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(54) PORTABLE CLOTHES DRYER AND CLOTHES DRYING METHOD THEREOF

(57) A portable clothes dryer and a clothes drying method thereof, wherein the portable clothes dryer comprises: a casing (1) provided with air inlets (4) and air outlets; a detachable garment model (8) made of elastic material comprising an inflatable chamber, the chamber provided with an air intake port (82) through which air from the air outlet enters into, clothes to be dried putting on the garment model (8) for drying; a heating device (7) disposed inside the casing (1) to heat air; a blower (6) configured to move heated air to the chamber of the garment model (8). The overall size of the dryer can be reduced to make it easy to carry due to the garment model with the inflatable chamber is detachable and made of elastic material; the clothes to be dried could be neatly put on the garment model so the clothes dried in this manner is wrinkle-free and can be dressed immediately, and the ironing process is saved.

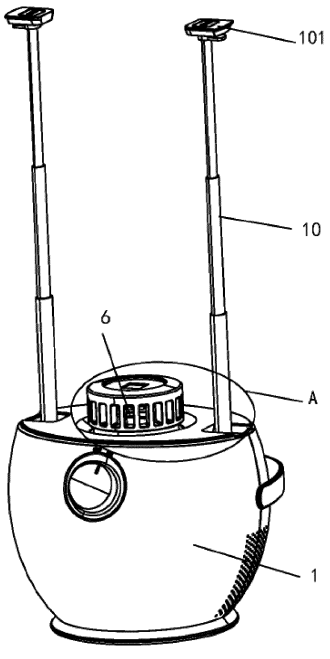

FIG. 4

EP 3 358 070 A1

Description

TECHNICAL FIELD

[0001] The present invention belongs to the technical field of clothes dryers, in particular relates to a portable clothes dryer and a clothes drying method thereof.

BACKGROUND

[0002] Clothes dryers typically used occupy much floor space, which are heavy for lifting and moving. These appliances are merely suitable to be installed in a fixed location inside room. People need to change clothes, especially small items as shirts, pants and underwear in business or in travelling, but not all of the hotels provide drying service; public dryers are available sometimes but there are hygienic issues to be concerned. Therefore a portable clothes dryer becomes a basic necessity for people who travel frequently.

[0003] Various portable clothes dryers previously proposed typically have an upper shell, a lower shell, and supporting rods provided between the upper shell and the lower shell. The supporting rods are designed to be retractable or detachable which could be drawn back in or be removed to shorten the overall height of the dryer to make it easy to carry when they are not in use, or likewise could be pulled out or installed when it is in use for creating a space between the upper shell and the lower shell in which clothes to be dried is hung on a coat hanger. Those arrangements require the length and the width of the space are a bit larger than those of the coat hanger, namely the volume of the space is much larger than the size of the clothes, and thus the time period of drying process extends even longer, and the drying efficiency is lowered. In fact, the flatness of the clothing dried in this way is not satisfying and it requires an extra ironing process.

TECHNICAL SOLUTION

[0004] The present invention provides a portable clothes dryer that is simple to operate and easy to carry, the clothes dried is wrinkle-free.

[0005] To achieve the above-mentioned objective, the present invention adopts the following technical solutions.

[0006] One aspect of the disclosure relates to a portable clothes dryer, the portable clothes dryer including a casing, and one or more air inlets and one or more air outlet are provided on the casing; the dryer further comprises a detachable garment model made of flexible material; the garment model has an inflatable chamber with an air intake port and air is introduced to the air intake port through the air outlet; clothes is configured to be put on the garment model and dried; the dryer further comprises a heating device disposed inside the casing to heat air; the dryer further comprises a blower configured to move heated air into the chamber of the garment model.

[0007] Further, the portable clothes dryer further comprises one or more supporting rod, the supporting rod is retractably arranged on the casing; when preparing the dryer for use, the supporting rod is being pulled out and the garment model is sleeved on the supporting rod.

[0008] Further, the portable clothes dryer further comprises one or more supporting rod, the supporting rod is retractably arranged on the casing; when preparing the dryer for use, the supporting rod is being pulled out and the upper portion of the garment model is sleeved on the supporting rod.

[0009] Further, an air duct communicating with the air inlet and the air outlet is formed inside the casing, and the heating device is disposed in the air duct.

[0010] Further, the air inlets are opened on both sides of the casing, the air outlet is opened at the center of the top surface of the casing, and the air duct is configured in a shape of an inverted alphabet T.

[0011] Further, the air intake port is detachably connected to the air outlet.

[0012] Further, the blower capable of being upwardly ejected is disposed corresponding to the air outlet, and the blower comprises a cylindrical blower casing with a top surface, a plurality of air outtake ports are opened on the cylindrical side wall of the blower casing; when preparing the dryer for use, the blower ejects upwardly and the air outtake ports are exposed.

[0013] Further, a pressure sensor is disposed corresponding to the air outlet; when the dryer works, comparing the pressure detected with a preset pressure; if the detected pressure is higher than or equal to the preset pressure, stopping the blower and the heating device; if the detected pressure is lower than the preset pressure, maintaining the blower and the heating device at work.

[0014] Further, the lower periphery of the blower casing is in close contact with the air outlet once the blower is upwardly ejected and the air intake port of the garment model is installed at the lower periphery of the blower casing to assure the overall air outlet is in the chamber of the garment model.

[0015] Further, an annular groove is formed at the lower periphery of the blower casing and an elastic fixing structure is arranged around the air intake port of the garment model, and the elastic fixing structure is installed in the annular groove.

[0016] Further, the air outlet has an upwardly funnel-shaped extending portion, and the upper end of the extending portion is fixed on the top surface of the casing.

[0017] Further, the garment model is provided with extending openings corresponding to the supporting rods; the supporting rods extend into the chamber through the opening as installing the garment model.

[0018] Further, the casing is further provided with an installing portion matched with the air intake port of the garment model; when the air intake port is fixedly mounted to the installing portion, the supporting rods pass

through the air intake port and extend into the chamber.

[0019] Further, the casing has a top surface, the air outlet and the top end of the supporting rods are located on the top surface, an installing portion configured to mount the air intake port of the garment model is further disposed on the top surface, the air outlet and the top end of the supporting rods are surrounded by the installing portion.

[0020] Further, an extending end of the supporting rod is provided with a supporting block, a receiving groove matched with the supporting block is arranged on the top surface of the casing, and the supporting block is disposed in the receiving groove.

[0021] Further, a cabinet for storing the garment model is disposed in the casing.

[0022] Further, a handle is provided on the casing.

[0023] Further, the garment model is opened with vent holes.

[0024] According to the above-mentioned portable clothes dryer, the present invention also provides a clothes drying method by the portable clothes dryer, the method comprises the following steps:

a) installing and fixing the air intake port of the garment model on the casing, putting the clothes to be dried on the garment model;
b) starting the clothes dryer: the blower and the heating device are activated, the air introduced from the air inlet is heated by the heating device, then the heated air is directed by the blower to flow into the chamber of the garment model through the air intake port, the garment model is inflated to put on the clothes to be dried;
c) taking off the dried clothes and then turning off the portable clothes dryer, removing the garment model.

[0025] Further, the portable clothes dryer further comprises one or more supporting rod, and the support rod is retractably disposed on the casing; before the step a, the method comprises a step a0, a0: pulling out the supporting rod and putting the garment model on the supporting rod.

[0026] Further, the portable clothes dryer further comprises one or more supporting rod, and the support rod is retractably disposed on the casing; before the step a, the method comprises a step a0, a0: pulling out the supporting rod and putting the upper portion of the garment model on the supporting rod.

[0027] Further, the step b further comprises a pressure determining step to control the pressure inside the chamber between a first preset pressure and a second preset pressure; if the pressure inside the chamber is higher than or equal to the first preset pressure, stopping the blower and the heating device; if the pressure inside the chamber is lower than or equal to the second preset pressure, maintaining the blower and the heating device at work.

[0028] According to the above-mentioned portable clothes dryer, the present invention also provides a clothes drying method by the portable clothes dryer, the method comprises the following steps:

a) installing and fixing the air intake port of the garment model on the casing;
b) starting the clothes dryer: the blower and the heating device are activated, the air introduced from the air inlet is heated by the heating device, then the heated air is forced by the blower to flow into the chamber of the garment model through the air intake port, the garment model is inflated to put on the clothes to be dried;
c) taking off the clothes until it is dried and then turn off the portable clothes dryer, removing the garment model.

[0029] The portable clothes dryer provided by the present invention comprises a casing, a heating device, a blower, and a detachable garment model. The overall size of the dryer can be reduced to make it easy to carry due to the garment model with the inflatable chamber is detachable and made of elastic material; the clothes to be dried could be neatly put on the garment model so the clothes dried in this manner is wrinkle-free and can be dressed immediately, thus the ironing process is saved. In addition, the heated air is introduced by the blower to enter into the chamber of the garment model, and the heat is directly transmitted to the clothes to be dried via the garment model to evaporate moisture. Heated dry air are filled in the chamber constantly to enhance the drying efficiency, additionally the small volume of the chamber also improve it.

BRIEF DESCRIPTION OF THE DRAWINGS

[0030]

Figure 1 is a schematic view illustrating a first embodiment of the portable dryer according to the present invention;
Figure 2 is a rear view from Figure 1;
Figure 3 is a schematic cross-sectional view from Figure 1;
Figure 4 is a schematic view illustrating the portable dryer from Figure 1 as the supporting rod being pulled out;
Figure 5 is a partially enlarged schematic view of the area A from Figure 4;
Figure 6 is a schematic view illustrating the portable dryer from Figure 4 as the garment model being installed;
Figure 7 is another schematic view illustrating the portable dryer from Figure 4 as the garment model being installed.
Figure 8 is flow chart illustrating the control process of the portable dryer;
Figure 9 is a schematic view illustrating a second

embodiment of the portable dryer according to the present invention;

Figure 10 is a schematic view illustrating the portable dryer from Figure 10 as the supporting rod being pulled out;

FIG. 11 is a schematic view illustrating the portable dryer from Figure 4 as the garment model being installed.

DETAILED DESCRIPTION

[0031] In the detailed description, numerous specific details are set forth with reference to the accompanying drawings to provide a thorough understanding of the embodiments of the invention.

[0032] In the description of the present invention, it is worthy to be noted that the terms "inner", "outer", "upper", "lower", "left" and "right" showing the direction or position are merely based on the drawings for convenience in describing, rather than indicating or implying that the claimed device or element is limited in a specific orientation or be constructed or operated in a specific orientation. These terms should not be construed as the limitation of the present invention.

[0033] Figures 1 to 8 are diagrams illustrating an example of the portable clothes dryer in accordance with one embodiment of the invention. The portable clothes dryer shown in Fig.1 comprises a casing 1. The casing 1 may be provided with a knob 2, a handle 3, a power plug 5, air inlets 4 and one or more air outlets. A heating device 7 and a blower 6 are arranged inside the casing 1. The handle 3 rotates around a fixed portion of the casing 1, and it turns up for lifting and turns down as the dryer in operation. The air inlets 4 are configured to introduce air from outside when the dryer works. The power plug 5 is used to provide electricity supply to the portable dryer and power the heating device 7, the blower 6 and the controller. When the power plug is not in use, it is received in the casing 1, when the power plug is in use, it is being pulled out. The heating device 7 is arranged within the casing 1 to heat air. The portable clothes dryer further includes a detachable garment model 8. The clothes to be dried is put on the garment model 8 to dry. The garment model 8 is made of elastic material and has an inflatable chamber. The chamber has an air intake port 82 where air directed from the air outlet flows into. When the clothes dryer is at work, the air intake port 82 covers the air outlet as the garment model 8 is being installed, thereby allowing the blower to direct heated air to enter into the chamber of the garment model 8 and inflate the chamber.

[0034] The portable clothes dryer provided in this embodiment includes a casing 1, a heating device 7, a blower 6, and a detachable garment model 8. Due to the garment model with the inflatable chamber is detachable, also could be deflated and made of elastic material, the overall size when the dryer is not in use can be reduced to make it easy to carry; the clothes is put on the garment model neatly for drying so the clothes dried in this manner is flat without wrinkle and can be dressed immediately, and the ironing process is saved. In addition, the heated air blown by the blower 6 enters the chamber of the garment model 8, and the heat is directly transmitted to the clothes to be dried via the garment model 8 to evaporate moisture. Heated dry air is filled in the chamber constantly to enhance the drying efficiency. In addition, the chamber is smaller in contrast to the prior art due to fact that the clothes is put on the garment model to dry instead of being covered, the chamber is filled with heated air in a very short time, thereby further enhancing drying efficiency.

[0035] In this embodiment, as shown in Figure 4 and Figure 5, the blower 6 is disposed at a position corresponding to the air outlet and capable of being upwardly ejected. The blower 6 includes a cylindrical blower casing 61 with a top surface 611. A plurality of air outtake ports 62 are opened on the cylindrical side wall of the blower casing; when preparing the dryer for work, the blower ejects upwardly to expose the air outtake ports. The ejecting blower 6 protrudes from the top surface of the casing 1, so that the air flowing efficiency is improved, thereby enhancing the drying efficiency.

[0036] In this embodiment, when the blower 6 is ejected, the lower periphery of the blower casing 61 is in close contact with the air outlet, that is to say, the air in the duct cannot pass through the gap between the blower 6 and the air outlet; the air inlet 82 of the garment model 8 is installed at the lower portion of the blower casing 61 so that the air outlet 62 is located inside the chamber of the garment model 8 and air blown from the air outlet could enter into the chamber directly to improve the drying efficiency.

[0037] Various arrangements could be used to fix the air intake ports 82 of the garment model 8 on the blower casing 61. In this embodiment, as shown in Figure 5, an annular groove 612 is disposed at the lower portion of the cylindrical side wall of the blower casing 61. An elastic fixing structure, for example, a pulling cord or elastic band is provided at the air intake port 82 of the garment model 8. The air intake port 82 of the garment model 8 could be installed in a convenient manner by stretching the air intake port 82 and cover it out of the groove 612.

[0038] Referring to Figure 5, the air outlet has an upwardly funnel-shaped extending portion 9 to facilitate the installation and fixture of the air intake ports 82 of the garment model 8, and the upper end of the extending portion 9 is fixed on the top surface of the casing 1. That is to say, the funnel-shaped extending portion 9 is formed outwardly corresponding to the air outtake port. Accordingly, there is enough space for installing the air intake port 82 of the garment model 8, and further to make the appearance of the portable clothes dryer more concise.

[0039] The garment model 8 is preferably made of heat-permeable airtight elastic material, such as PVC. The garment model 8 comprises a top model and a bottom model which are used for drying coats and pants

respectively, and further comprises other small models for drying small items. In addition, the garment model 8 further includes top models and bottom models in different size to ensure that the clothes to be dried could be in close contact with the garment model to improve flatness.

[0040] In some embodiments of the present invention, as shown in Figure 6 and Figure 7, in order to control the pressure in the chamber of the garment model 8 as well as enable the air in the chamber to circulate, venting holes 83 are opened on the garment model 8, especially at the portion where the clothes are difficult to dry, such as the armpit portion of the top model or the connecting portion between the legs of the bottom model. The venting holes 83 allow air in the chamber to circulate drying clothes around and additionally could save room for heated air entering from the air intake port 82.

[0041] In some embodiments of the present invention, as shown in Figure 8, in order to control the pressure in the chamber of the garment model 8, a pressure sensor is disposed at the air outlet to maintain pressure inside the chamber between the first preset pressure P1 and the second preset pressure P2. In the working process of the portable dryer, if the detected pressure P is higher than or equal to the second preset pressure P2, the blower 6 and the heating device 8 stop running; if the detected pressure P is lower than the preset pressure P1, the blower 6 and the heating device 8 are working. According to this arrangement, the blower 6 and the heating device 8 are intermittently stopped to maintain the pressure P in the garment model 8 between the first preset pressure P1 and the second preset pressure P2, so that the drying efficiency is enhanced and the power consumption is reduced.

[0042] The second preset pressure P2 is the maximum pressure that the garment model could bear, which is determined by the material of the garment model. The first preset pressure P1 could be set as atmospheric pressure or slightly larger than it. Preferably, the first preset pressure P1 could be set as the pressure value within the inflated chamber of the garment model 8 under the condition that the clothes is putting on, for example, the first preset pressure P1 is 1atm to 1.5 atm.

[0043] In the present embodiment, the pressure sensor is provided on the top surface of the blower casing 61.

[0044] In some embodiments of the present invention, as shown in Figure 4, the portable clothes dryer further includes one or more support rods 10 retractably disposed on the casing 1. When preparing the portable clothes dryer for use, the support rod 10 is being pulled out, and the garment model 8 is sleeved on the support rod 10. In this way, the support rod 10 is disposed in the chamber of the garment model 8 to support the garment model 8. The garment model 8 is supported by the supporting rod 10 and it could be put on the clothes to be dried before the chamber inflated by the blower 6.

[0045] In this embodiment, the portable clothes dryer may include two supporting rods 10 arranged from the left to the right. The top end of the supporting rod 10 is disposed at the top surface of the casing 1. A support block 101 is disposed at an extending end of the support rod 10. A receiving groove matched with the support block is disposed on the top surface of the casing 1. The support block 101 is configured to be in the receiving groove and aligned with the top surface of the casing 1 as the supporting rod 10 is being drawn back in the casing 1, so as to make the overall appearance more concise; meanwhile the support block 101 increases the contact area between the garment model 8 and the supporting rod 10 as the garment model 8 is sleeved on the supporting rod 10.

[0046] In this embodiment, as shown in Figure 6 and Figure 7, the garment model 8 includes extending openings 84 corresponding to the supporting rods 10 due to the configuration that the air intake port of the garment model 8 is fixedly arranged on the blower casing 61 and the garment model 8 is sleeved on the support rod 10. When installing the garment model 8, the supporting rod 10 extends into the chamber through the extending opening 84.The lower end of the extending opening 84 is further provided with a pull rope or elastic belt to seal the extending opening 84 and the supporting rod 10 as the garment model 8 is being installed.

[0047] As shown in Figure 1 to Figure. 8, a method for drying clothes by the portable clothes dryer according to this embodiment is described. The method comprises the following steps:

a0: Pulling out the two support rods 10 and installing the garment model 8 on the support rods 10.

[0048] Specifically, ejecting the blower 6 upwardly and pulling out the two supporting rods 10, extending the supporting rods 10 into the chamber through the opening 84, that is to say, placing the garment model 8 over the supporting rods 10.

a, the air intake port 82 of the garment model 8 is fixedly arranged on the casing 1, and the clothes to be dried are put on the garment model 8.

Specifically, the air intake port 82 of the garment model 8 is installed and fixed to the groove 612 of the blower casing 61, and the clothes to be dried are put on the garment model 8.

b, activating the portable dryer: the blower 6 and the heating device 7 start to work, air entering from the air inlet 4 is heated by the heating device 7, and the heated air is blown into the chamber of the garment model 8 by the blower 6 through the air inlet open 82, the chamber is being inflated to for drying.

In operation, measuring pressure within the chamber and controlling the pressure between a first preset pressure P1 and a second preset pressure P2. To be specific, if the pressure measured is higher than or equal to the second preset pressure P2, stopping the blower 6 and the heating device 8; if the pressure measured is lower than the first preset pressure P1, the blower 6 and the heating device 8 are working;

thus the intermittent running of the blower 6 could maintain the pressure within the chamber between the first preset pressure P1 and the second preset pressure P2.

c. removing the clothes until it is dried, turning off the portable dryer and removing the garment model 8.

[0049] Referring to the Figure 9 to Figure 11, a second embodiment of the portable clothes dryer according to the present invention is disclosed. The main difference between the present embodiment and the first embodiment lies in that the air intake port of the garment model is directly mounted and fixed on the casing. Other structures may employ those of the first embodiment.

[0050] To be specific, in this embodiment, a portable clothes dryer includes a casing 1, air inlets 4 and air outlets, the air inlets 4 and the air outlets are disposed on the casing 1, and a heating device 7 and a blower 6 are disposed inside the casing 1. The air inlets 4 are configured to direct air from the outside when the dryer in operation. The heating device 7 disposed inside the casing for heating air. The portable clothes dryer also has a detachable garment model 8. The clothes to be dried are put on the garment model 8 for drying. The garment model 8 is made of flexible materials and has an inflatable chamber with an air intake port 82. Air directed from the air outlet flows to the air intake port 82. The configuration requires that the air intake port covers the air outlet as the garment model 8 is being installed so that the blower could force heated air flow into the chamber of the garment model 8 to inflate it.

[0051] The portable clothes dryer provided in this embodiment is configured to include the casing 1, the heating device 7, the blower 6 and the detachable garment model 8. The overall size of the dryer can be reduced to make it easy to carry due to the garment model with the inflatable chamber is detachable and made of elastic material; the clothes to be dried could be neatly put on the garment model so the clothes dried in this manner is wrinkle-free and can be dressed immediately, and the ironing process is saved. In addition, the heated air blown by the blower enters the chamber of the garment model, and the heat is directly transmitted to the clothes to be dried via the garment model to evaporate moisture. Heated dry air are filled in the chamber constantly to enhance the drying efficiency, additionally the small volume of the chamber also improve it.

[0052] The air outlet is located at the center of the top surface of the casing 1. The portable clothes dryer may include two supporting rods 10 arranged from the left to the right. The top end of the supporting rod 10 is disposed at the top surface of the casing 1. A support block 101 is disposed at an extending end of the support rod 10. A receiving groove matched with the support block is disposed on the top surface of the casing 1. The support block 101 is configured to be in the receiving groove and aligned with the top surface of the casing 1 as the supporting rod 10 is being drawn back in the casing 1, so as to make the overall appearance more concise; meanwhile the support block 101 increases the contact area between the garment model 8 and the supporting rod 10 as the garment model 8 is sleeved on the supporting rod 10.

[0053] In this embodiment, the casing 1 is provided with an installing portion 13 matched with the air intake port 82 of the garment model 8. When the air intake port 82 is fixedly mounted to the installing portion 13, the support rod 10 extends into the chamber through the air intake port 82. As such, the air outlet and the supporting rod 10 are covered by the garment model 8, or the air outlet and the top end of the supporting rod 10 are surrounded by the installing portion 13. The opening is saved due to that the supporting rod 10 is configured to enter into the chamber through the air intake port 82 in this embodiment.

[0054] The installing portion 13 is disposed on the upper part of the side wall of the casing 11 or on the top surface of the casing 11. The installing portion 13 protrudes outwardly. The air intake port 82 of the garment model 8 is provided with an elastic pulling cord. The pulling cord is fixedly mounted on the lower end of the projected part of the installing portion 13 as installing the air intake port 82 on the installing portion 13, so as to ensure the tightness of the connection between the air intake port 82 and the installing portion 13.

[0055] One or more hooks are further arranged on the installing portion13. An extending end of the pulling cord is fixed on the hook to ensure the stability of the garment model in the drying process.

[0056] In other embodiments, the garment model 8 may not be sleeved on the support rod 10, that is to say, the support rod 10 is not disposed in the chamber. The upper part of the garment model 8 is configured to fix on the support rod 10, and the air intake port 82 on the lower part is directly installed and fixed at the air outlet; clothes to be dried cover both of the garment model 8 and the support rod 10.

[0057] In this embodiment, an air duct 12 communicating with the air inlet 4 and the air outlet is provided in the casing 1, the heating device 7 is disposed in the air duct 12. This configuration improves the working efficiency of the heating device 7 by facilitating circulation. Both of the left and right sides of the casing 1 are provided with air inlets 4, the air outlet is located at the center of the top surface of the casing 1, the air duct 12 is designed in a shape of an inverted alphabet T.

[0058] In this embodiment, a cabinet for storing the garment model 8 is disposed in the casing 1, so that the garment model 8 could be stored in the dryer.

[0059] In other embodiments, the air intake port 82 of the garment model 8 may also be directly and detachably fixed at the air outlet; in this manner, air coming out of the air outlet directly enters the air intake port 82.

[0060] Referring to Figure 9 to Figure 11, a method for drying clothes with the portable dryer is disclosed, the method includes the following steps:

a0:
The two support rods 10 extend upwardly and the garment model 8 is sleeved on the support rod 10.
[0061] Specifically, the support rod 10 extends into the chamber through the air intake port 82.

a, the air intake port 82 of the garment model 8 is fixed on the installing portion 13 on the casing 1, and the clothes to be dried are put on the garment model 8.
b, activating the portable dryer: the blower 6 and the heating device 7 start to work, air entering from the air inlet 4 is heated by the heating device 7, and the heated air is blown into the chamber of the garment model 8 by the blower 6 through the air inlet open 82, the chamber is being inflated to for drying.
In operation, measuring pressure within the chamber and controlling the pressure between a first preset pressure P1 and a second preset pressure P2. To be specific, if the pressure measured is higher than or equal to the second preset pressure P2, stopping the blower 6 and the heating device 8; if the pressure measured is lower than the first preset pressure P1, the blower 6 and the heating device 8 are working; thus the intermittent running of the blower 6 could maintain the pressure within the chamber between the first preset pressure P1 and the second preset pressure P2.
c. removing the clothes until it is dried, turning off the portable dryer and removing the garment model 8.

[0062] In other embodiments, the clothes to be dried may be placed on the garment model 8 until the chamber is being inflated during the operation.
[0063] While the invention has been specifically described in connection with certain specific embodiments thereof, it is to be understood that this is by way of illustration and not of limitation. Reasonable variation and modification are possible within the scope of the forgoing disclosure and drawings without departing from the spirit of the invention which is defined in the appended claims.

Claims

1. A portable clothes dryer comprising:

a casing provided with air inlets and air outlets;
a detachable garment model made of elastic material comprising an inflatable chamber, the chamber provided with an air intake port through which air from the air outlet enters into, clothes to be dried putting on the garment model for drying;
a heating device disposed inside the casing to heat air;
a blower configured to move heated air to the chamber of the garment model.

2. The portable clothes dryer of claim 1, wherein comprising:
a supporting rod retractably arranged on the casing; the supporting rod being pulled out when preparing the dryer for use and the garment model being sleeved on the supporting rod or the upper part of the garment model being fixed on the supporting rod.

3. The portable clothes dryer of claim 2, wherein:
an extending end of the supporting rod provided with a support block, the top surface of the casing provided with a receiving groove matched with the support block, the support block disposed in the receiving groove.

4. The portable clothes dryer of claim 2, wherein: the casing provided with an installing portion matched with the air intake port of the garment model, the supporting rod passing through the air intake port and extending into the chamber as the air intake port being fixedly mounted on the installing portion.

5. The portable clothes dryer of claim 2, wherein: the garment model provided with extending openings corresponding to the supporting rods, the supporting rods extending into the chamber through the extending openings as the garment model being installed.

6. The portable clothes dryer of claim 1, wherein: the blower capable of being upwardly ejected arranged at the air outlet comprising a cylindrical blower casing with a top surface, a plurality of air outtake ports opened on the cylindrical side wall of the blower casing; the blower ejecting upwardly to expose the air outtake ports when preparing the dryer for work.

7. The portable clothes dryer of claim 6, wherein: the lower periphery of the blower casing configured to be in close contact with the air outlet once the blower upwardly ejected, the air intake port of the garment model configured to be installed at the lower periphery of the blower casing to ensure the overall air outlet disposed in the chamber of the garment model.

8. The portable clothes dryer of claim 1, wherein: the air outlet having an upwardly funnel-shaped extending portion, and the upper end of the extending portion being fixed on the top surface of the casing.

9. The portable clothes dryer of any one of claim 1 to 8, wherein:
a pressure sensor disposed corresponding to the air outlet; when the dryer works, comparing the pressure detected with a preset pressure; if the detected pressure is higher than or equal to the preset pressure, stopping the blower and the heating device; if the detected pressure is lower than the preset pressure, maintaining the blower and the heating device

at work.

10. A method for drying clothes according to the portable clothes dryer of any one of claim 1 to 8, comprising the following steps:

a. installing and fixing the air intake port of the garment model on the casing, putting the clothes to be dried on the garment model;
b. starting the clothes dryer: the blower and the heating device begin to work, the air introduced from the air inlet is heated by the heating device, then the heated air is directed by the blower to flow into the chamber of the garment model through the air intake port, the garment model is inflated to put on the clothes to be dried;
c. taking off the dried clothes and then turning off the portable clothes dryer, removing the garment model.

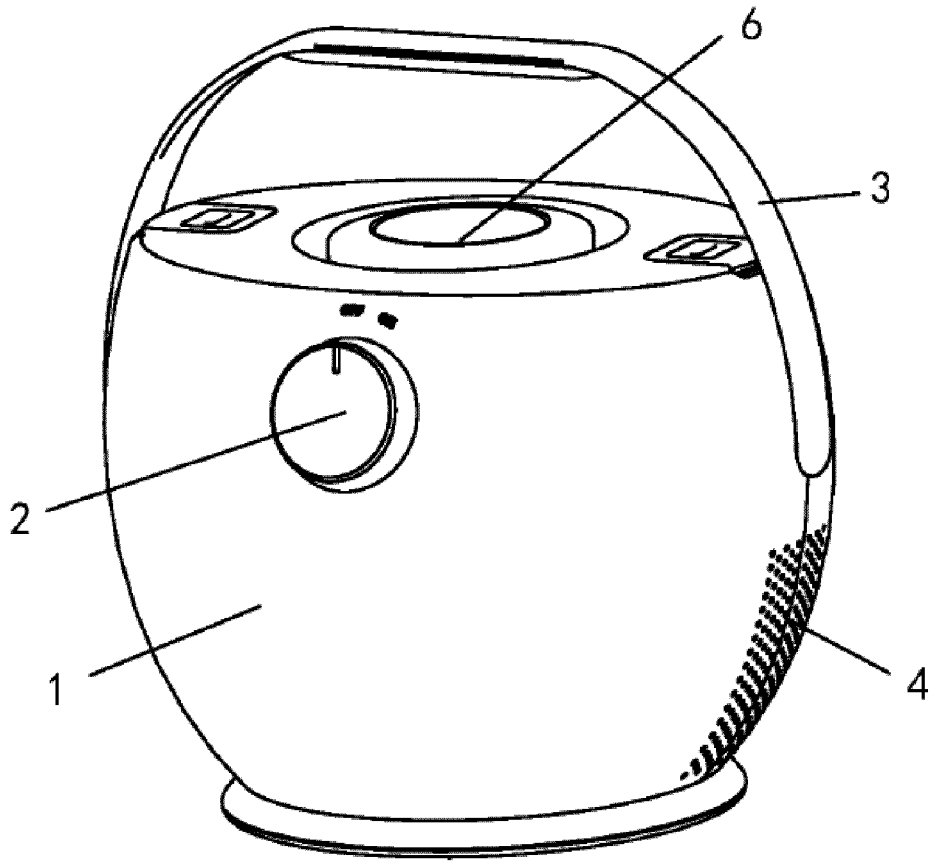

FIG. 1

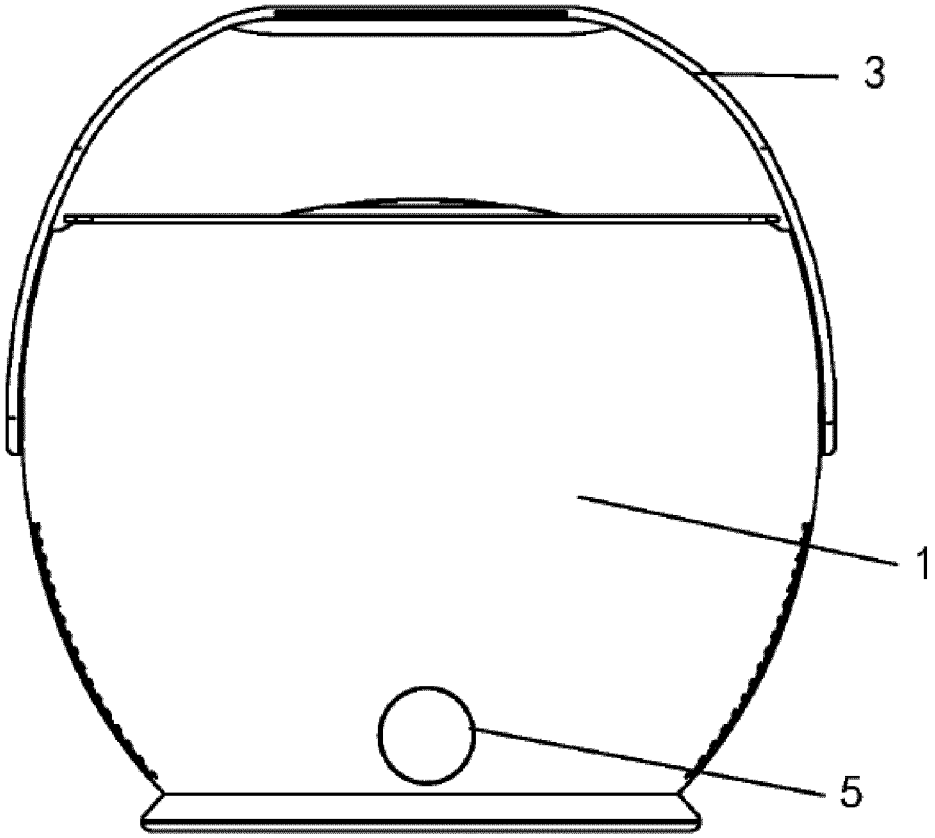

FIG. 2

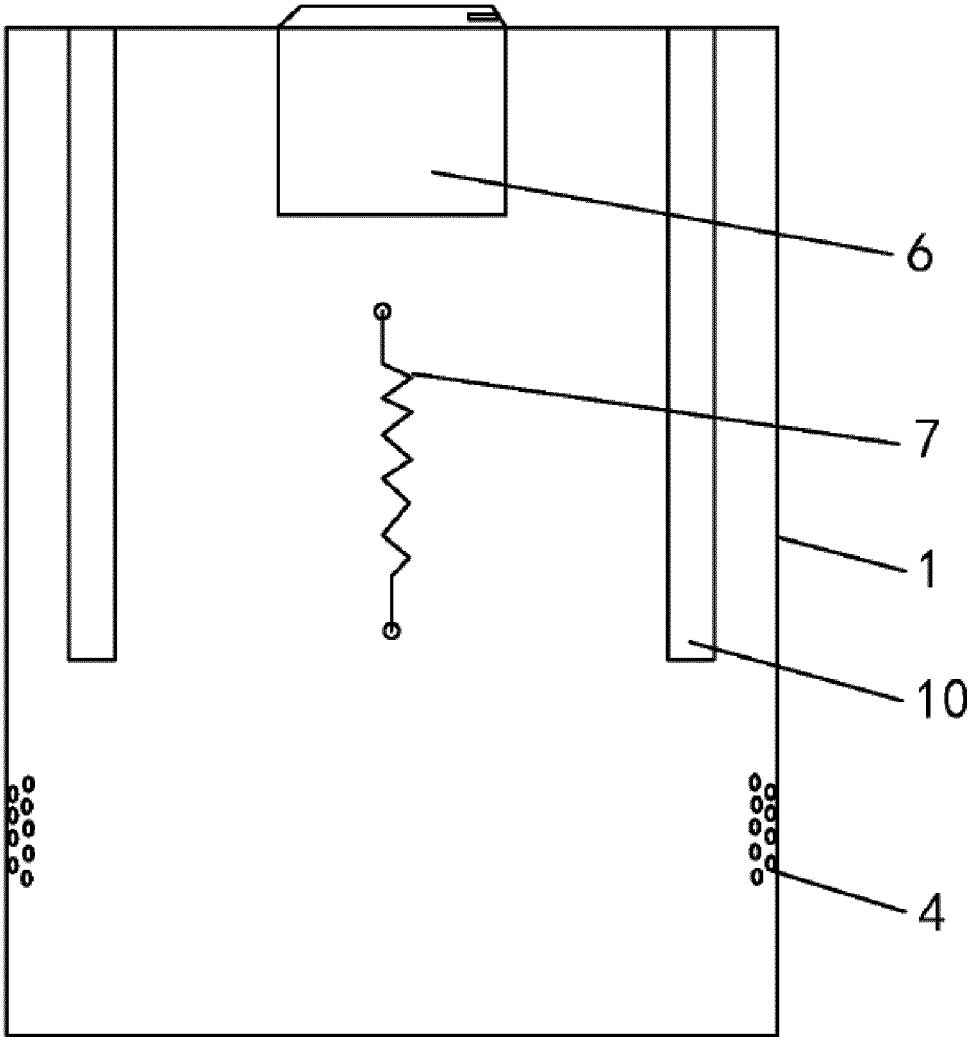

FIG. 3

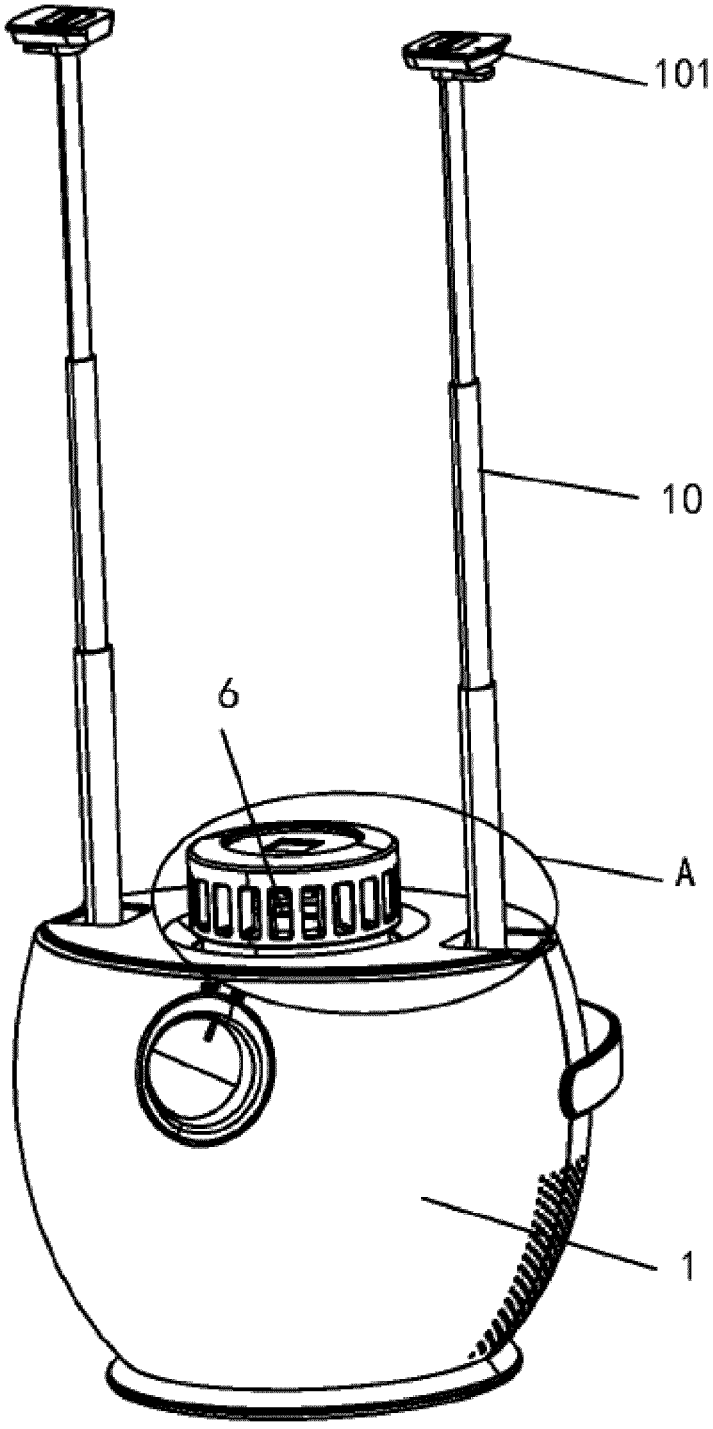

FIG. 4

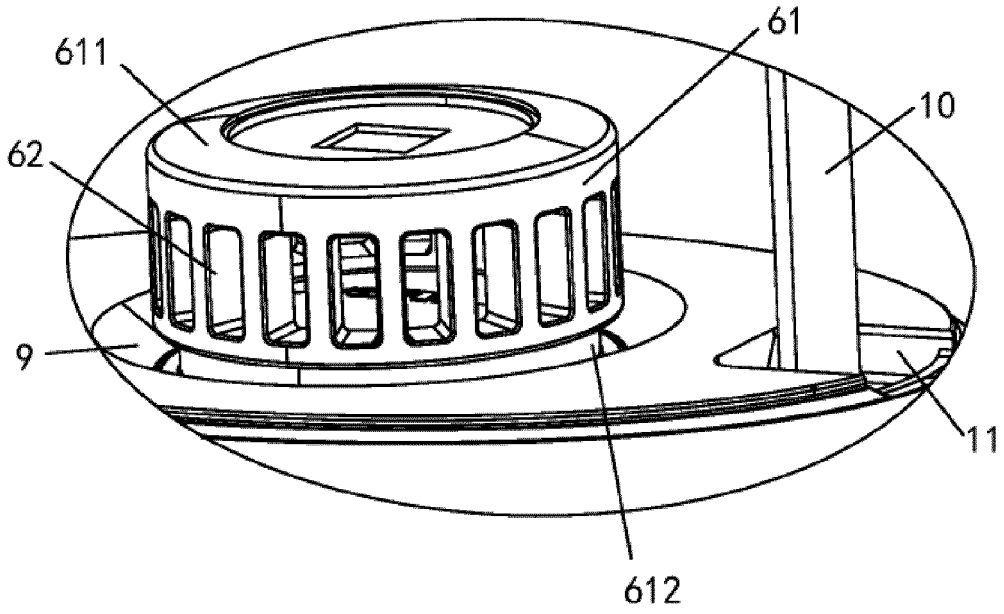

FIG. 5

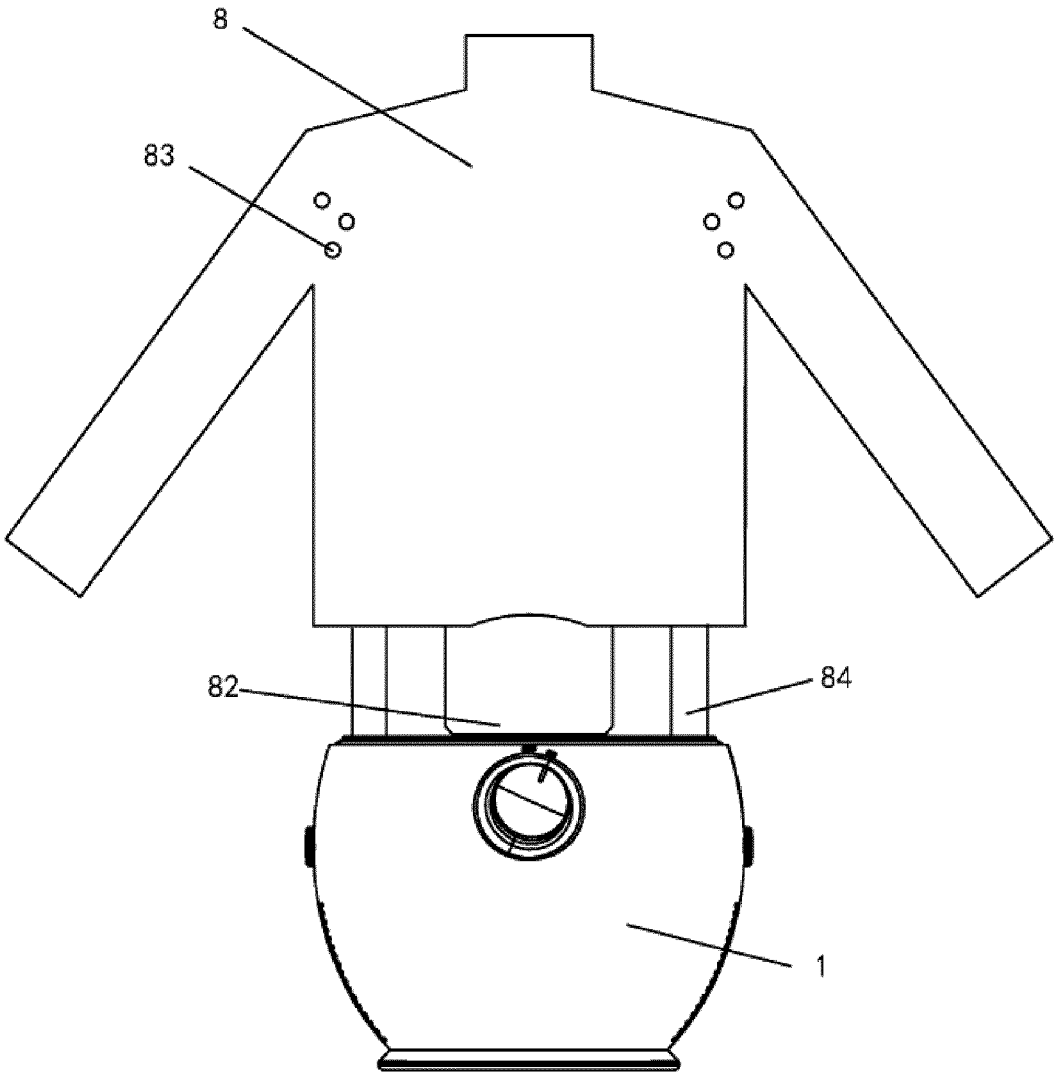

FIG. 6

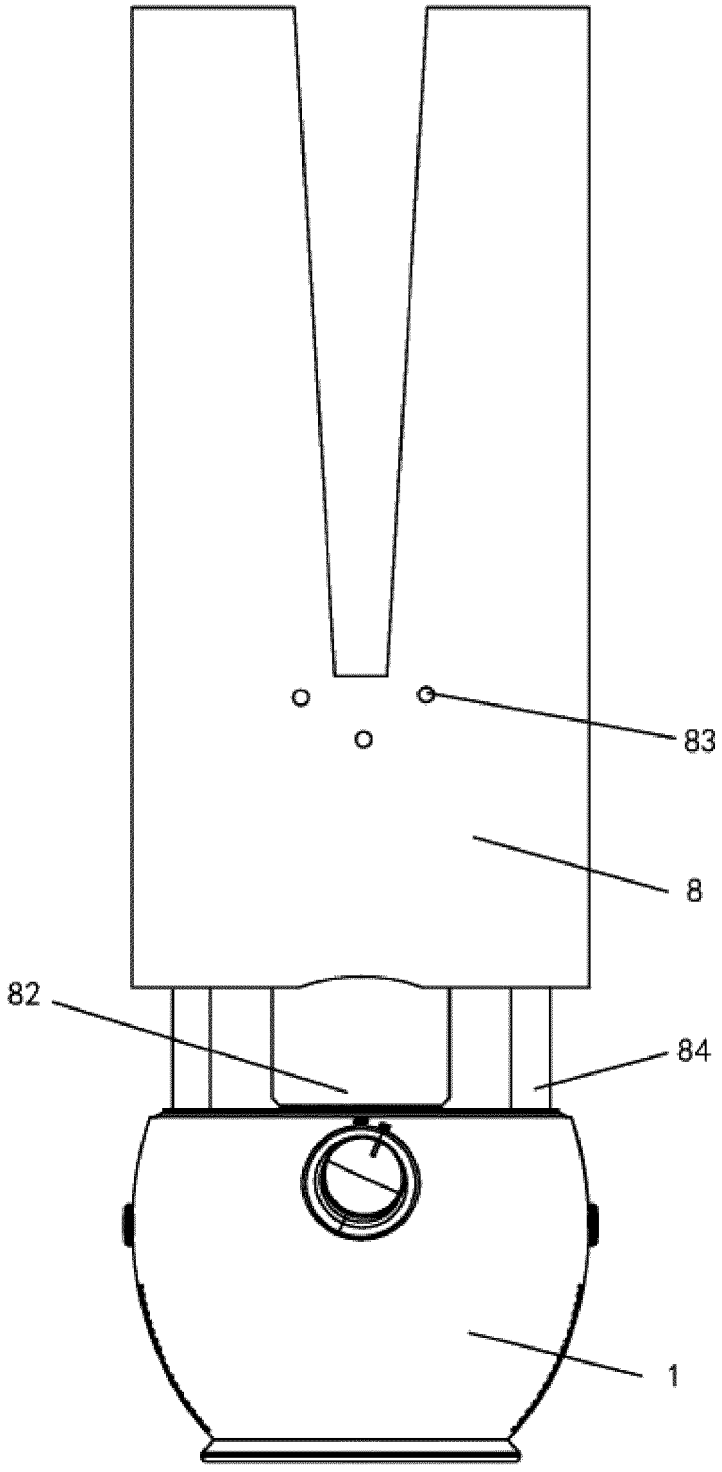

FIG. 7

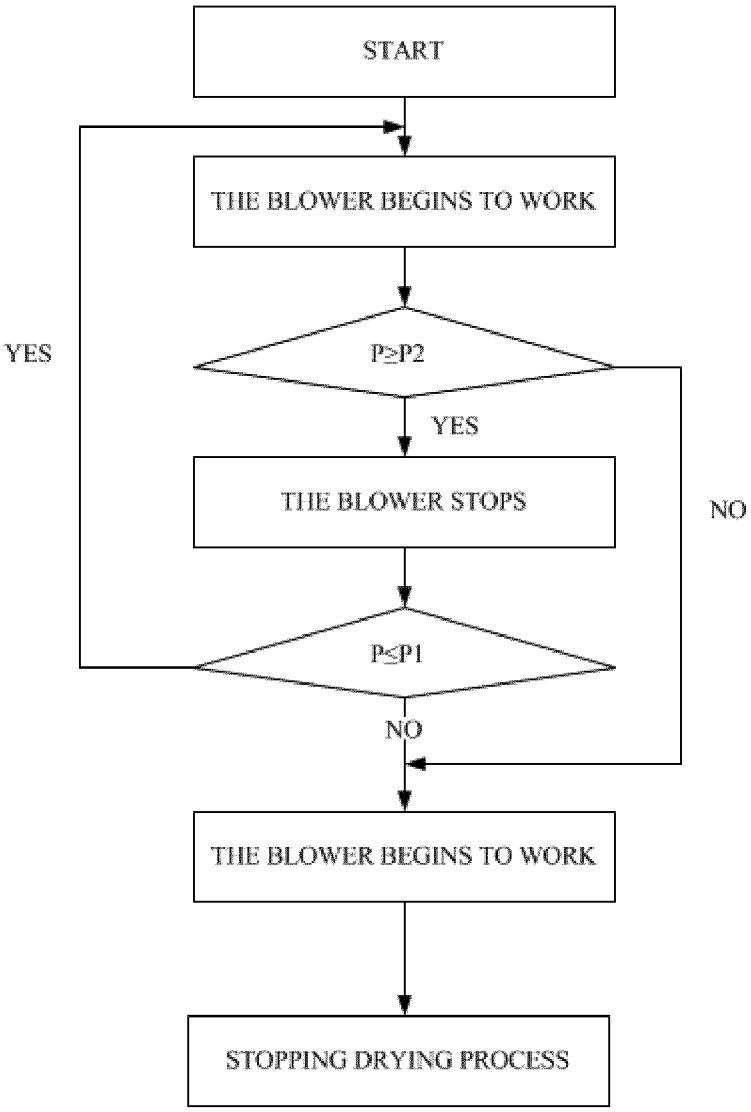
START
THE BLOWER BEGINS TO WORK
P≥P2
YES
YES
THE BLOWER STOPS
NO
P≤P1
NO
THE BLOWER BEGINS TO WORK
STOPPING DRYING PROCESS

FIG. 8

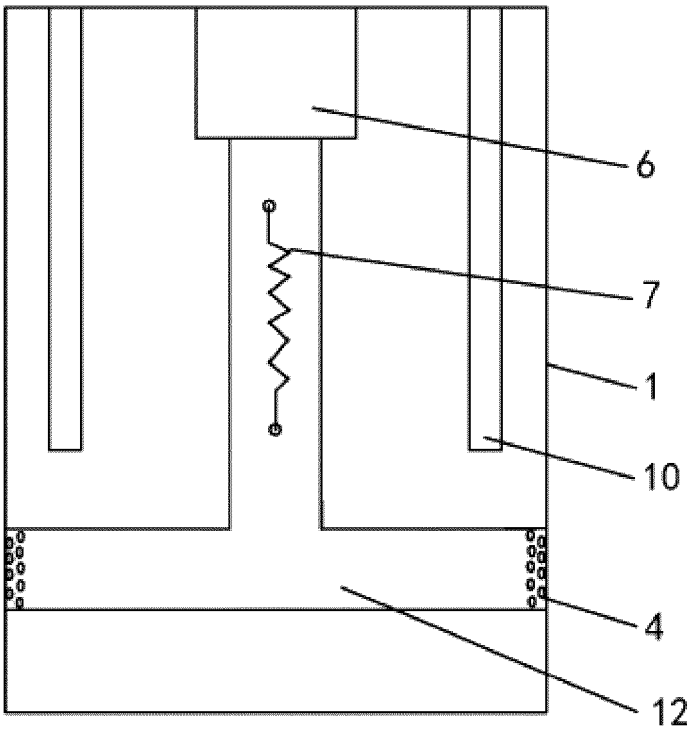

FIG. 9

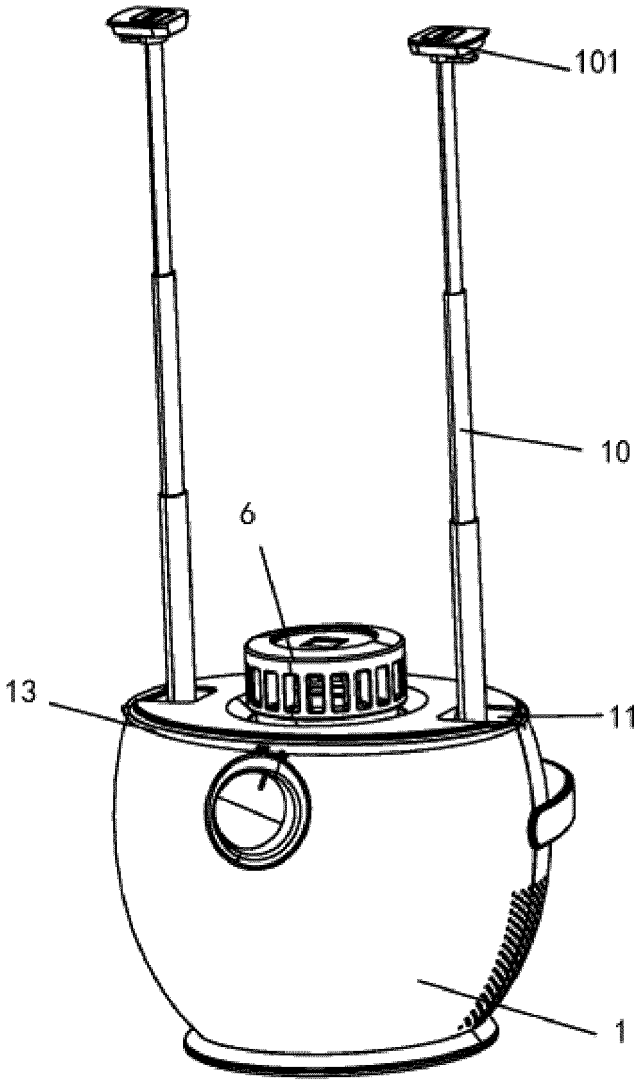

FIG.10

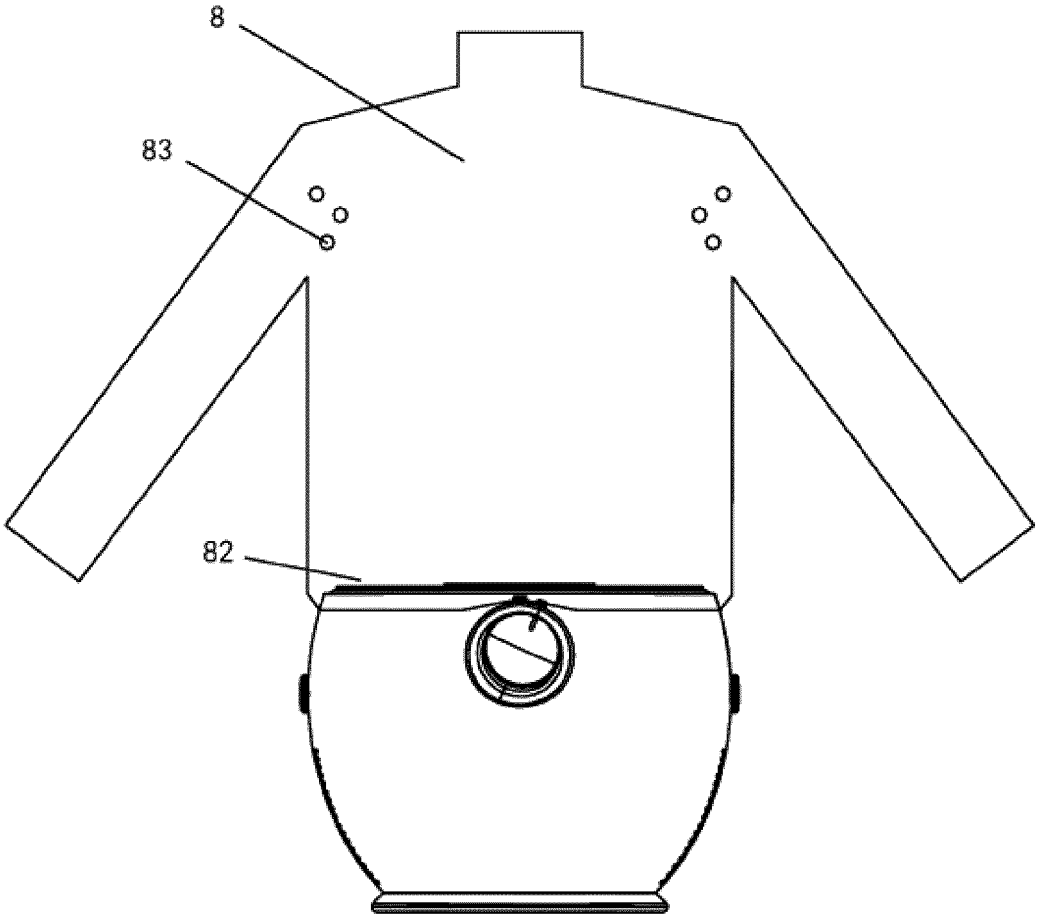

FIG.11

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2016/098972

A. CLASSIFICATION OF SUBJECT MATTER

D06F 59/02 (2006.01) i

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)

D06F

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)

CNABS; CPRS; CNTXT; DWPI; SIPOABS; CNKI: dryer, model, mold, clothe, heat, wind, hot, air, fan, human, body, rod, telescopic, support, expansion

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN 102995371 A (FOSHAN SINCERE HOME INT IND CO., LTD.) 27 March 2013 (27.03.2013) description, paragraphs [0017], [0022]-[0024] and [0030], and figure 1	1-10
X	CN 204266023 U (CHEN, Lizhen) 15 April 2015 (15.04.2015) description, paragraph [0013], and figure 1	1-10
X	CN 2437715 Y (WANG, Jun) 04 July 2001 (04.07.2001) description, page 2, lines 1-8, and figure 1	1, 6-10
A	JP H1119398 A (MATSUSHITA ELECTRIC IND CO., LTD.) 26 January 1999 (26.01.1999) the whole document	1-10
A	CN 203080320 U (LI, Junjun) 24 July 2013 (24.07.2013) the whole document	1-10

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

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

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"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
12 December 2016	21 December 2016

Name and mailing address of the ISA	Authorized officer
State Intellectual Property Office of the P. R. China No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088, China Facsimile No. (86-10) 62019451	FU, Guixin Telephone No. (86-10) 62084564

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

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2016/098972

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 102995371 A	27 March 2013	CN 102995371 B	29 April 2015
CN 204266023 U	15 April 2015	None	
CN 2437715 Y	04 July 2001	None	
JP H1119398 A	26 January 1999	None	
CN 203080320 U	24 July 2013	None	

Form PCT/ISA /210 (patent family annex) (July 2009)