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(54) **NOZZLE FOR HAIR DRYER**

(57) A nozzle for a hair dryer includes a nozzle body (1). An engagement structure (11) detachably connected to an air outlet of the hair dryer (3) is provided on one end of the nozzle body (1), the other end of which is connected to a rotational body (2). An air-flowing channel extending through the rotational body (2) in the axial direction of the rotational body (2) is provided inside the rotational body (2). Circular air outlets (21) are uniformly distributed on the rotational surface of the rotational body (2), and bar-shaped air outlets (22) are uniformly provided on the top end portion of the rotational body (2) in the circumferential direction.

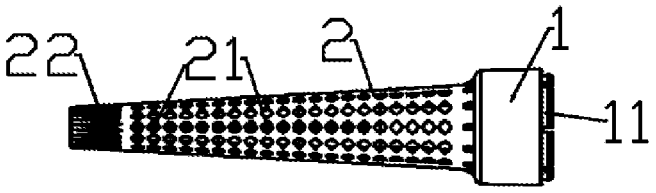


FIG. 1

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Description

Field of Invention

[0001] The present invention relates to a tool for hairstyles design, and more particularly to a nozzle unit for a hair dryer.

Description of Related Arts

[0002] In the present days, people usually use towel to dry wet hair after washing their hair and then leave their hair to dry naturally in the air. Some people may speed up the drying process of their wet hair through the use of hair dryer to blow-dry their wet or damp hair. Accordingly, hair dryer has been developed as a very important tool for hairstyles design in our daily lives. Because a temperature of blowing air from the hair dryer is adjustable, the use of hair dryer can be broadened to meet different needs. However, a conventional hair dryer usually includes a hair dryer body and a nozzle connected to the hair dryer body. The nozzle usually has a flattened and elongated opening or a circular opening serving as the air outlet for the hair dryer, which is not only unsatisfactory in providing a speedy blow-drying process but also inconvenience for use. In addition, this kind of nozzle can only provide one single function.

Summary of the Present Invention

[0003] The invention is advantageous in that it provides a nozzle for hair dryer which is adapted for use with a hair dryer so as to provide quick drying and curl hair style result at the same time.

[0004] Additional advantages and features of the invention will become apparent from the description which follows, and may be realized by means of the instrumentalities and combinations particular point out in the appended claims.

[0005] According to the present invention, the foregoing and other objects and advantages are attained by a nozzle for hair dryer adapted for connecting to a hair dryer, comprising a nozzle body having a first end portion and an engagement structure provided on the first end portion which is arranged for connecting to an air outlet of the hair dryer, which is **characterized in that**: the nozzle body has a second end portion, the nozzle for hair dryer comprises a rotational body provided on the second end portion, wherein the rotational body has an air-flowing channel longitudinally extended along an axis of the rotational body; and a rotational surface having a plurality of air outlets provided thereon which are penetrating through-hole on the rotational surface communicating to the air-flowing channel.

[0006] Wherein the rotational body is a truncated cone-shaped structure; the plurality of air outlets on the rotational surface are evenly and spacedly provided along the axis of the rotational body, and are evenly and spacedly provided in a circumferential manner.

[0007] Wherein each of the air outlet is a circular opening; and the truncated cone-shaped structure of the rotational body has defined a second end portion at a top portion of the truncated cone-shaped structure, and has a plurality of air outlets at the second end portion which are elongated openings evenly and spacedly provided in a circumferentially manner on the rotational body.

[0008] Compared to the conventional arts, the present invention is advantageous in that:

[0009] The nozzle according to the preferred embodiment of the present invention has one end connected to the rotational body, wherein the rotational body has an air-flowing channel longitudinally extended along the axis of the rotational body, and a rotational wall defining a rotational surface having a plurality of air outlets provided on the surface which are penetrating though-hole penetrating through the wall. In particular, the rotational body is a truncated cone-shaped structure, the air outlets are evenly and spacedly provided along the axis of the rotational body, and are evenly and spacedly provided in a circumferential manner. Accordingly, people can install the nozzle of the present invention to an air outlet of a hair dryer, placing hair to the nozzle of the present invention such that drying and curling effect can be achieved in one step. The nozzle of the present invention is easy to use. The step of use includes: positioning hair onto the nozzle, and removing the nozzle and the hair dryer after drying, thereby drying and curling effect are achieved while drying without additional step.

[0010] Still further objects and advantages will become apparent from a consideration of the ensuing description and drawings.

[0011] These and other objectives, features, and advantages of the present invention will become apparent from the following detailed description, the accompanying drawings, and the appended claims.

Brief Description of the Drawings

[0012]

Fig. 1 is an illustration of a nozzle for hair dryer according to a preferred embodiment of the present invention.

Fig. 2 is an illustration of a nozzle for hair dryer which is connected to a hair dryer according to the above preferred embodiment of the present invention.

Fig. 3 is an illustration of a nozzle for hair dryer and a hair dryer according to the above preferred embodiment of the present invention.

Detailed Description of the Preferred Embodiment

[0013] The nozzle for hair dryer according to the preferred embodiment of the present invention is further de-

scribed in the following.

[0014] Referring to Figs. 1 to 3 of the drawings, a nozzle for hair dryer according to the preferred embodiment of the present invention comprises a nozzle body 1 defining two end portions, namely a first end portion and a second end portion, an engagement structure 11 provided on the first end portion of the nozzle body which is arranged for connecting to an air outlet of the hair dryer such that the nozzle body 1 is securely and fittingly connected to the hair dryer, and a rotational body 2 provided on the second end portion of the nozzle body 1 in such a manner that the rotational body 2 is securely supported through the engagement structure 11 of the nozzle body 1 and the rotational body 2 is capable of guiding and controlling an air flow from the hair dryer. The rotational body 2 has an air-flowing channel longitudinally extended along an axis of the rotational body 2 such that air which is first flowing from the air outlet of the hair dryer is guided to flow to the air-flowing channel of the rotational body 2 while the rotational body 2 is securely supported through the nozzle body 1. The rotational body 2 has a rotational surface having a plurality of air outlets 21 through which the air-flowing channel of the rotational body 2 is communicated to, thereby air flowing from the air-flowing channel of the rotational body 2 is guided to penetrate through the air outlets 21. The rotational body 2 has a truncated cone-shaped structure in which the rotational surface is provided thereon and the plurality of air outlets 21 is co-axially and evenly provided along the axis of the rotational body 2 in such a manner that the air outlets 21 are systemically and evenly aligned on the rotational surface and are circumferential provided on the rotational body 2. The air outlet 21 is a circular opening through which air from the air-flowing channel is capable of being guided to flow at a direction which is perpendicular to the circular opening of the air outlet 21. The rotational body 2 further defines an end portion having a plurality of air outlets 22 at the end portion, wherein the air outlets 22 at the end portion are elongated openings evenly and spacedly provided at the end portion and are circumferential provided along the longitudinal axis on the rotational body 2. Wherein the engagement arrangement 11 of the nozzle body 1 is a ring-shaped engaging groove in which a plurality of indented holes are defined so as to facilitate the attachment of the nozzle body 1 to the hair dryer.

Claims

1. A nozzle for hair dryer adapted for connecting to a hair dryer, comprising a nozzle body having a first end portion and an engagement structure provided on said first end portion which is arranged for connecting to an air outlet of the hair dryer, which is **characterized in that**: said nozzle body has a second end portion, said nozzle for hair dryer comprises a rotational body provided on said second end portion, wherein said rotational body has an air-flowing channel longitudinally extended along an axis of said rotational body; and a rotational surface having a plurality of air outlets provided thereon which are penetrating through-hole on said rotational surface communicating to said air-flowing channel.

2. The nozzle for hair dryer, as recited in claim 1, which is **characterized in that**: said rotational body is a truncated cone-shaped structure; said plurality of air outlets on said rotational surface are evenly and spacedly provided along the axis of said rotational body, and are evenly and spacedly provided in a circumferential manner.

3. The nozzle for hair dryer, as recited in claim 1, which is **characterized in that**: each said air outlet is a circular opening; and said truncated cone-shaped structure of said rotational body has defined a second end portion at a top portion of said truncated cone-shaped structure, and has a plurality of air outlets at said second end portion which are elongated openings evenly and spacedly provided in a circumferentially manner on said rotational body.

Amended claims under Art. 19.1 PCT

1. A nozzle for hair dryer adapted for connecting to a hair dryer, comprising a nozzle body having a first end portion and an engagement structure provided on said first end portion which is arranged for connecting to an air outlet of the hair dryer, which is **characterized in that**: said nozzle body has a second end portion, said nozzle for hair dryer comprises a rotational body provided on said second end portion, wherein said rotational body has an air-flowing channel longitudinally extended along an axis of said rotational body; and a rotational surface having a plurality of air outlets provided thereon which are penetrating through-hole on said rotational surface communicating to said air-flowing channel, wherein said rotational body is a truncated cone-shaped structure, and said plurality of air outlets on said rotational surface are evenly and spacedly provided along the axis of said rotational body, and are evenly and spacedly provided in a circumferential manner, wherein each said air outlet is a circular opening; and said truncated cone-shaped structure of said rotational body has defined a second end portion at a top portion of said truncated cone-shaped structure, and has a plurality of air outlets at said second end portion which are elongated openings evenly and spacedly provided in a circumferentially manner on said rotational body.

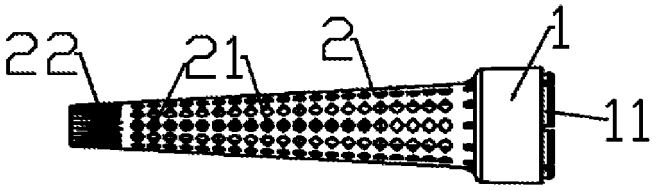


FIG. 1

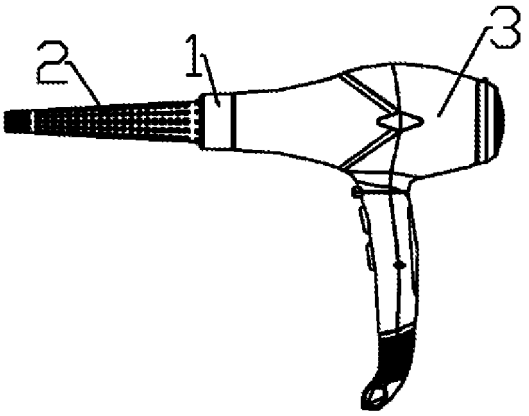


FIG. 2

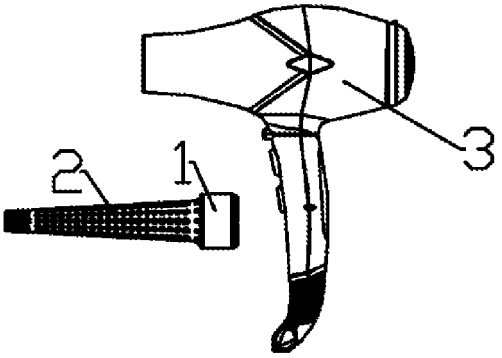


FIG. 3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2010/071083

A. CLASSIFICATION OF SUBJECT MATTER

See extra sheet

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: A45D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI EPODOC CNPAT nozzle outlet exit open+ hole? dryer bar strip

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN1864586A (WAHL CLIPPER CORP) 22 Nov.2006 (22.11.2006) pages 3 and 4, Figs.1 and 2	1-2
Y		3
X	CN1500420A (WAHL CLIPPER CORP) 02 Jun.2004 (02.06.2004) pages 3 to 5, Figs. 1 and 2	1-2
Y		3
Y	GB2263401A (KENWOOD MARKS LTD) 28 Jul.1993 (28.07.1993) pages 2 and 3, Fig. 1	3
X	GB2315019A (STAR FIRE INT LTD) 21 Jan.1998 (21.01.1998) pages 3-4, Figs.1-3	1-2
Y		3
A	US2007047930A1 (CAFARO M) 01 Mar.2007 (01.03.2007) the whole	1-3
A	US6188837B1 (KWAN K) 13 Feb.2001 (13.02.2001) the whole	1-3

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:

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"E" earlier application or patent but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
06 Jun.2010 (06.06.2010)	24 Jun.2010(24.06.2010)
Name and mailing address of the ISA/CN The State Intellectual Property Office, the P.R.China 6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088 Facsimile No. 86-10-62019451	Authorized officer ZHONG, Yanxin Telephone No. (86-10)62085562

Form PCT/ISA /210 (second sheet) (July 2009)

CORRECTED SHEET

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2010/071083

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
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US6188837B1	13.02.2001	None	

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2010/071083

CLASSIFICATION OF SUBJECT MATTER

A45D20/12(2006.01) i
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