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(54) **Hairdryer apparatus connected to the user hands**

(57) A manual air jet hairdryer, capable of drying hairs so as to provide an effect simulating that of a natural hair drying is herein disclosed. To achieve this end, the hot air is directly ejected from air ejecting nozzles affixed to the palm portions of the two hands of the user. In particular, air exiting from the nozzles is at first heated by a thermal exchanger arranged immediately near the drying place. Air is conveyed from the thermal exchanger to the

user hands through a half-flexible hose, bearing on a floor, and then, through a flow switching element, through two flexible hoses which directly arrive at the two user wrists. The interexchangeable air nozzles can be designed either as directional nozzles or diffuser nozzles, in one, two or three spatial directions. For pressurizing air delivered to the nozzles, a conventional commercially available compressor can be used.

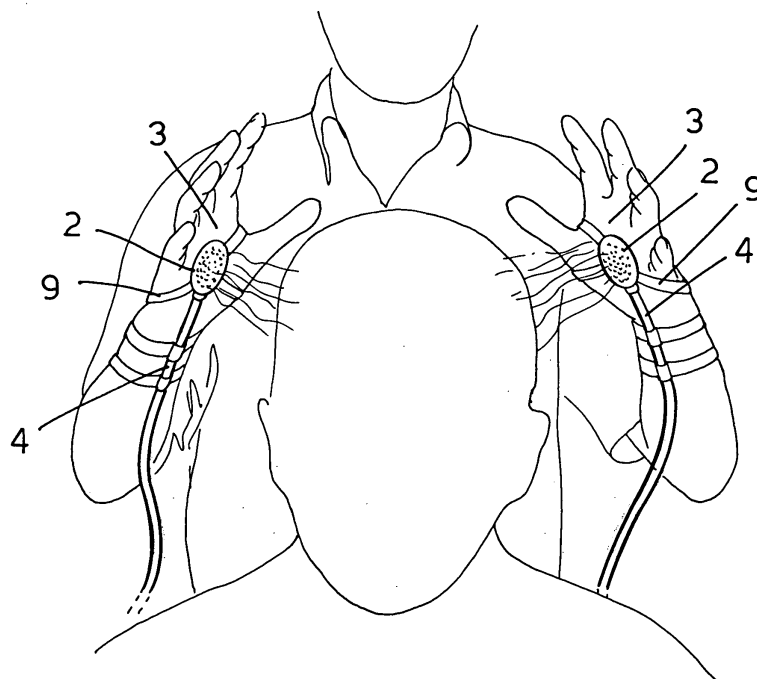


FIG 2

Description

BACKGROUND OF THE INVENTION

[0001] The present invention relates to a manual hair-dryer apparatus.

[0002] As is known, a conventional hairdryer is an electric apparatus comprising a box-like body including an air suction inlet, a hot outlet mouth, and a hairdryer handle.

[0003] The top portion of the box-like body comprises therein a suction portion, including a fan and an electric motor, and a heating portion including an electric resistance, consisting of a metal wire, for heating hair conveyed from the suction inlet, thereby delivering hot air through the outlet mouth.

[0004] Conventional hairdryers are used, in a professional type of application, by aiding the apparatus operation by suitable operations of a free hand, optionally gripping a comb or brush.

[0005] A skilled operator uses his/her hands for imparting to the hair a desired shape. However, in a conventional hairdryer apparatus, the handling possibility thereof is very limited, and an operator cannot fully exert his/her manual capabilities.

SUMMARY OF THE INVENTION

[0006] Accordingly, the aim of the present invention is to provide such a hairdryer apparatus which allows drying hair with a drying effect simulating a natural drying.

[0007] Within the scope of the above mentioned aim, a main object of the invention is to provide such a hair-dryer apparatus which has a very small weight and can be easily handled, even for a comparatively long period of time.

[0008] Another object of the present invention is to provide such a hairdryer apparatus which, owing to its specifically designed constructional features, is very reliable and safe in operation.

[0009] Yet another object of the present invention is to provide such a hairdryer apparatus, which can be easily made starting from easily available elements and material and which, moreover, is very competitive from a mere economic standpoint.

[0010] According to one aspect of the present invention, the above mentioned aim and objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by a manual hairdryer apparatus, **characterized in that** said apparatus comprises air flow generating means coupled, through flexible hoses, to one or more diffuser devices or nozzles adapted to be applied to at least a hand of an operator.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Further characteristics and advantages of the present invention will become more apparent hereinafter

from the following detailed disclosure of a preferred, though not exclusive, embodiment of the invention which is illustrated, by way of an indicative, but not limitative, example in the accompanying drawings, where:

Figure 1 is a block diagram showing the main components of the manual hairdryer apparatus according to the present invention; and

Figure 2 is a schematic perspective view showing a mode of operation of the manual hairdryer apparatus according to the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0012] With reference to the number references of the above mentioned figures, the manual hairdryer apparatus according to the invention, which has been generally indicated by the reference number 1, essentially comprises one, or preferably two, diffuser devices or nozzles, generally indicated by the reference number 2, each of which can be affixed or coupled to a palm of a hand 3 of an operator.

[0013] In particular, said diffuser devices are coupled by respective coupling tube 4 to a compressor or fan 5, through an interposition of a heat exchanger 6.

[0014] Said compressor or fan 5, in particular, generates an air flow, which is heated by the heat exchanger 6, and being ejected from the diffuser devices or nozzles 2, at a pressure of preferably about 5 bars.

[0015] Thus, hot air will arrive from the diffuser devices 2 at the hands of the operator, through the heat exchanger 5, a half-flexible hose 7 bearing on the floor and then, through an air flow switching device or element 8, through the two flexible hoses 4 directly reaching the two wrists of the operator.

[0016] In this connection it should be pointed out that the diffuser devices 2 are advantageously of an interchangeable type, thereby providing the operator with a hairdryer apparatus very suitable for any desired applications and requirements depending on the job to be performed.

[0017] The diffuser devices can comprise different types of nozzles, such directional or diffuser nozzles directed according to one, two or three directions in the space.

[0018] Advantageously, said nozzles or diffuser devices 2 can be connected to the user hands by a simple connecting arrangement 9, optionally of a quick coupling type.

[0019] The nozzle or diffuser devices 2 comprise, on the rear portion thereof, a suitable thermally insulating layer, in contact with the user hand, to prevent the hand palm from being burnt, if for drying hair a very hot air flow is used.

[0020] The compressor or fan 5 can comprise any conventionally commercially available types.

[0021] It has been found that the invention fully

achieves the intended aim and objects.

[0022] In fact, the invention provides an apparatus allowing to generate an air flow directly from the operator hands, thereby the operator can apply all his/her skillness to properly shape the hair being dried.

[0023] Moreover, the subject apparatus is very efficient in operation and, moreover, can be easily used even for a long time, since the diffuser devices or elements have a very small weight and size.

[0024] Moreover, the manual hairdryer apparatus according to the present invention is very safe in operation, since the electrical part thereof is physically separated and arranged away from the operator hands and client head.

[0025] In practicing the invention, the used materials, as well as the contingent size and shapes, can be any, depending on requirements.

Claims

1. A manual hairdryer apparatus, **characterized in that** said apparatus comprises air flow generating means coupled, through flexible hoses, to one or more diffuser devices or nozzles which can be applied to a hand of an operator.
2. An apparatus, according to claim 1, **characterized in that** said diffuser devices or nozzles are designed for being applied to a palm portion of an operator hand.
3. An apparatus, according to claim 1 or 2, **characterized in that** said air flow generating means comprise a compressor or fan coupled to said diffuser devices or nozzles through one or more coupling tubes, which an interposition of a heat exchanger.
4. An apparatus, according to one or more of the preceding claims, **characterized in that** said compressor or fan generates an air flow, which is heated by the heat exchanger and exits said diffuser devices or nozzles with a pressure of preferably about 5 bars.
5. An apparatus, according to one or more of the preceding claims, **characterized in that** said air flow arrives at said diffuser devices or nozzles on the operator hand, from the heat exchanger, through a half flexible hose bearing on a floor and then, through an air flow switching device, through two flexible hoses directly reaching the two wrists of the operator.
6. An apparatus, according to one or more of the preceding claims, **characterized in that** said diffuser devices or nozzles are interexchangeable thereby providing the operator with a very operatively flexible manual hairdryer arrangement.
7. An apparatus, according to one or more of the preceding claims, **characterized in that** said diffuser devices comprise different types of nozzles, such as directional nozzles and diffuser nozzles designed for diffusing air either in one, two or three spatial directions.
8. An apparatus, according to one or more of the preceding claims, **characterized in that** said diffuser devices or nozzles are coupled to the operator hands through a coupling arrangement, optionally of a quick coupling type.
9. An apparatus, according to one or more of the preceding claims, **characterized in that** said diffuser devices or nozzles comprise, on a back portion thereof, an insulating layer for contacting the operator hand, to prevent said operator hand from being burnt as a very hot air is used for drying hair.

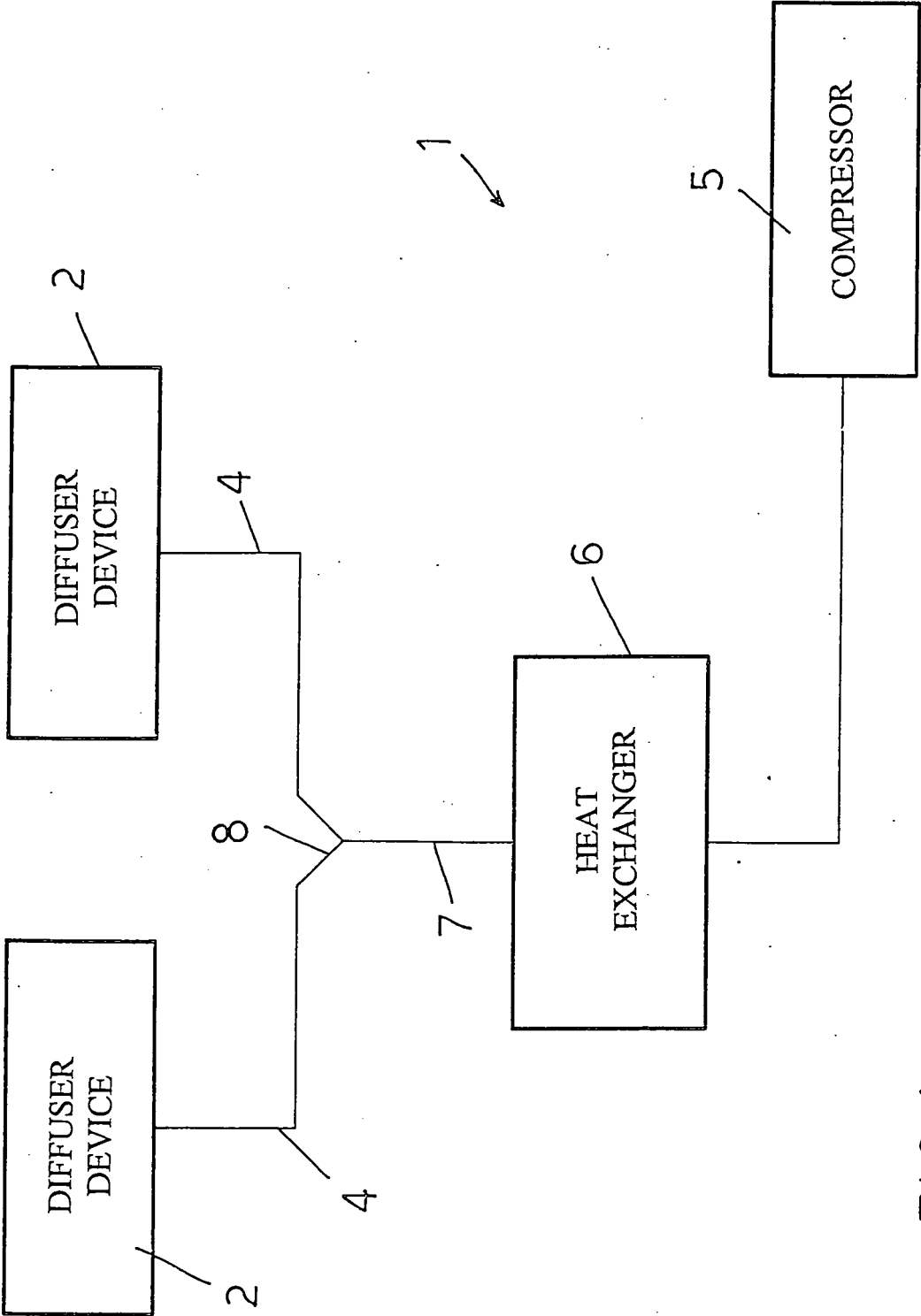


FIG 1

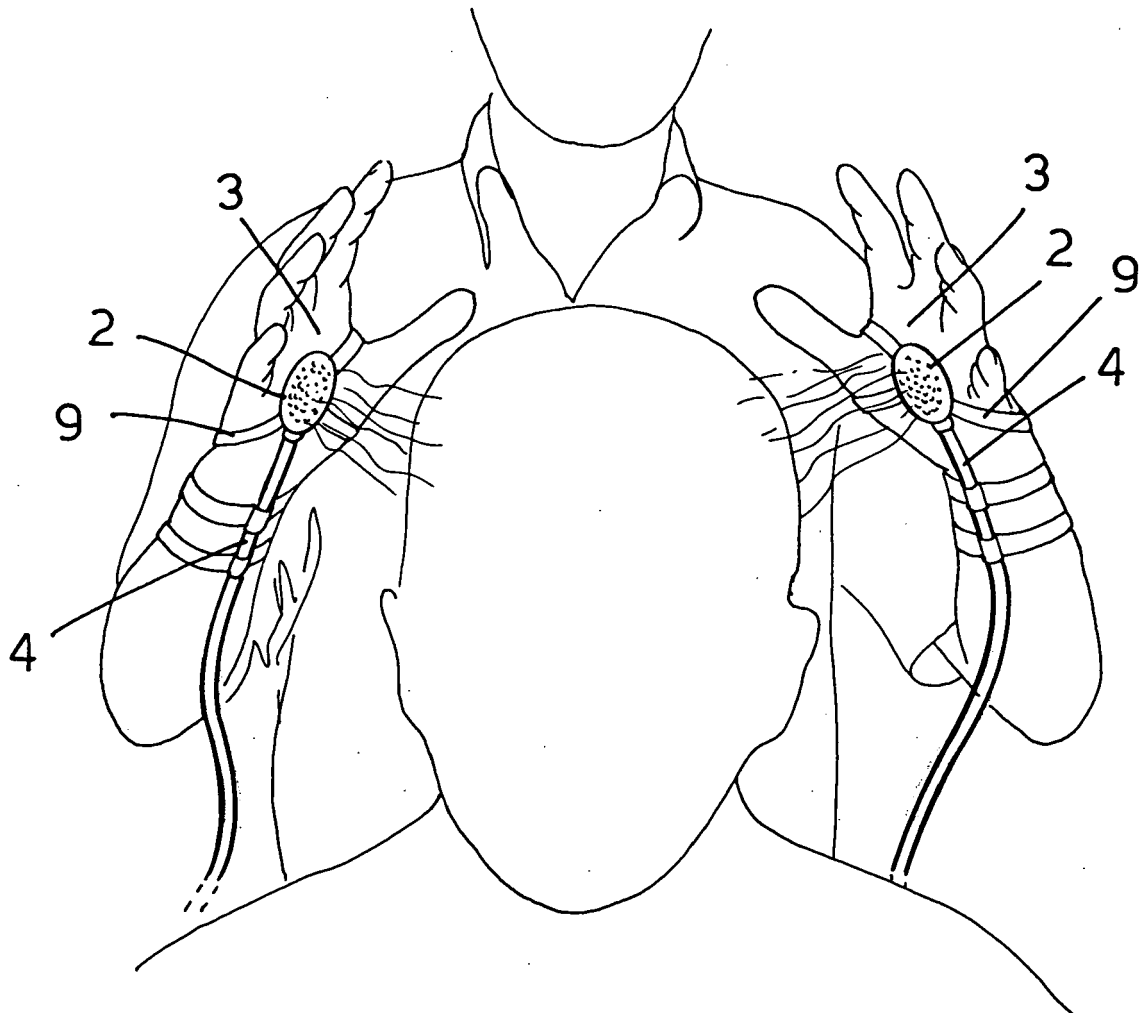


FIG 2



EUROPEAN SEARCH REPORT

Application Number
EP 08 01 9807

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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X	US 4 620 374 A (PATTERSON DENNIS E [US]) 4 November 1986 (1986-11-04) * the whole document *	1-4,8-9	
A	US 5 133 043 A (BAUGH RONALD [US]) 21 July 1992 (1992-07-21) * abstract * * column 3, lines 2-6 *	1-9	
			TECHNICAL FIELDS SEARCHED (IPC)
			A45D
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		13 October 2009	Nicolás, Carlos
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 08 01 9807

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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13-10-2009

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