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(54) **VAPOR BEAUTIFYING AND HAIR CONDITIONING MACHINE**

(57) The present application is used in the technical field of beautifying and hair conditioning, and provides a vapor beautifying and hair conditioning machine comprising an ejection gun (100), wherein the ejection gun is provided with a heating boiler (1), the heating boiler (1) is provided therein with a heater (11) and a flowing channel (12) configured to allow water to flow, an entrance (121) of the flowing channel (12) and an exit (122) of the flowing channel (12) are disposed at two ends of the heating boiler (1) respectively, the flowing channel (12) is provided therein with a plurality of damping members (123), and each damping member (123) includes a spring (1231) and at least one retainer (1232) disposed at one end of the spring (1231).

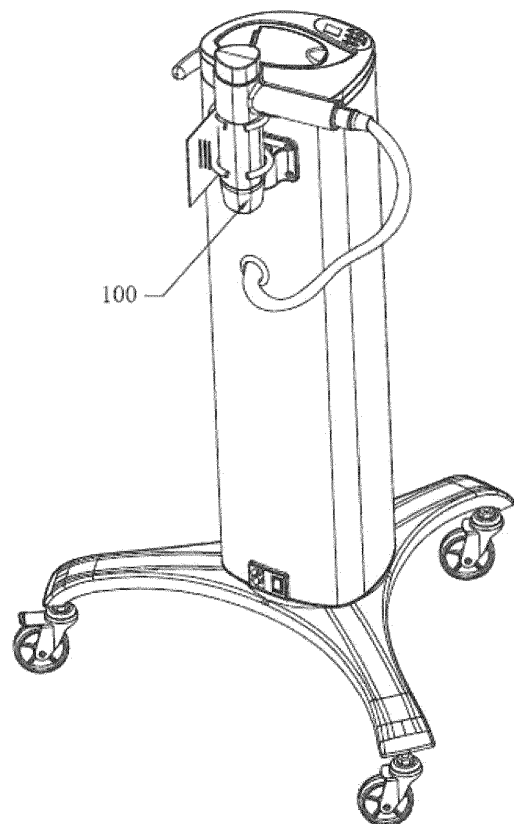


FIG. 1

Description

FIELD OF THE INVENTION

[0001] The present application relates to the technical field of beautifying and hair conditioning, and more particularly to a vapor beautifying and hair conditioning machine.

BACKGROUND OF THE INVENTION

[0002] A vapor beautifying and hair conditioning machine is provided with an autoclave having a heating function therein, and can transform water into vapor and then eject the vapor by means of an ejection gun. In order to transform water into vapor sufficiently, a conventional vapor beautifying and hair conditioning machine is generally provided with a first heating boiler and a second heating boiler communicating with each other and having high pressures. Wherein, the first heating boiler heats and evaporates liquid water in a state of a high pressure and a high speed, and the evaporated water is discharged into the second heating boiler, which is mounted in an ejection gun, to be heated and evaporated again. In this vapor beautifying and hair conditioning machine, the first heating boiler can achieve the effects of reducing the water pressure and preliminary evaporation, and the second heating boiler can further evaporate the vapor and thereby transform water into vapor sufficiently. However, the design of the two heating boilers increases much labor and material cost and occupies much space, which is disadvantageous to the miniaturization development of vapor beautifying and hair conditioning machines.

SUMMARY OF THE INVENTION

[0003] The technical problem to be solved by the present application is to provide a vapor beautifying and hair conditioning machine, which is used to solve the problem that a vapor beautifying and hair conditioning machine in the prior art is provided with two heating boilers and therefore spends much labor and material cost, occupies much space, and is disadvantageous to the miniaturization of products.

[0004] The present application is realized by the following technical solution: a vapor beautifying and hair conditioning machine comprising an ejection gun, the ejection gun being provided with a heating boiler, the heating boiler being provided therein with a heater and a flowing channel configured to allow water to flow, and an entrance of the flowing channel and an exit of the flowing channel disposed at two ends of the heating boiler respectively; wherein, the flowing channel is provided therein with a plurality of damping members, and each damping member includes a spring and at least one retainer disposed at one end of the spring.

[0005] Furthermore, the retainer is a sphere, and a diameter of the retainer is greater than an inner diameter

of the spring.

[0006] Furthermore, the retainer is a steel ball.

[0007] Furthermore, the flowing channel is provided therein with a plurality of linear channels communicating with each other, a bent portion is formed at the connection position between every two adjacent linear channels, and each linear channel is provided therein with a damping member.

[0008] Furthermore, each damping member includes two retainers which are respectively disposed at two ends of the spring of the damping member.

[0009] Furthermore, the plurality of linear channels are parallel to each other.

[0010] Compared with the prior art, the present application has the following advantageous effects: in the present application, by means of the springs capable of providing damping effect and the retainers mounted at the ends of the springs, the impact forces and the flow velocities of liquid water, vapor, and the mixture of liquid water and vapor in the heating boiler are effectively reduced, which increases the heating and evaporating time of liquid water, and can make water be sufficiently evaporated. The aforementioned vapor beautifying and hair conditioning machine only requires being provided with one heating boiler, and can ensure sufficient evaporation of water. In this way, the labor and material cost can be reduced, the space occupied by the heating boiler can be saved, and it is advantageous to the miniaturization development of vapor beautifying and hair conditioning machines.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011]

- Fig. 1 is a stereo structural schematic view of a vapor beautifying and hair conditioning machine according to one embodiment of the present application.
- Fig. 2 is a stereo structural schematic view of the ejection gun shown in Fig. 1.
- Fig. 3 is a disassembled structural schematic view of the ejection gun shown in Fig. 2.
- Fig. 4 is a disassembled structural schematic view of the heating boiler shown in Fig. 3.
- Fig. 5 is a cut-away view of a cross section of the heating boiler shown in Fig. 3.
- Fig. 6 is a cut-away view of the position of the flowing channel of the heating boiler shown in Fig. 3.
- Fig. 7 is a cut-away view of the position of the heater of the heating boiler shown in Fig. 3.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0012] In order to make the technical problems to be solved by the present application, the technical solutions of the present application, and the advantages of the

present application be clearer, the present application will be further described hereafter with reference to the accompany drawings and embodiments. It should be understood that the embodiments described herein are only intended to illustrate but not to limit the present application.

[0013] As shown in Figs. 1 -7, one preferred embodiment of the present application provides a vapor beautifying and hair conditioning machine, which includes an ejection gun 100. The ejection gun 100 is provided with a heating boiler 1, and the heating boiler 1 is provided therein with a heater 11 and a flowing channel 12 configured to allow water to flow. An entrance 121 of the flowing channel 12 and an exit 122 of the flowing channel 12 are respectively disposed at two ends of the heating boiler 1. A plurality of damping members 123 are mounted in the flowing channel 12, and each damping member 123 includes a spring 1231 and at least one retainer 1232 disposed at one end of the spring 1231.

[0014] Particularly, the retainer 1232 can be a sphere, such as a steel ball, and a diameter of the retainer 1232 is greater than an inner diameter of the spring 1231. A plurality of linear channels 124 communicating with each other are disposed in the flowing channel 12, the plurality of linear channels 124 are parallel to each other, and a bent portion 1241 is formed at the connection position between every two adjacent linear channels 124. Each linear channel 124 is provided therein with a damping member 123, and each damping member 123 includes two retainers 1232 which are respectively disposed at two ends of the spring 1231 of the damping member 123.

[0015] A working process of the heating boiler 1 of this embodiment is described as follows: liquid water having a high pressure and a high flowing velocity enters the heating boiler 1 via the entrance 121 of the flowing channel 12, pushes the retainers 1232, and flows towards the linear channels 124; the springs 1231 is gradually compressed into its shortest state, and the compressed springs 1231 generate pushing forces applied to the retainers 1232; at the same time, the retainers 1232 generate resistances applied to the water flow, and thus the velocity of the water flow is reduced. During this process, the heater 11 always heats the water flow, so that the evaporation of the water flow starts; the evaporated vapor continues to flow in the flowing channel 12 along with the water flow, and is always subjected to the resistances generated by the retainers 1232; in this way, the velocity of the water flow is continuously reduced and the water flow is continuously evaporated, until the water flow is sufficiently evaporated. Finally, the vapor is ejected via the exit 122 of the flowing channel 12.

[0016] In the vapor beautifying and hair conditioning machine of the present application, by means of the springs 1231 capable of providing damping effect and the retainers 1232 mounted at the ends of the springs 1231, the impact forces and the flow velocities of liquid water, vapor, and the mixture of liquid water and vapor in the heating boiler 1 are effectively reduced, which in-

creases the heating and evaporating time of liquid water, and can make water be sufficiently evaporated. The aforementioned vapor beautifying and hair conditioning machine only requires being provided with one heating boiler 1, and can ensure sufficient evaporation of water. In this way, the labor and material cost can be reduced, the space occupied by the heating boiler 1 can be saved, and it is advantageous to the miniaturization development of vapor beautifying and hair conditioning machines.

[0017] What described above are only preferred embodiments of the present application, and are not intended to limit the scope of the present application; and any modifications, equivalent replacements, and improvements made within the spirit and principle of the present application should be included in the protection scope of the present application.

Claims

1. A vapor beautifying and hair conditioning machine comprising an ejection gun, the ejection gun being provided with a heating boiler, the heating boiler being provided therein with a heater and a flowing channel configured to allow water to flow, and an entrance of the flowing channel and an exit of the flowing channel disposed at two ends of the heating boiler respectively; wherein, the flowing channel is provided therein with a plurality of damping members, and each damping member includes a spring and at least one retainer disposed at one end of the spring.
2. The vapor beautifying and hair conditioning machine according to claim 1, wherein, the retainer is a sphere, and a diameter of the retainer is greater than an inner diameter of the spring
3. The vapor beautifying and hair conditioning machine according to claim 2, wherein, the retainer is a steel ball.
4. The vapor beautifying and hair conditioning machine according to claim 1 to claim 3, wherein, the flowing channel is provided therein with a plurality of linear channels communicating with each other, a bent portion is formed at the connection position between every two adjacent linear channels, and each linear channel is provided therein with a damping member.
5. The vapor beautifying and hair conditioning machine according to claim 4, wherein, each damping member includes two retainers which are respectively disposed at two ends of the spring of the damping member.
6. The vapor beautifying and hair conditioning machine according to claim 4, wherein, the plurality of linear

channels are parallel to each other.

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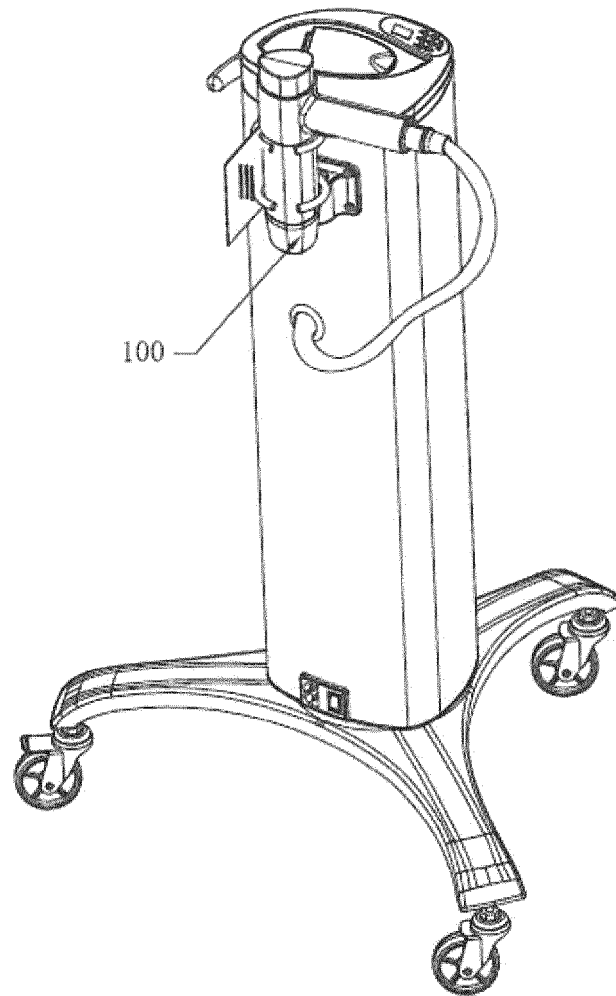


FIG. 1

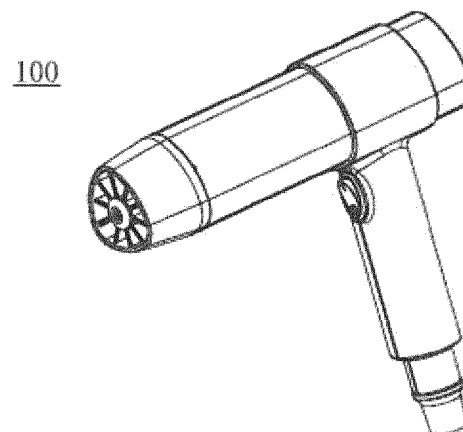


FIG. 2

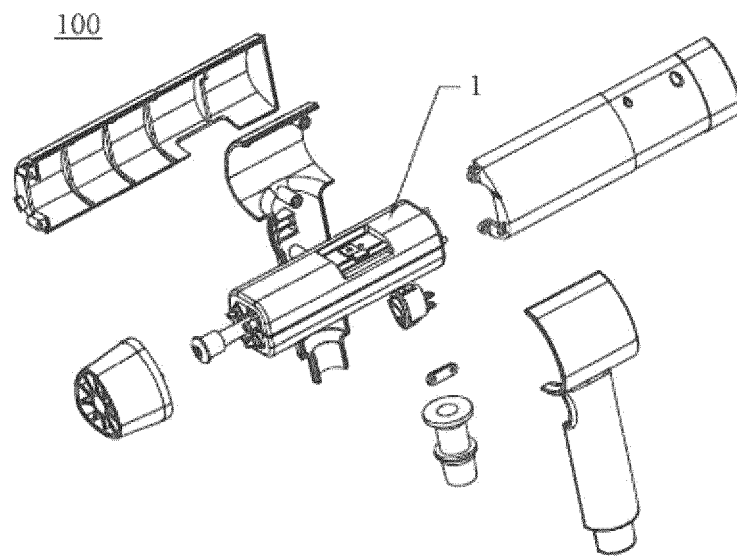


FIG. 3

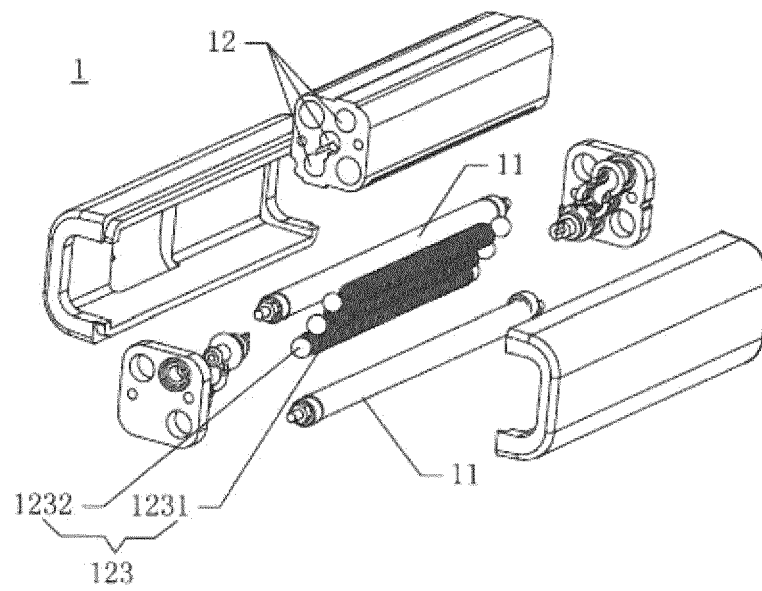


FIG. 4

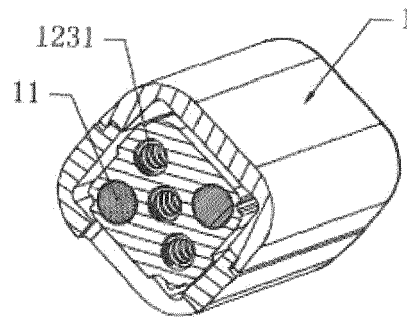


FIG. 5

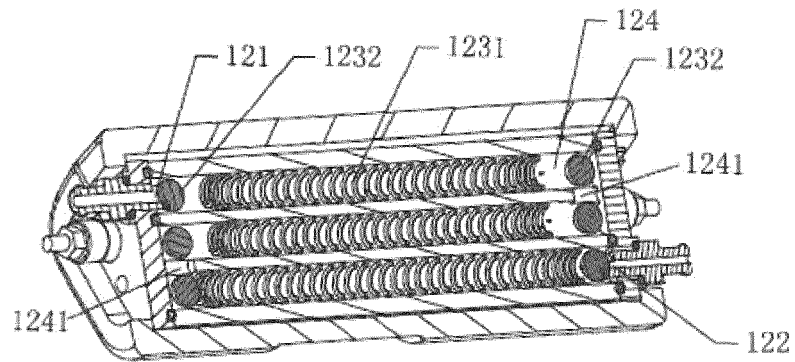


FIG. 6

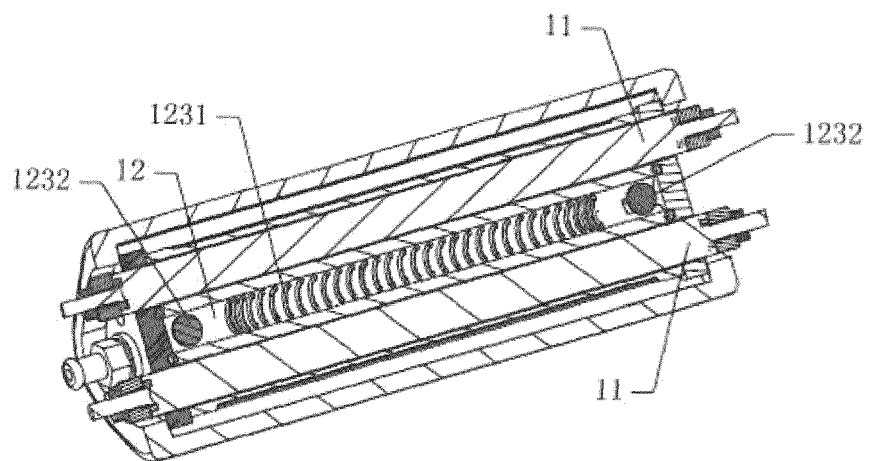


FIG. 7



EUROPEAN SEARCH REPORT

Application Number
EP 15 16 4513

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2011/274416 A1 (CHEN HSI-FU [TW]) 10 November 2011 (2011-11-10) * paragraphs [0014] - [0019]; figures 1-3 *	1-6	INV. A45D19/16 F22B1/28
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			TECHNICAL FIELDS SEARCHED (IPC)
			A45D F22B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 25 November 2015	Examiner Ionescu, C
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			

EPO FORM 1503 03.02 (P04C01)

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

EP 15 16 4513

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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25-11-2015

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