Sheets-Sheet 1

Fig. 1.

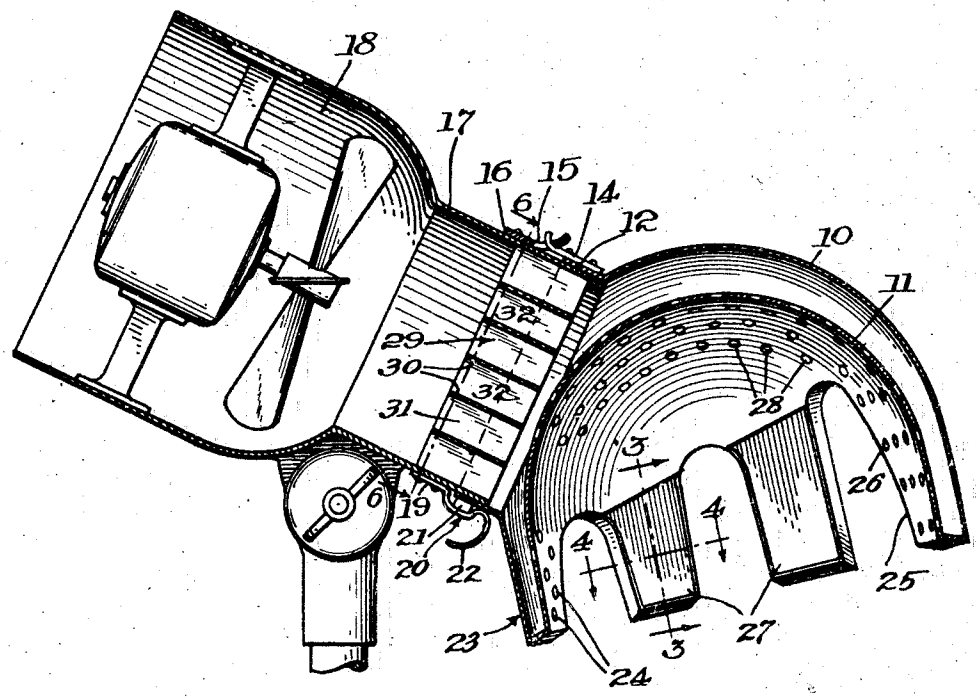

Fig. 2.

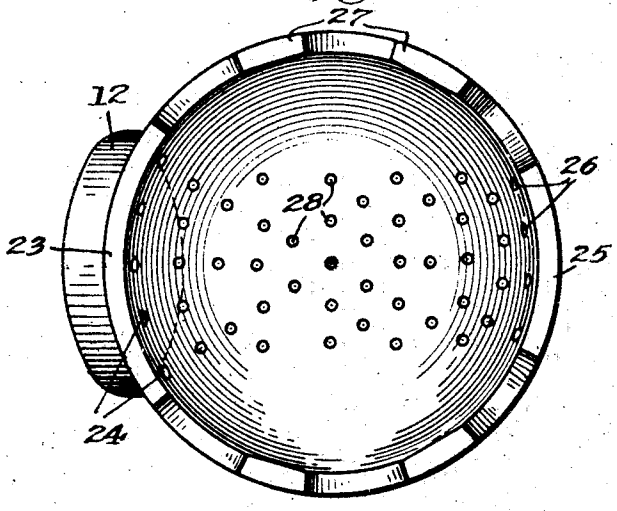

Fig. 3.

Fig. 4.

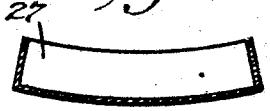

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Fig. 5.

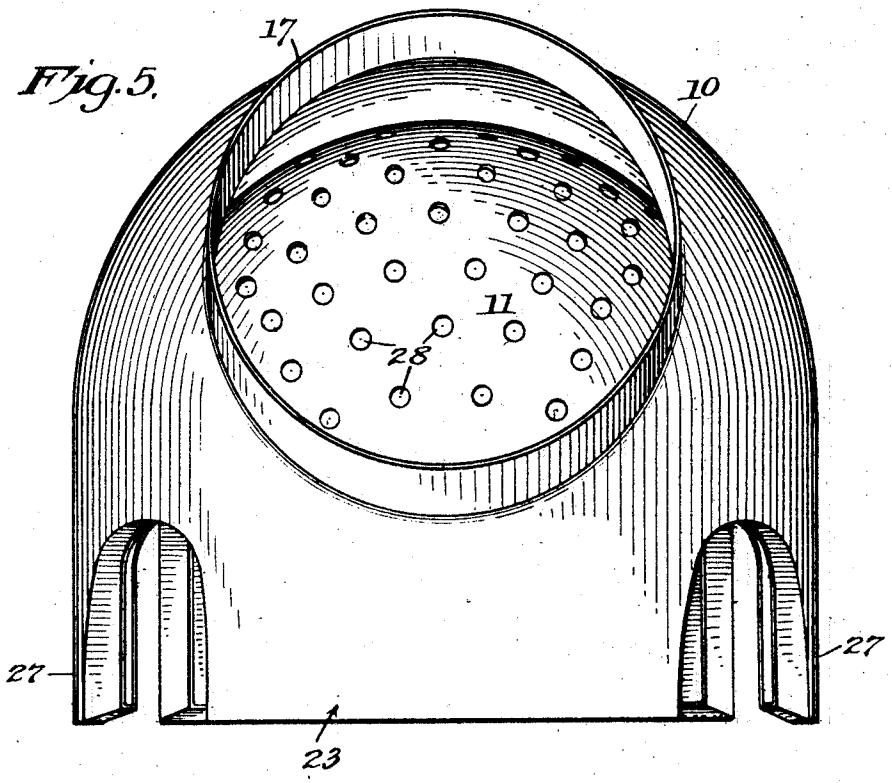
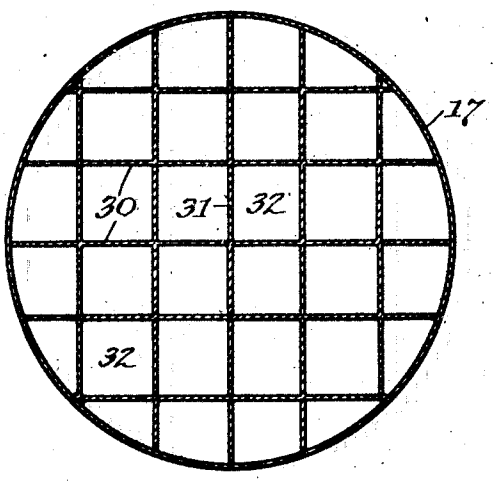


Fig. 6.



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UNITED STATES PATENT OFFICE

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HAIR DRYING APPARATUS

Application filed August 3, 1931. Serial No. 554,829.

My invention relates to hair drying apparatus, and has for an object the provision of new and effective means for causing relatively different volumes of dry air to be distributed against the head in such manner that a complete drying of the more profuse quantities of hair, such as at the back and at the sides of the head, may be satisfactorily effected within the same period of time that is required for a thorough drying of the hair at the top of the head or at other places where the growth of hair may be less.

A further object of the invention is to provide a drier employing an air distributor having means wherein the air from a source of supply will be acted upon at the immediate intake of the distributor in a manner to cause substantially equal portions thereof to pass to the respective discharge surfaces of the distributor.

A further object of the invention is to provide a drier of transparent material, such as glass or other suitable well known material, so that when same is positioned over the head of one whose hair is being treated the operator or attendant will be enabled to clearly observe at all times the action of the air upon the hair.

Another object of the invention is to provide a drier which will be noiseless when in operation and which will fit comfortably over the head of the user, and one which will be ventilated in a manner that will prevent objectionable over-heating of the drier while in use.

A still further object of the invention is to provide a drier wherein diffused air currents are induced at all points about the hair, and which said currents will come in violent conflict, and one wherein moist air will be rapidly expelled from the device and thereby permit of maximum drying efficiency within a minimum operating interval.

In the drawings,

Figure 1 is a vertical longitudinal section through the drier attached to a source of air supply, parts being shown in full lines;

Figure 2 is a bottom plan view of the drier;

Figure 3 is a section taken on line 3—3 of Figure 1;

Figure 4 is a section taken on line 4—4 of Figure 1;

Figure 5 is a view in elevation of the drier looking into the intake end thereof;

Figure 6 is a section taken on line 6—6 of Figure 1.

In carrying the invention into practice, use is made of a substantially parabolic outer body or shell 10 and an inner body or shell 11, which is substantially semi-spheroid in shape, the walls of the latter being spaced apart from the former. The outer shell or body is provided with an annular collar 12 which extends substantially at an acute angle to a perpendicular pedestal 13, and as illustrated, said collar is provided with a hinge lip 14 which is adapted to detachably receive the eye 15 of a hinge or attaching element 16 on the cylindrical extension 17 of a fan casing 18. At a diametrically opposite point upon the cylindrical portion 17 of the fan casing is a latch spring 19 having an effective latching portion 20 adapted to engage behind a lug 21 on the flange 12. The said latch spring 19 is formed with a finger engaging extension 22, which may be depressed to effect a release of the latch from the lug 21 when it is desired to remove the drier from said fan casing. It should be observed that the collar 12 is flared so as to provide a snug fit between the inner walls thereof and the external walls of the cylindrical portion 17 of the fan casing.

The walls of the shells 10 and 11 extend downwardly and forwardly to form an arcuate extension 23 which is adapted to be located about at the neck when the device is in use, and, as shown, the inner shell at this point is provided with perforations 24 which open onto the head so that streams of air may be applied against the hair. The extension 23 is closed at its bottom and at its sides, so as to prevent the escape of air at these points. At the front, the shells 10 and 11 are formed with a similar arcuate extension 25 which is adapted to be positioned at the front of the head. The inner shell at this point is provided with perforations 26, and, as illustrated, this extension is also closed at its bottom and at its sides so as to prevent escape

of air therefrom. This extension projects downwardly and forwardly in substantial agreement with the extension 23. At each side of the structure formed by the respective shells are disposed spaced apart depending extensions 27, there being preferably two of such extensions at each side of the structure. With respect to the last named extensions 27, same are somewhat different in construction from the extensions 23 and 25, and it will be observed that at the upper end of each thereof is the position of joinder of the inner shell therewith. In this manner, each of the extensions 27 is entirely open at its side which faces the head when the drier is applied. This is so that greater portions of dry air will be discharged from these extensions 27 than from any other portions of the drier. The crown of the spheroid 11 is provided with spaced-apart perforations 28 of suitable size, the same being preferably smaller than the perforations 24 in the extension 23.

It will be observed that the walls of the shells 10 and 11, at the extensions 23, 25 and 27, are substantially in parallelism and that each of these extensions opens into the space above the crown so that air delivered into the space from the intake end of the portion 17 of the fan casing will be distributed into the respective extensions for discharge therefrom onto the hair of the head. Due to the fact that a substantial portion at least of the outer shell 10 is substantially a parabola, while a substantial portion of the inner shell is substantially a spheroid, the space between the two shells gradually increases in a direction toward said intake end of the cylindrical portion 17 of said fan casing. Now, it will be observed that at the intake end of the portion 17 is an air diffuser 29, the same consisting preferably of flat strips 30 of suitable material, and similar flat strips 31, the latter associated with the former so that the respective strips define a plurality of substantially rectangular cells 32.

The fan casing 18 may be of any suitable well-known construction, preferably of the type employing a revolving motor driven fan by means of which a spiral current of air is forced in a forward direction or toward the diffuser. Were it not for the provision of this diffuser, the spiral current of air induced by an action of the fan would result in unequal distribution of air from the drier. With the diffuser, I am able to break up the current as induced by the fan, so that substantially equal portions of inflowing air will be distributed to the respective different outlets of the drier, and then because of the peculiar formation of the respective extensions 23, 25 and 27, the air will be distributed automatically in graduated quantities so that greater quantities will be discharged against those parts of the head where the hair is more profuse than at other parts. By spacing the walls of the shells 10 and 11 apart, as herein described, and by providing for graduated distribution of the air from respective portions of the drier, the velocity of the current as induced by the fan is not retarded to the extent that a whistling or hissing noise would result, and it is incident thereto that the drier is absolutely silent when in operation. It will be observed also that by the aforestated peculiar construction of the extensions 23, 25 and 27 outlet vents 33 are formed between the respective extensions, so that air laden with moisture will readily find escape from the drier. It manifestly follows, further, that because of the angle of distribution of the respective divided portions of the incoming air, the currents are brought more or less in violent conflict with each other as the air is discharged from the respective points of outlet. This induces a favorable drying action within the head receiving space of said drier. I have stated that the perforations formed in the extension 23 are preferably smaller than the perforations that are formed in the extension 25. I will now call attention to the fact also that the extension 23 is considerably larger than the extension 24, so as to extend pretty well around the neck and to expose the perforations where the air will be spent against profuse growth of hair.

I make no claim to any particular type of pedestal for supporting my drier, but it is desired that same be of a form that will permit the entire fan casing with the drier attached to be tilted, and it is also preferable that the pedestal be adjustable vertically to meet varying conditions when the drier is best adjusted over the head of a person.

While I have described my drier as preferably constructed of suitable well-known transparent material, glass of the proper kind being one example, I do not wish to limit myself in this respect. The device may be made of hard rubber and need not necessarily be transparent, or it may be made of metal. However, it is desirable that it be transparent, so that an attendant may observe from outside the exact working condition of the drier at all points about the head. This will enable the operator to control the speed of the fan at the source of air supply so that the intake of air to the drier may be regulated to suit varying conditions.

I claim as my invention:

1. In a hair drying apparatus, an open-bottomed double-walled structure, the walls of said structure being spaced apart from each other, each wall being substantially circular in horizontal section, means leading into the space between the walls for the admission of air to said space, one of said walls defining a chamber for the reception of the head of a person, the said structure having a plurality of spaced-apart depending extensions, each of said extensions being aper-

tured so as to establish communication between the aforementioned space and the said head receiving chamber, certain of said extensions being larger than others circumferentially of the walls of the said structure.

2. In a hair drying machine, an open-bottomed double-walled structure, the inner wall of the structure defining a head-receiving chamber, the said structure having a circumferential series of arcuate extensions at the lower portion of the structure, certain of said extensions being larger than others circumferentially of the structure, the inner wall of the structure being perforated to afford a lateral discharge of air into the head-receiving chamber at positions above the said extensions and at positions immediately at the extensions, and means forming a part of the structure adapted for connection in a source of air supply, as and for the purpose set forth.

3. In a hair drying machine, an open bottomed double wall structure, the walls of said structure being spaced apart from each other, the inner wall of the structure defining a hair-receiving chamber, the said structure having a circumferential series of air distributing extensions at the lower portion thereof, said extensions being in direct communication with the space between the said walls, the inner wall being perforated for the discharge of air into the head receiving chamber at points above said extensions, the respective extensions being provided with passages of different areas, the passages of greater areas being located in those extensions which embrace those portions of the head where the hair is more profuse, the said extensions being spaced apart from each other to provide intervening passages therebetween for the lateral escape of moist air from said head-receiving chamber, and means for admitting dry air to said chamber.

GUST WILLIAM PETERSON.