Certification of Accuracy

I, Qiang Li, hereby attest that I am a translator fluent in traditional Chinese and English, that I have translated the attached document from traditional Chinese to English, and that to the best of my knowledge, ability and belief this translation is a true, accurate and complete translation of the original traditional Chinese document that was provided to me.

The document is designated as:

Exhibit 1010 - TW 2005-28150_A-c

Signature of Translator

01/21/2025

Date

Filing date: May 18, 94	IPC classification
Application No. 94116069	A61L 9/14

(The above boxes should be filled by the Office) 200528150 **Description of Invention patent**		
I Title of the Invention	Chinese	Atomizer with noise reduction function
	English	
II Inventor (1 inventor in total)	Name (Chinese)	1. ZENG Zhulin
	Name (English)	1.
	Nationality (Chinese and English)	1. Republic of China TW
III Applicant (1 applicant in total)	Title or name (Chinese)	1. ZENG Zhulin
	Title or name (English)	1.
	Nationality (Chinese and English)	1. Republic of China TW
	Residence address (Business address) (Chinese)	1. No. 10, Section 2, Chenggong Road, Neihu District, Taipei City (This address is different from the one previously applied to the Office)
	Residence address (Business address) (English)	1.
	Representative (Chinese)	1.
	Representative (English)	1.

I. The present application has been filed to
Nation (Region) to apply for a patent Filing date Application No.
Claim the intentional priority in accordance with Article 27, paragraph 1 of the Patent Law.
None

II. ☐ Claim the domestic priority in accordance with Article 29, paragraph 1 of the Patent Law:
Application No.:
Date:
None

III. Claim that the facts in the present application are in accordance with the provisions of Article 22, Paragraph 2, ☐ Item 1 or ☐ Item 2 of the Patent Law, and the date of occurrence of the facts is:

IV. ☐ The relevant biological materials have been deposited abroad:
Deposit country:
Deposit institution:
Deposit date:
Deposit number:
None
☐ The relevant biological materials have been deposited domestically (the depository designated by the Office):
Depository:
Deposit date:
Deposit number:
None
☐ Biological materials that do not need to be deposited: If they are easily available to persons with ordinary knowledge in the relevant technical field, they do not need to be deposited.

V. Description of the Invention (1 to 5)

[Technical field to which the invention belongs]

The present invention relates to an “atomizer with a noise reduction function,” in particular to an atomizer structure with a noise reduction function specially designed for an essential oil diffuser, so as to reduce the spray sound of the atomizer when atomizing an essential oil, and to reduce the distance and volume of atomization.

[Existing technology]

There are two common types of devices used in general aromatherapy: essential oil lamps and diffusers. Essential oil lamps need to achieve the effect of aroma diffusion by means of burning essential oil molecules, so there is a risk of causing fire or explosion. Therefore, the siphon phenomenon produced by the use of air motors to blow air appears on the market, and the original liquid essential oil is thus atomized into smaller molecules and then blown out. Using these methods, the aroma of essential oils can be quickly diffused in the air in a very short time, and the diffusion range is wider. It is currently the best choice for those who like aromatherapy. However, for the commonly used atomizer a, as shown in FIG. 1, when the air is blown out from the air blowing pipe a1 of the atomizer a by an air blowing motor b, a vacuum can be formed between the air blowing pipe a1 and an oil suction pipe a2 on one side of the atomizer a for sucking the essential oil c. As a result, the essential oil c is sucked upward and blown away by the gas in the air blowing pipe a1 to result in an atomization phenomenon. Therefore, when used continuously, there could be a hissing sound similar to whistling, which may cause trouble to users.

Therefore, the inventor has designed an atomizer equipped with a silencer, which not only reduces the spray sound of the atomizer when atomizing the essential oil, but also reduces the atomization distance and the volume of the essential oil molecules, so that the atomization effect can become better.

[Summary of the Invention]

The inventor of the present application, in view of the above shortcomings of the known structures, conducted careful research and accumulated many years of personal experience in this field, and finally designed a brand new “atomizer with a noise reduction function.”

The main purpose of the present invention is to provide an atomizer structure with a noise

reduction device, which not only reduces the spray sound of the atomizer, but also reduces the distance and volume of the atomization, so as to make the atomization effect better.

To achieve the above purpose, the “atomizer with a noise reduction function” provided by the present invention can be used to be installed on a main body of an aroma diffuser, and a noise reduction head, an inner cover and an outer cover are installed on the atomizer, in which an air blowing pipe is extended upward from a center of a receptacle base part of the atomizer, and an extension pipe extending downward is provided at the bottom. The extension pipe is used to connect with an air blowing motor, and an oil absorbent hood is installed above the air blowing pipe. A plurality of oil grooves are opened on an outer wall of the air blowing pipe or an inner wall of the oil absorbent hood so as to form a channel through which an essential oil can pass. An opening at the bottom of the noise reduction head is directly sleeved on the oil absorbent hood, and the top of which is slightly conical and has an opening hole; in addition, a plurality of air holes are opened on a side wall of the noise reduction head. The inner cover is used to be fixed to an outer periphery of the noise reduction head and maintains a certain distance from the noise reduction head, and the upper or lower part of the inner cover has an opening. An inner side wall or outer side wall of the bottom opening edge of the outer cover has threads, and a plurality of ventilation holes are opened at appropriate positions on the outer cover.

When using the above structure, an essential oil can be placed in the receptacle base part of the atomizer. The air blowing motor at the bottom is connected to the extension pipe and then starts to blow air, so that the essential oil is slowly sucked upward through the oil channel, then blown out from the round hole above the oil absorbent hood together with the air, and then atomized to form smaller essential oil molecules. Furthermore, since the essential oil molecules can produce a hissing blowing sound during the atomization process, the present invention uses a multi-stage blocking structure to achieve the effect of noise reduction. Moreover, the essential oil molecules may have different sizes, those with large volume and incomplete atomization are allowed to pass through the air holes provided on the noise reduction head, and then stopped by the inner cover and thus flow back into the receptacle base part for reuse. In addition, the essential oil molecules sprayed from the opening above the atomizer can expand at the opening of the top of the noise reduction head to form a tension film, thereby preventing the essential oil molecules from being directly sprayed out from the opening and causing incomplete atomization. Therefore, when in use, the present invention only allow the completely atomized essential oil

molecules to pass through the openings of the inner cover and outer cover and the ventilation holes and then quickly spread into the air. This can reduce the atomization distance and the volume of the essential oil molecules after atomization, and make the atomization effect better.

[Description of the Embodiments]

The structure, device and features of the present invention will be further described in detail with a preferred feasible embodiment and accompanying drawings as follows:

As shown in FIG. 2 and FIG. 3, the "atomizer with a noise reduction function" provided by the present invention is used to be installed on a main body 1 of an aroma diffuser, and the atomizer 10 is equipped with a noise reduction head 20, an inner cover 30 and an outer cover 40.

The atomizer 10 has a receptacle base part 11 in the center, an air blowing pipe 12 extends upward from the center of the receptacle base part 11, and an extension pipe 13 extends downward at the bottom. The air blowing pipe 12 is connected to the extension pipe 13, and the extension pipe 13 is used to connect to an air blowing motor 2 inside the main body 1 of the aroma diffuser. There is a round hole 12a at the top of the air blowing pipe 12, and an oil absorbent hood 14 is fixedly installed thereon by means of tightening or screwing. The center of the oil absorbent hood 14 has a space for accommodating the air blowing pipe 12, and a round hole 14a is opened at the top of the oil absorbent hood 14. In addition, a plurality of oil grooves 12b, 14b are opened on an outer wall of the air blowing pipe 12 or the inner wall of the oil absorbent hood 14, so that after the oil absorbent hood 14 and the air blowing pipe 12 are connected, a channel through which the essential oil can pass is formed. In addition, a threaded part 15 is provided on the inner or outer side wall of the edge opening of the receptacle base part 11.

The top of the noise reduction head 20 is slightly conical and has an opening hole 21, and the bottom thereof has an opening 22. The bottom opening 22 is directly sleeved on the oil absorbent hood 14, and a plurality of air holes 23 are provided on a side wall of the noise reduction head 20.

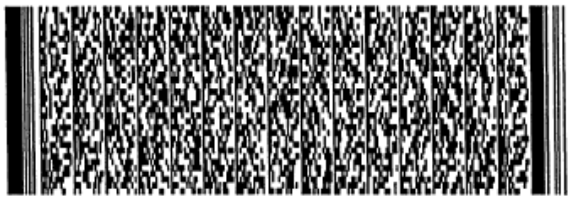
The inner cover 30 is used to be fixed on the outer periphery of the noise reduction head 20 and maintain a certain distance from the noise reduction head 20. The inner cover 30 has an opening 31 on the top or bottom thereof.

The outer cover 40 can be made of materials such as ceramic, metal, plastic or glass, and has a thread 41 on an inner side wall or outer side wall of the bottom opening edge, which can

correspond to the threaded part 15 provided on the atomizer 10. In addition, a plurality of ventilation holes 42 can be opened at appropriate positions on the outer cover 40.

With reference to FIG. 4, it shows a schematic diagram of the use of the present invention. The essential oil 3 is loaded to the receptacle base part 11 of the atomizer 10. After the air blowing motor 2 at the bottom is connected to the extension pipe 13, the air is pumped to move, when the air passes through the extension pipe 13 and blows out from the round hole 12a of the air blowing pipe 12, a siphon phenomenon is generated between the air blowing pipe 12 and the oil absorbent hood 14, thus the essential oil 3 is slowly sucked upward from the oil grooves 12b and 14b; when it reaches the top of the air blowing pipe 12, it is blown out, together with the are, from the round hole 14a of the oil absorbent hood 14, so as to form tiny essential oil molecules. The blown out essential oil molecules are of different sizes, and those with large volume and incomplete atomization are allowed to pass through the air hole 23 of the noise reduction head 20 and are then stopped by the inner cover 30 to flow back into the receptacle base part 11. In this way, only the completely atomized essential oil molecules can pass through the opening 31 on the inner cover 30 and the ventilation holes 42 on the outer cover 40, and then quickly spread in the air.

In summary, the “atomizer with a noise reduction function” provided by the present invention is composed of an atomizer, a noise reduction head, an inner cover and an outer cover. It not only reduces the spray sound of the atomizer, but also reduces the distance and volume of atomization, so that the atomization effect is better. Hence, the present invention has both “practicality” and “progressiveness.” The applicant has therefore filed an application for an invention patent with the Office in accordance with the provisions of the Patent Law.



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Brief Description of the drawings

[Brief Description of the drawings]

FIG. 1 is an assembly cross-sectional view of the prior art.

FIG. 2 is a three-dimensional exploded view of the present invention.

FIG. 3 is an assembly cross-sectional view of the present invention.

FIG. 4 is a schematic diagram of the use of the present invention.

[Description of the symbols of main components]

1. main body of aroma diffuser

2. air blowing motor

3. essential oil

10. atomizer

20. noise reduction head

30. inner cover

40. outer cover

11. receptacle base part

12. air blowing pipe

13. extension pipe

14. oil absorbent hood

12a, 14a. round hole

12b, 14b. oil groove

15. threaded part

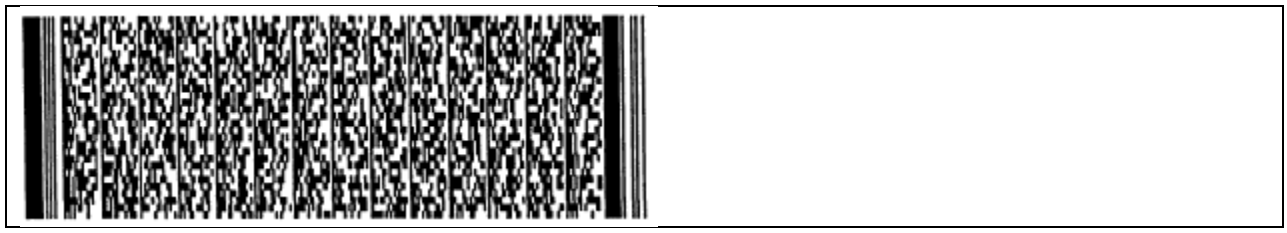
21. opening hole

22, 31. opening

23. air hole

41. thread

42. ventilation hole



IV. Abstract in Chinese (Title of the Invention: Atomizer with noise reduction function)

An “atomizer with a noise reduction function” is provided, which can be installed on the main body of an aroma diffuser, the atomizer is provided with a noise reduction head, an inner cover and an outer cover. The noise reduction head is sleeved on an oil absorbent hood of the atomizer and a plurality of air holes are opened on a side wall of the noise reduction head. The top of the noise reduction head is slightly conical and has an opening hole. The inner cover is fixed on the outer periphery of the noise reduction head and maintains a certain distance from the noise reduction head. The upper or lower part of the inner cover has an opening. The outer cover is screwed to the corresponding part of an outer side wall of a receptacle base part of the atomizer. Based on the above structure, the present invention can be used to reduce the spray sound of the atomizer when atomizing essential oils, and effectively reduce the distance and volume of essential oil atomization.

V. Abstract in English (Title of the Invention:)

VI. Claims

1. An “atomizer with a noise reduction function,” which is installed on a main body of an aroma diffuser, wherein the atomizer is provided with a noise reduction head, an inner cover and an outer cover, wherein:

the atomizer has a receptacle base part in a center thereof, an air blowing pipe extends upward from a center of the receptacle base part, and an extension pipe extends downward at a bottom thereof, the air blowing pipe is connected to the extension pipe, and the extension pipe is used to connect to an air blowing motor inside a main body of an aroma diffuser, a round hole is provided at a top of the air blowing pipe, and an oil absorbent hood is fixedly installed thereon by means of tightening or screwing, a center of the oil absorbent hood has a space for accommodating the air blowing pipe, and a round hole is opened at a top of the oil absorbent hood, a plurality of oil grooves are opened on an outer wall of the air blowing pipe or an inner wall of the oil absorbent hood, so that after the oil absorbent hood and the air blowing pipe are connected, a channel through which the essential oil can pass is formed, in addition, a threaded part is provided on an inner wall or an outer side wall of an edge opening of the receptacle base part;

a top of the noise reduction head is slightly conical and has an opening hole, and a bottom hereof has an opening, the bottom opening is directly sleeved on the oil absorbent hood, and a plurality of air holes are provided on a side wall of the noise reduction head;

the inner cover is fixed on an outer periphery of the noise reduction head and maintains a certain distance from the noise reduction head, and the inner cover has an opening on its top or bottom;

the outer cover has a thread on an inner side wall or an outer side wall of a bottom opening edge, which corresponds to a threaded part provided on the atomizer, in addition, a plurality of ventilation holes are provided at appropriate positions on the outer cover.

2. The “atomizer with a noise reduction function” according to claim 1, wherein the outer cover is made of ceramic.

3. The “atomizer with a noise reduction function” according to claim 1, wherein the outer cover is made of metal.

4. The “atomizer with a noise reduction function” according to claim 1, wherein the outer cover is made of plastic.

5. The “atomizer with a noise reduction function” according to claim 1, wherein the outer cover is made of glass.

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Drawings

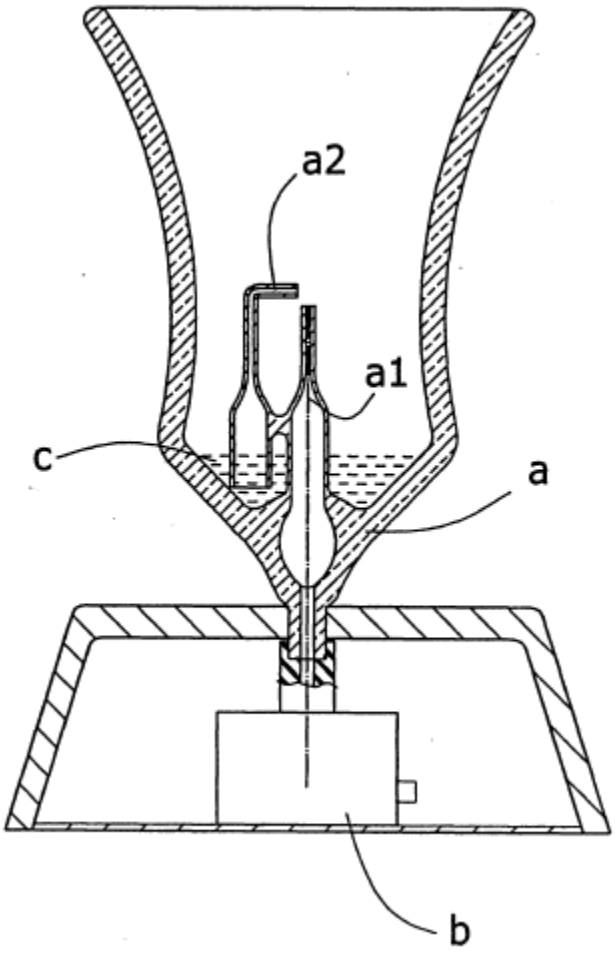

FIG. 1

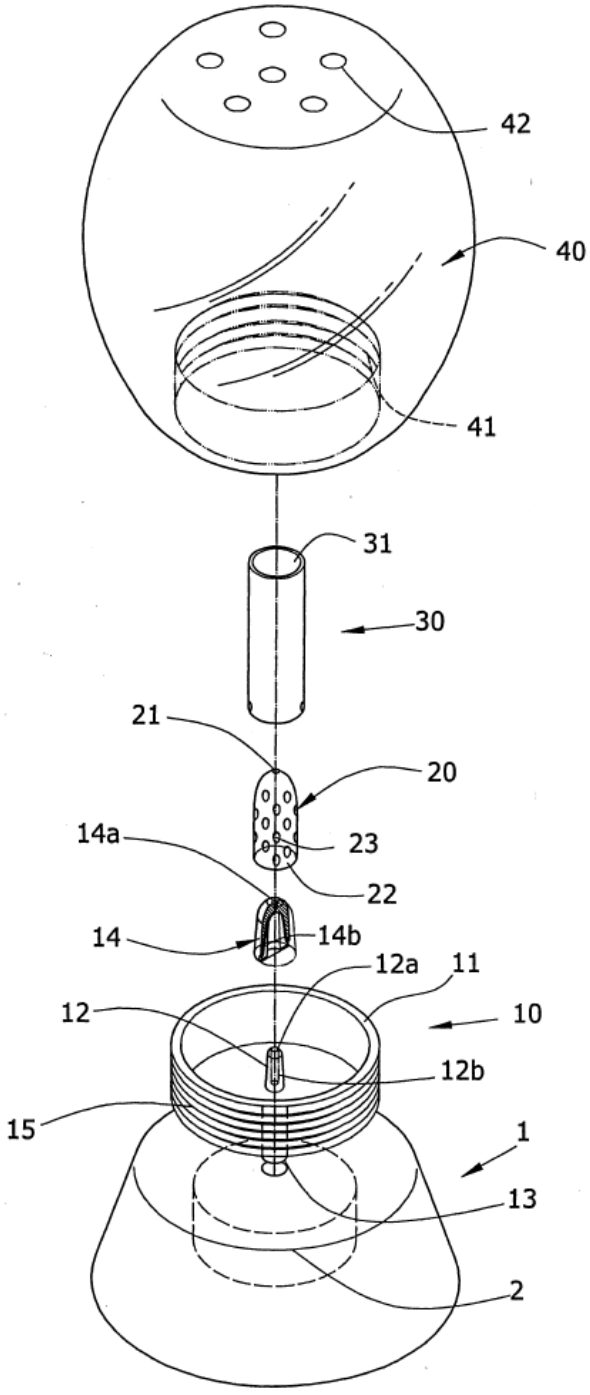

FIG. 2

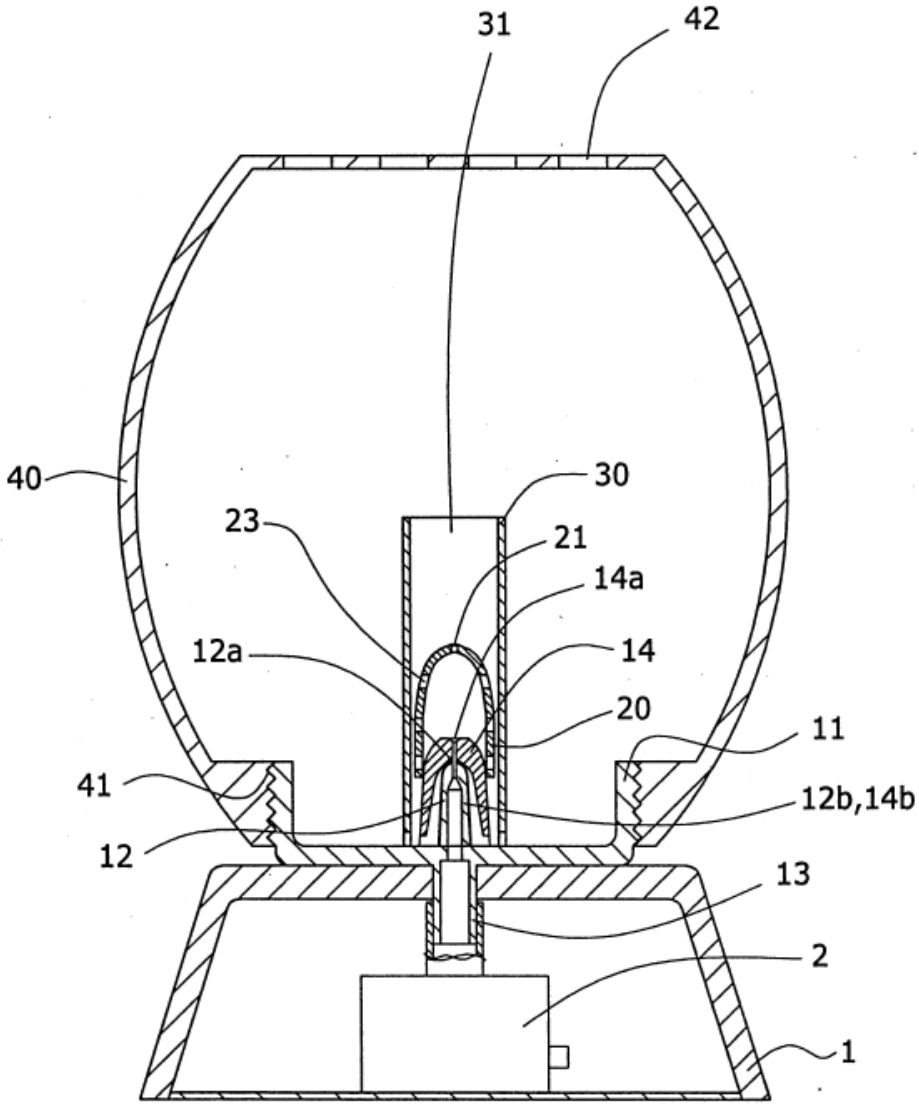

FIG. 3

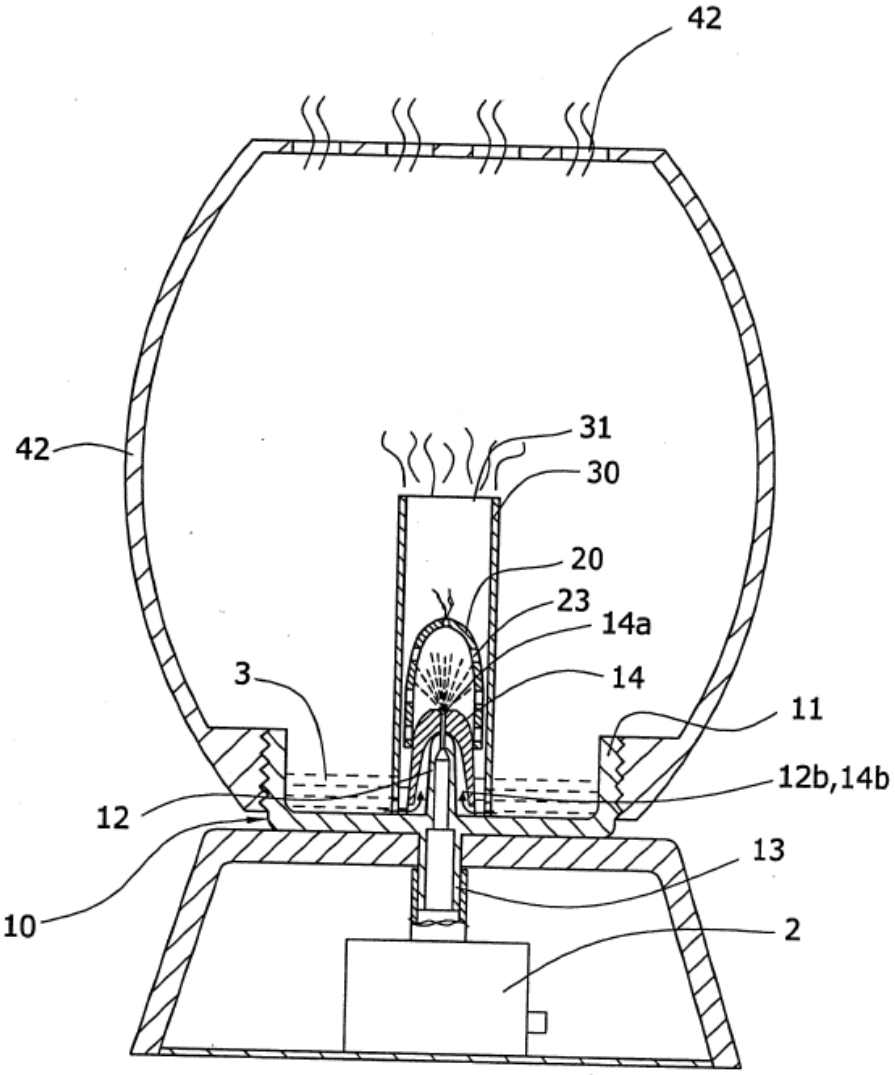

FIG. 4

VI. Designated representative figure

(I) The representative figure of the present application is: FIG. 2

(II) Brief description of the symbols of components in the representative figure of the present application:

1. main body of aroma diffuser
2. air blowing motor
10. atomizer
20. noise reduction head
30. inner cover
40. outer cover
11. receptacle base part
12. air blowing pipe
13. extension pipe
14. oil absorbent hood
12a, 14a. round hole
12b, 14b. oil groove
15. threaded part
21. opening hole
22, 31. opening
23. air hole
41. thread
42. ventilation hole