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(54) **CLOTHES-DRYING MACHINE**

(57) A dryer comprises a drying drum, a drum motor driving the drying drum to rotate, and a drying fan (3) for making dried hot air enter into the drying drum. The drying fan (3) comprises a volute (31), a fan (32) disposed in the volute (31), and a drying motor driving the fan (32) to rotate. The drum motor and the drying motor share one motor, and the motor is capable of forward and reverse rotation. and drives the drying drum and the fan to rotate forward and reversely. The amount of air flow passed by the fan(32) is same in both cases of forward and reverse rotation. The forward and reverse rotation of the drying drum can more effectively shake the clothes in the drying drum, so that the drying efficiency is higher and the drying is more uniform.

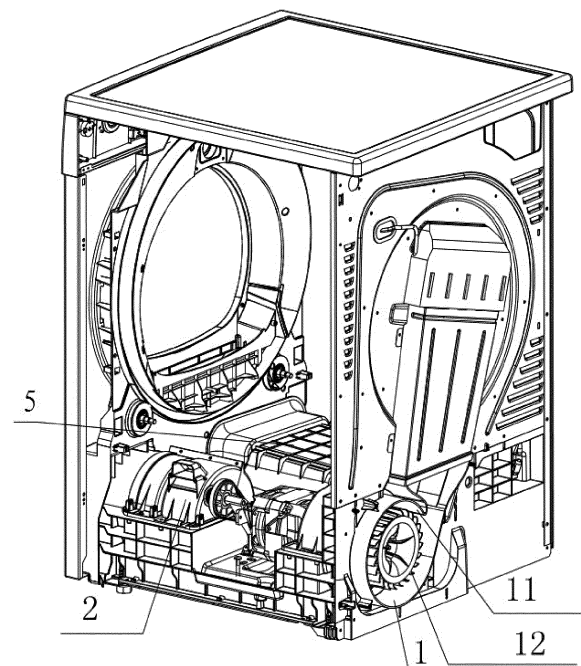


Fig.1

Description

Technical field

[0001] The present disclosure relates to a kind of dryer, relates to the technical field of dryer.

Background

[0002] The circulation method of the dryer roughly is: a motor drives a drying fan to rotate so that the air inside the dryer flows to form a wind in the duct. After the wind at the room temperature has been heated to dried hot wind, the dried hot wind enters the drying drum and contacts with the damp clothes in the drum. and removes the water from the clothes until the clothes inside the drum are dried. It can be seen that the effective circulation of the wind greatly affects the working efficiency of the dryer. The wind is formed by the fan 12 of the drying fan 1 in the volute 11 rotating to generate air pressure and then enters the air duct to start the circulation.

[0003] As shown in Fig. 1 and Fig. 2, the drying drum and the fan of the drying fan 1 of conventional dryer are all rotated in one direction, and the direction of the effective airflow provided is a single direction. The shape of the blades of the drying fan 1 and the volute are designed based on the evolvent principle. The direction of the rotation of the fan 12 is rotated towards the direction closing to the volute tongue of the volute (as shown in Fig. 1 and 2, the fan rotates in the counterclockwise direction). Due to the unidirectional rotation of the drying drum, the clothes in the drum are intertwined with each other and cannot be completely shaken and unfold. As a result, the drying efficiency is relatively low, the drying uniformity does not reach the ideal state, and the drying clothes are unevenly dried.

[0004] The present disclosure is proposed due to all the above.

Summary

[0005] The technical problem to be solved by the present disclosure is to overcome the shortcomings of the prior art by providing the dryer, its drying drum and drying fan both are able to rotate clockwise and anticlockwise for improving the drying efficiency and the drying uniformity of the drying clothes.

[0006] In order to solve the above technical problem, the basic conception of the technical solution adopted by the present disclosure is as follows:

A dryer comprises a drying drum, a drum motor driving the drying drum to rotate, and a drying fan for making dried hot air enter into the drying drum. The drying fan comprises a volute, a fan disposed in the volute, and a drying motor driving the fans to rotate. The drum motor and the drying motor share one motor, and the motor is capable of forward and reverse rotation. The motor drives the drum and the fan to rotate forward and reversely. The

amount of air flow passed by the fan is same in both cases of forward and reverse rotation.

[0007] Furthermore, the volute of the drying fan comprises two parts which are a first case and a second case, and is formed by connecting the two parts in snap-fit pattern in an axial direction of the fan. An air inlet is arranged at the first case in the axial direction of the fan, and an air outlet is arranged at the volute in a radial direction of the fan.

[0008] Furthermore, the second case of the volute of the drying fan comprises a bottom plate, and a side plate mounted on one side of the bottom plate. The side plate encloses a circular-like contour which is formed by connecting a plurality of involute contours. An opening is configured on the circular-like contour, and each of two outward sides of the opening is outward provided with a straight plate. The two straight plates are respectively tangent to the circular-like contour on both sides of the opening to form an U-shaped contour. An area between the two straight plates communicates with the opening to form an air outlet of the volute. The fan is arranged in the circular-like contour.

[0009] Furthermore, the second case of the volute of the drying fan comprises a bottom plate and a side plate mounted on one side of the bottom plate. The side plate encloses a circular contour, and an opening is configured on the circular contour. And each of two outward sides of the opening is outward provided with a straight plate. The two straight plates are respectively tangent to the circular contour on both sides of the opening to form an U-shaped contour. An area between the two straight plates communicates with the opening to form an air outlet of the volute. The fan is arranged in the circular contour, and located at the center of the circular contour.

[0010] Furthermore, the first case of the volute of the drying fan has an U-shaped contour that matches with the second volute.

[0011] Furthermore, the dryer has a condensation function, and the dryer comprises a condenser and a condensate fan. The condensate fan provides cooling air to the condenser. The condensate fan comprises a volute, a fan arranged in the volute, and a condensate motor driving the fan to rotate. The condensate motor, the drum motor and the drying motor share one motor. The condensate fan reversibly rotates along with the drying motor, and the amount of air flow passed by the condensate fan is same in both cases of forward and reverse rotation.

[0012] Furthermore, the volute of the condensate fan comprises two parts which are a first case and a second case, and is formed by connecting the two parts in snap-fit pattern in an axial direction of the fan. An air inlet is arranged at the first case in the axial direction of the fan, and an air outlet is arranged at the volute in a radial direction of the fan.

[0013] Furthermore, the second case of the volute of the condensate fan comprises the bottom plate, and a side plate mounted on one side of the bottom plate. The side plate encloses a circular-like contour which is formed

by connecting a plurality of involute contours. An opening is configured on the circular-like contour, and each of two sides of the opening is outward provided with a straight plate. The two straight plates are respectively tangent to the circular-like contour on both sides of the opening to form an U-shaped contour. An area between the two straight plates communicates with the opening to form an air outlet of the volute. The fan is arranged in the circular-like contour.

[0014] Furthermore, the second case of the volute of the condensate fan comprises a bottom plate and a side plate mounted on one side of the bottom plate. The side plate encloses a circular contour, and an opening is configured on the circular contour. And two straight plates are set outwards from the opening. The two straight plates are respectively tangent to the circular contour on both sides of the opening to form an U-shaped contour. An area between the two straight plates forms an outlet volute. The fan is arranged in the circular contour, and located at the center of the circular contour.

[0015] Furthermore, the first case of the volute of the condensate fan has an U-shaped contour that matches with the second volute.

[0016] After adopting the above technical solutions, the present disclosure has the following beneficial effects compared with the prior art.

[0017] The dryer of the present disclosure comprises the drying fan and the drying drum, and the air outlet of the drying fan communicates with the air inlet of the drying drum by the air duct. The drying fan comprises the volute, the fan, and the drying motor driving the fan to rotate. The drying drum and the drying fan both are able to rotate clockwise and anti-clockwise, and both are driven by the same motor. In this way, the cost is saved. As the drying drum are able to rotate clockwise and anti-clockwise, the laundry in the drying drum is more effectively shaken, so that the drying efficiency is higher and the drying is more uniform.

[0018] The embodiments of the present disclosure are described in further detail below with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019]

Fig.1 is the installation diagram of the drying fan and the condensate fan in the dryer in the prior art;

Fig. 2 is the installation diagram of the drying fan in the dryer in the prior art;

Fig. 3 is the installation diagram of the condensate fan in the dryer in the prior art;

Fig.4 is the installation diagram of the drying fan in the dryer in the present disclosure;

Fig.5 is an enlarged schematic view of part C in Fig.4;

Fig. 6 is the installation diagram of the condensate fan in the dryer in the present disclosure.

Fig.7 is an enlarged schematic view of part B in Fig.6;

Fig.8 is the installation diagram of the drying fan in embodiment 1 and 6 in the dryer in the present disclosure;

Fig.9 is an enlarged schematic view of part D in Fig. 8.
1.drying fan 11.volute 12.fan 2.condensate fan 21.volute 22.fan 3.drying fan 31.volute 32.fan 33.gap 34.gap 4.condensate fan 41.volute 42.fan 5.condenser

DETAILED DESCRIPTION

[0020] Due to the drying drum of the existing dryer can only rotate in one direction, the shaking degree of the clothes in the drying drum is limited. In order to make the degree of shaking of the clothes better, to improve the drying efficiency, and to improve the drying uniformity, both of the drying drum and the drying fan 3 in the dryer of the present disclosure are able to rotate clockwise and anti-clockwise. In addition, the fan provides equal amount of air when it rotates clockwise and anti-clockwise. This structure is able to apply to all kinds of dryers that equipped with drying drum and drying fan.

Embodiment 1

[0021] Some of the dryers are vented dryers, and the indoor air in the room where the clothes dryer is located is sucked into the drying fan 3 of the dryer through the air inlet of the dryer. After the indoor air is heated by the heating device installed in the drying air tunnel, the indoor air enters into the drying drum of the dryer by the drying air tunnel. Then the air dries the clothes in the drying drum, and discharges from the air outlet of the dryer. Repeating the above actions achieves clothes drying. The dryer of the present disclosure may be this type, and the dryer comprises the drying drum, the drum motor that drives the drying drum to rotate, and the drying fan for making dried hot air enter into the drying drum. The drying drum comprises a volute, a fan arranged inside the spiral casting, and a drying motor driving the fans rotate. The drum motor and the drying motor share one motor, and the motor is capable of forward and reverse rotation. The motor drives the drum and the fan to rotate forward and reversely. The amount of air flow passed by the fan is same in both cases of forward and reverse rotation.

[0022] The volute of the drying fan of this type dryer comprises two parts which are the first case and the second case, and is formed by connecting the two parts in snap-fit pattern in an axial direction of the fan. An air inlet is arranged on the first case in the axial direction of the

fan, and an air outlet is arranged on the volute in a radial direction of the fan.

[0023] The second case of the volute of the drying fan comprises the bottom plate and the side plate mounted on one side of the bottom plate. The side plate encloses a circular contour, and the circular contour is provided with an opening. And each outward side of the opening is provided with a straight plate. The two straight plates are respectively tangent to the circular contour on both sides of the opening to form a U-shaped contour. An area between the two straight plates communicates with the opening to form an air outlet of the volute. The fan is arranged in the circular contour, and located at the center of the circular contour. The first case of the volute of the drying fan has a U-shaped contour that matches with the second volute.

Embodiment 2

[0024] Some dryers are heat-pump dryers, and comprise the drying drum, the drying motor that drives the drying drum to rotate, and the drying fan for making dried hot air enter into the drying drum. The drying fan communicates with the drying drum by closed cyclic air duct, and the heating device is arranged in the cyclic air duct between the air outlet of the drying fan and the air inlet of the drying drum. The drying fan comprises the volute, the fan arranged in the volute, and the drying motor driving the fans rotate. The drum motor and the drying motor share one motor, and the motor is capable of forward and reverse rotation. The motor drives the drum and the fan to rotate forward and reversely. The amount of air flow passed by the fan is same in both cases of forward and reverse rotation.

[0025] The volute of the drying fan of this type dryer comprises two parts which are the first case and the second case, and is formed by connecting the two parts in snap-fit pattern in an axial direction of the fan. An air inlet with bell opening shape is arranged at the first case in the axial direction of the fan, and an air outlet is arranged at the volute in a radial direction of the fan. The second case of the volute of the drying fan comprises the bottom plate and the side plate mounted on one side of the bottom plate. The side plate encloses circular contours, and the circular contour is provided with an opening. And each outward sides of the opening is provided with a straight plate. The two straight plates are respectively tangent to the circular contour on both sides of the opening to form a U-shaped contour. An area between the two straight plates communicates with the opening to form an air outlet of the volute. The fans are arranged in the circular contour, and locate at the center of the circular contour. The first case of the volute of the drying fan has an U-shaped contour that matches with the second volute.

Embodiment 3

[0026] Some dryers are with condensation function,

and this type of dryers is provided with the condenser and the condensate fan.

[0027] The dryer of the present disclosure comprises the drying drum, the drum motor driving the drying drum to rotate, the drying fan 3, the condenser 5, and the condensate fan 4, and the air outlet of the drying fan 3 communicates with the air inlet of the drying drum by the air duct.

[0028] The drying drum, the condenser 5, and the drying fan 3 are successively connected by the air duct to form the drying cyclic air duct, and the condensate fan 4 for making the cooling cold air enter into the condenser 5. The air in the drying cyclic air duct is isolated from the cooling cold air passing through the condenser 5.

[0029] As shown in Fig.4 and Fig.5, the drying fan 3 comprises the volute 31, the fan 32, and the drying motor driving the fan to rotate, and the center axis of the volute 31 is coaxial with the center axis of the fan 32. Both the volute 31 and the fan 32 have a symmetrical structure.

[0030] The volute 31 of the drying fan 3 comprises the first case and the second case, and is formed by connecting the two parts in snap-fit pattern in an axial direction of the fan. An air inlet with the bell opening shape is arranged at the first case in the axial direction of the fan, and an air outlet is arranged at the volute in the radial direction of the fan. The air inlet with the bell opening shape means that the end of the air inlet facing the fan has a small diameter, and the end facing away from the fan has a large diameter and resembles a bell mouth.

[0031] The second case of the volute 31 of the drying fan comprises the bottom plate and the side plate mounted on one side of the bottom plate. The side plate encloses the circular contour, and the circular contour is provided with an opening. And each outward sides of the opening is provided with a straight plate. The two straight plates are respectively tangent to the circular contour on both sides of the opening to form an U-shaped contour. An area between the two straight plates forms an air outlet of the volute. The fan is arranged in the circular contour, and located at the center of the circular contour.

[0032] The first case of the volute of the drying fan has a U-shaped contour that matches with the second volute.

[0033] The blades of the fan 32 of the drying fan 3 are straight blades extending in the radial direction of the fan. The blade surfaces are parallel to the central axis that is the rotation axis of the fan 32.

[0034] As shown in Fig.6 and 7, the condensate fan 4 comprises the volute 41, the fan 42, and the condensate motor driving the fan to rotate. The center axis of the volute 41 is coaxial with the center axis of the fan 42. Both the volute 41 and the fan 42 have a symmetrical structure.

[0035] The volute 41 of the condensate fan 4 comprises the first case and the second case, and is formed by connecting the two parts in snap-fit pattern in an axial direction of the fan. An air inlet with bell opening shape is arranged at the first case in the axial direction of the fan, and an air outlet is arranged at the volute in the radial

direction of the fan.

[0036] The second case of the volute 41 of the condensate fan 4 comprises the bottom plate and the side plate mounted on one side of the bottom plate. The side plate encloses the circular contour, and the circular contour is provided with an opening. Each of two sides of the opening is outward provided with a straight plate. The two straight plates are respectively tangent to the circular contour on both sides of the opening to form an U-shaped contour. An area between the two straight plates communicates with the opening to form an air outlet of the volute. The fan is arranged inside the circular contour, and located at the center of the circular contour. The first case of the volute 41 of the condensate fan has an U-shaped contour that matches with the second volute.

[0037] The blades of the fan 42 of the condensate fan 4 are straight blades extending in the radial direction of the fan. The blade surfaces are parallel to the central axis of the fan 32.

[0038] The condensate fan of the present disclosure is different from the condensate fan of a conventional dryer equipping with a condenser and a condensate fan. In the conventional dryer, as shown in Fig.3, the design of the blades of the condensate fan 2 and the shapes of the volute is based on the evolvent principle, and the direction is the same as the rotation direction of the fan 22.

[0039] The heating device is arranged in the drying cyclic air tunnel between the condenser and the drying fan.

[0040] In order to reduce the complexity of the dryer and reduce energy consumption, the condensate motor, the drum motor and the drying motor share one motor, so that the drying drum, the fan of the drying fan and the fan of the condensate fan can all rotate in the same direction.

[0041] The dryer of the present disclosure comprises the drying fan, the drying drum, the condenser, and the condensate fan, and the air outlet of the drying fan communicates with the air inlet of the drying drum by the air duct. The drying drum, the condenser, and the drying fan are successively connected by the air duct to form the drying cyclic air duct, and the condensate fan provides the cooling cold air for the condenser. The drying fan comprises the volute and the fan. The central axis of the volute is coaxial with the central axis of the fan. The condensate fan comprises the volute and the fan. The central axis of the volute is coaxial with the central axis of the fan. The condensate motor, the drum motor, and the drying motor are the same motor to reduce the equipment load and the energy consumption. The drying drum, the fan of the drying fan, and the fan of the condensate fan are all able to clockwise and anti-clockwise rotate. As the drying drum are able to rotate clockwise and anti-clockwise, the laundry in the drying drum is more effectively shaken and more uniform dried with a higher drying efficiency. The drying fan provides power for the drying circulation air entering and exiting the drying drum, and the condensate fan provides the cooling air for the condenser. In this way, the hot and damp drying circulation

air from the drying drum is cooled and dehumidified at the condenser. The volute and the blades of the drying fan and the condensate fan are symmetrical. During the drying drum rotating clockwise or anticlockwise, the drying fans are able to effectively provide power to the air inside the drying drum for circulation through the drying cyclic air duct. The condensate fans are able to effectively provide power to the cooler air outside the dryer to flow to the condenser. It will not be able to provide effective air flow for both directions of rotation when the drying fan and the condenser fan in the existing clothes dryer are reversed due to the involute design of the volute and the fan.

15 Embodiment 4

[0042] The differences between the present embodiment with the embodiment 1, 2 or 3 are as following:

As shown in Fig.8 and 9, the second case of the spiral casting 31 of the drying fan comprises the bottom plate, and the side plate mounted on one side of the bottom plate. The side plate encloses a circular-like contour which is formed by connecting a plurality of involute contours. An opening is configured on this type of circular-like contour, and each of two sides of the opening is outward provided with a straight plate. The two straight plates are respectively tangent to the circular-like contour on both sides of the opening to form a U-shaped contour. The area between the two straight plates is communicated with the opening to form an air outlet of the volute. The fan is arranged inside the circular-like contour, and the central axis of the fan 32 located at the centre of the circular-like contour at the side away from the air outlet. Namely, the gap 33 between the volute 31 and the fan 32 gradually increases toward the air outlet from the bottom of the U-shaped contour, so that a better air pressure can be formed and the flow amount of the cyclic air can be increased.

40 Embodiment 5

[0043] The differences between the present embodiments with the embodiment 3 are as following:

The second case of the spiral casting 41 of the condensate fan comprises the bottom plate, and the side plate mounted on one side of the bottom plate. The side plate encloses a circular-like contour which is formed by connecting a plurality of involute contours. An opening is configured on this type of circular-like contour, and each of two sides of the opening is outward provided with a straight plate. The two straight plates are respectively tangent to the circular-like contour on both sides of the opening to form an U-shaped contour. The area between two straight plates is communicated with the opening to form an air outlet of the volute 41. Fans are arranged inside the circular-like contour, and the central axis of the fan 42 located at the centre of the circular-like contour at the side away from the air outlet. Namely, the gap be-

tween the volute 41 and the fan 42 gradually increases toward the air outlet from the bottom of the U-shaped contour, so that a better air pressure can be formed and the flow amount of the cyclic air can be increased.

Embodiment 6

[0044] The differences between the present embodiments with the embodiment 3 are as following:

As shown in Fig.8 and 9, the second case of the volute 31 of the drying fan comprises the bottom plate, and the side plate mounted on one side of the bottom plate. The side plate encloses a circular-like contour which is formed by connecting a plurality of involute contours. An opening is configured on this type of circular-like contour, and each of two sides of the opening is outward provided with a straight plate. The two straight plates are tangent to the circular-like contour on both sides of the opening to form an U-shaped contour. The area between the two straight plates communicates with the opening to form an air outlet of the volute. Fans are arranged inside the circular-like contour, and the central axis of the fan 32 located at the centre of the circular-like contour at the side away from the air outlet. Namely, the gap 33 between the volute 31 and the fan 32 gradually increases toward the air outlet from the bottom of the U-shaped contour, so that a better air pressure can be formed and the flow amount of the cyclic air can be increased. The gap 33 is the smallest gap between the volute 31 and the fan 32, while the gap 34 next to the air outlet is between the volute 31 and the fan 32. From the gap 33 to the gap 34, the gap gradually increases.

[0045] The second case of the spiral casting 41 of the condensate fan comprises the bottom plate, and the side plate mounted on one side of the bottom plate. The side plate encloses a circular-like contour which is formed by connecting a plurality of involute contours. An opening is configured on this type of circular-like contour, and each of two sides of the opening is outward provided with a straight plate. The two straight plates are respectively tangent to the circular-like contour on both sides of the opening to form an U-shaped contour. The area between the two straight plates communicates with the opening to form an air outlet of the volute. Fans are arranged inside the circular-like contour, and the central axis of the fan 42 located at the centre of the circular-like contour at the side away from the air outlet. Namely, the gap between the volute 41 and the fan 42 gradually increases toward the air outlet from the bottom of the U-shaped contour, so that a better air pressure can be formed and the flow amount of the cyclic air can be increased.

[0046] The embodiments in the above embodiments may be further combined or substituted, and the embodiments are merely for describing the preferred embodiments of the present disclosure, and are not intended to limit the conception and scope of the present disclosure. Without departing from the design concept of the present disclosure, various changes and improvements, made

by technical personnel in the technical field of the present disclosure, belong to the protection scope of the present disclosure.

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Claims

1. A dryer, comprising a drying drum, a drum motor driving the drying drum to rotate, and a drying fan for making dried hot air enter into the drying drum; wherein, the drying fan comprises a volute, a fan disposed in the volute, and a drying motor driving the fan to rotate; the drum motor and the drying motor share one motor, **characterized in that:** the motor is capable of forward and reverse rotation, and drives the drying drum and the fan to rotate forward and reversely; the amount of air flow passed by the fan is same in both cases of forward and reverse rotation.
2. The dryer according to claim 1, **characterized in that:**

the volute of the drying fan comprises two parts which are a first case and a second case, and is formed by connecting the two parts in snap-fit pattern in an axial direction of the fan; an air inlet is arranged at the first case in the axial direction of the fan, and an air outlet is arranged at the volute in a radial direction of the fan.
3. The dryer according to claim 1, **characterized in that:**

the second case of the volute of the drying fan comprises a bottom plate, and a side plate mounted on one side of the bottom plate; the side plate encloses a circular-like contour which is formed by connecting a plurality of involute contours ; an opening is configured on the circular-like contour, each of two sides of the opening is outward provided with a straight plate; two straight plates are respectively tangent to the circular-like contour on both sides of the opening to form an U-shaped contour; an area between the two straight plates communicates with the opening to form an air outlet of the volute; and the fan is arranged in the circular-like contour.
4. The dryer according to claim 1, **characterized in that:**

the second case of the volute of the drying fan

- comprises a bottom plate and a side plate mounted on one side of the bottom plate; the side plate encloses a circular contour, an opening is configured on the circular contour; each of two sides of the opening is outward provided with a straight plate; two straight plates are respectively tangent to the circular contour on both sides of the opening to form an U-shaped contour; an area between the two straight plates communicates with the opening to form an air outlet of the volute; and the fan is arranged in the circular contour, and located at a center of the circular contour.
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- an opening is configured on the circular-like contour, each of two sides of the opening is outward provided with a straight plate; two straight plates are respectively tangent to the circular-like contour on both sides of the opening to form an U-shaped contour; an area between the two straight plates communicates with the opening to form an air outlet of the volute; the fan is arranged in the circular-like contour.
9. The dryer according to claim 7, **characterized in that:** the second case of the volute of the condensate fan comprises a bottom plate and a side plate mounted on one side of the bottom plate; the side plate encloses a circular contour, an opening is configured on the circular contour; two straight plates are set outwards from the opening; the two straight plates are respectively tangent to the circular contour on both sides of the opening to form an U-shaped contour; an area between the two straight plates forms an air outlet of the volute; and the fan is arranged in the circular contour, and located at a center of the circular contour.
10. The dryer according to claim 8 or 9, **characterized in that:** the first case of the volute of the condensate fan has an U-shaped contour that matches with the second volute.
- the volute of the condensate fan comprises two parts which are a first case and a second case, and is formed by connecting the two parts in snap-fit pattern in an axial direction of the fan; an air inlet is arranged at the first case in the axial direction of the fan, and an air outlet is arranged at the volute in a radial direction of the fan.
- the second case of the volute of the condensate fan comprises a bottom plate, and a side plate mounted on one side of the bottom plate; the side plate encloses a circular-like contour which is formed by connecting a plurality of involute contours;

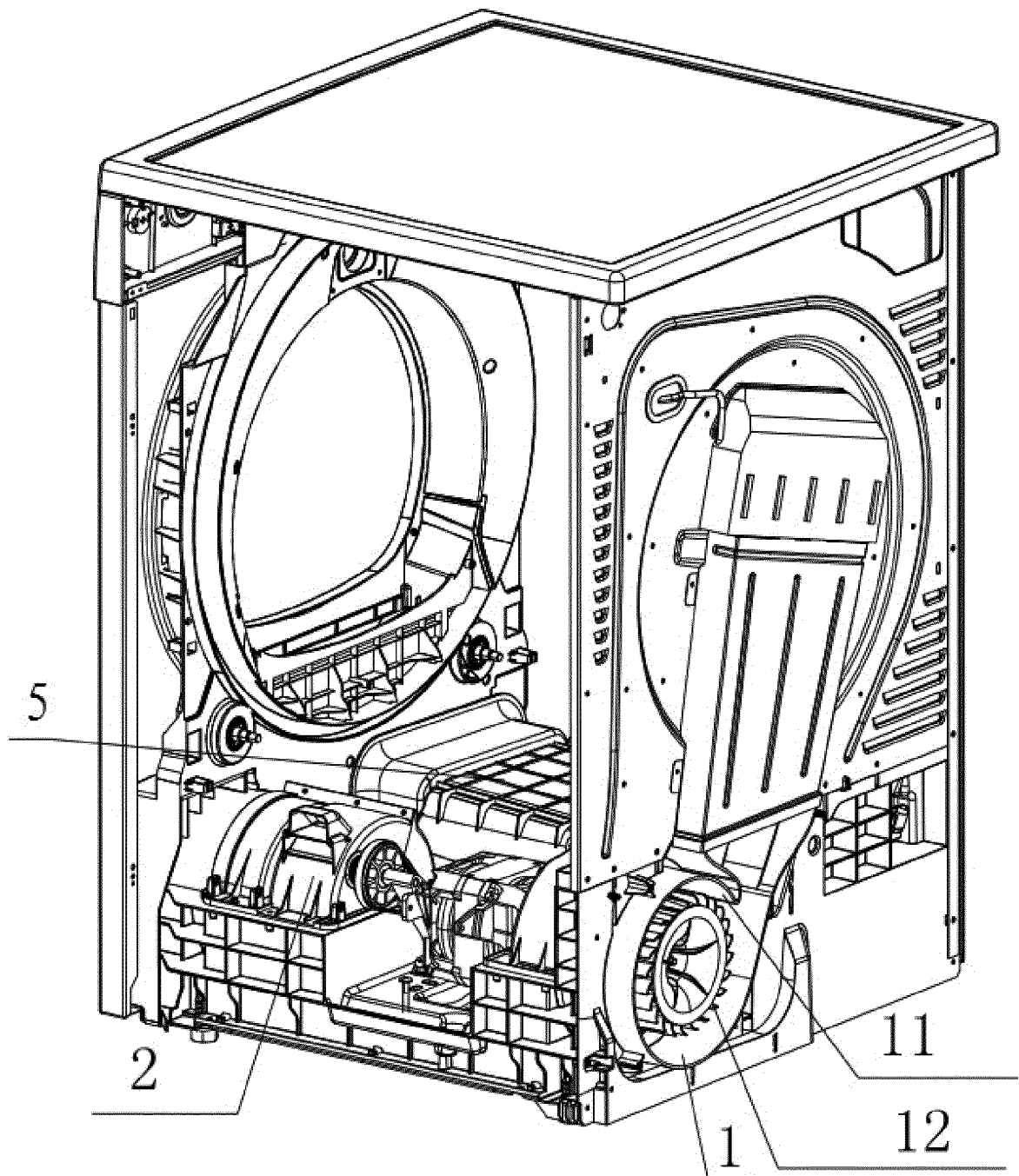


Fig.1

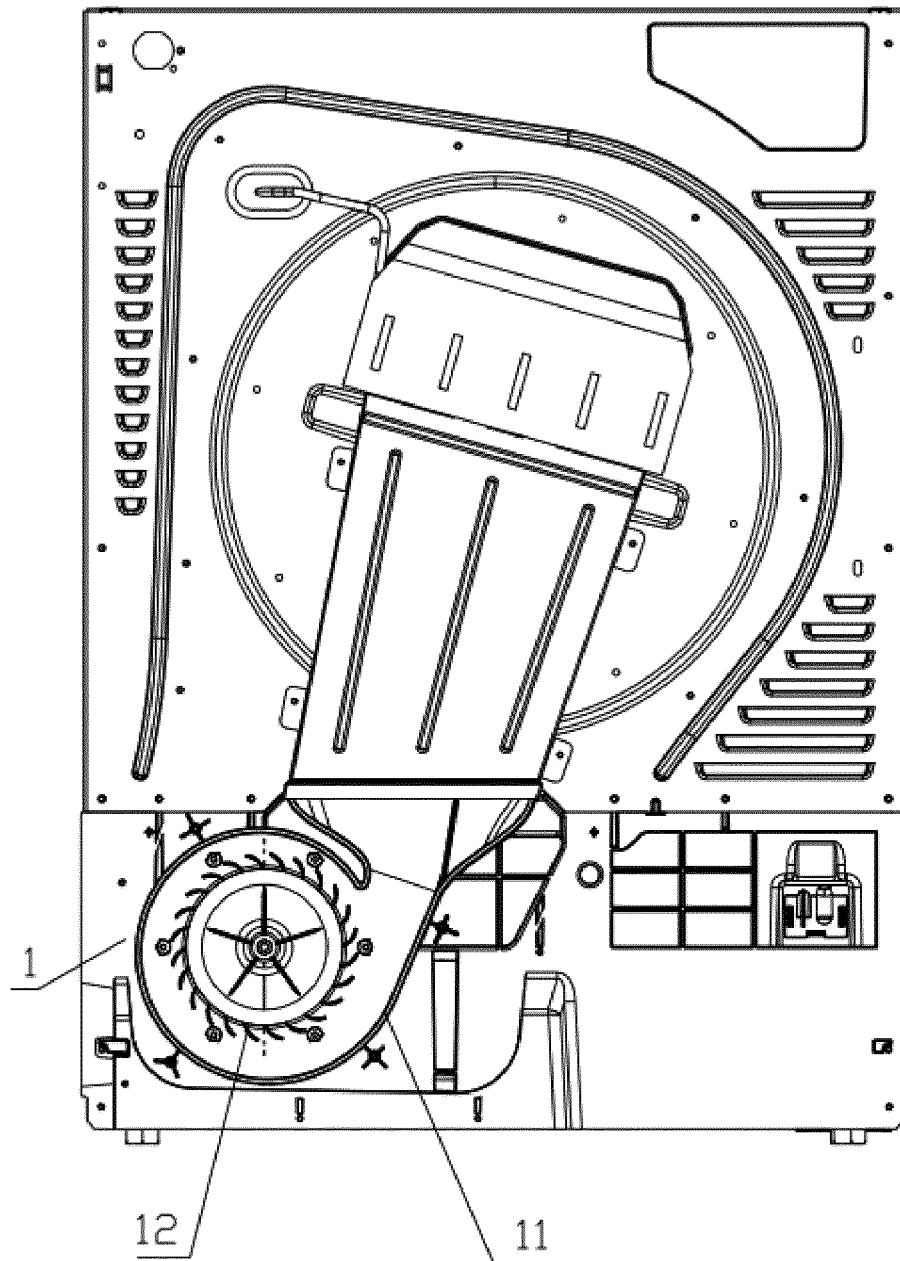


Fig.2

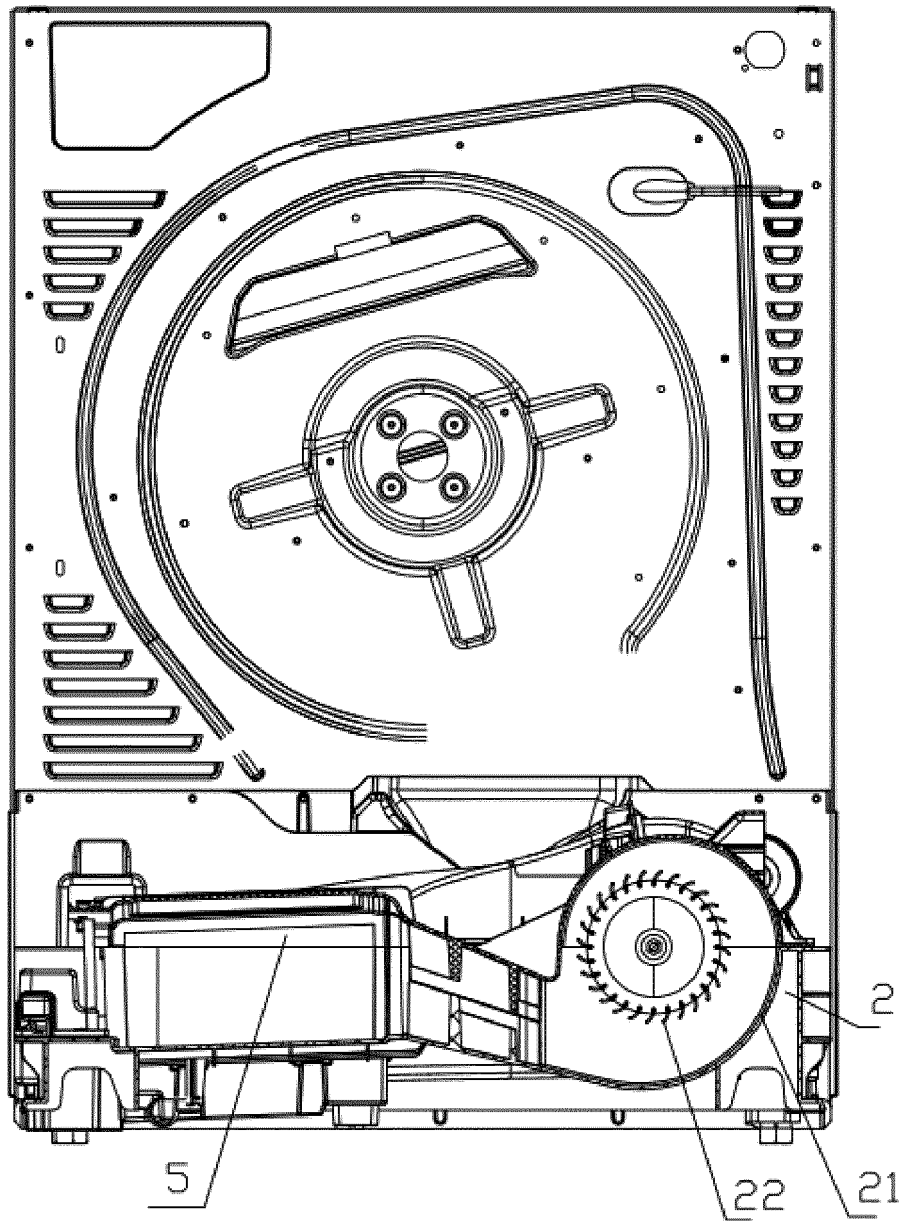


Fig.3

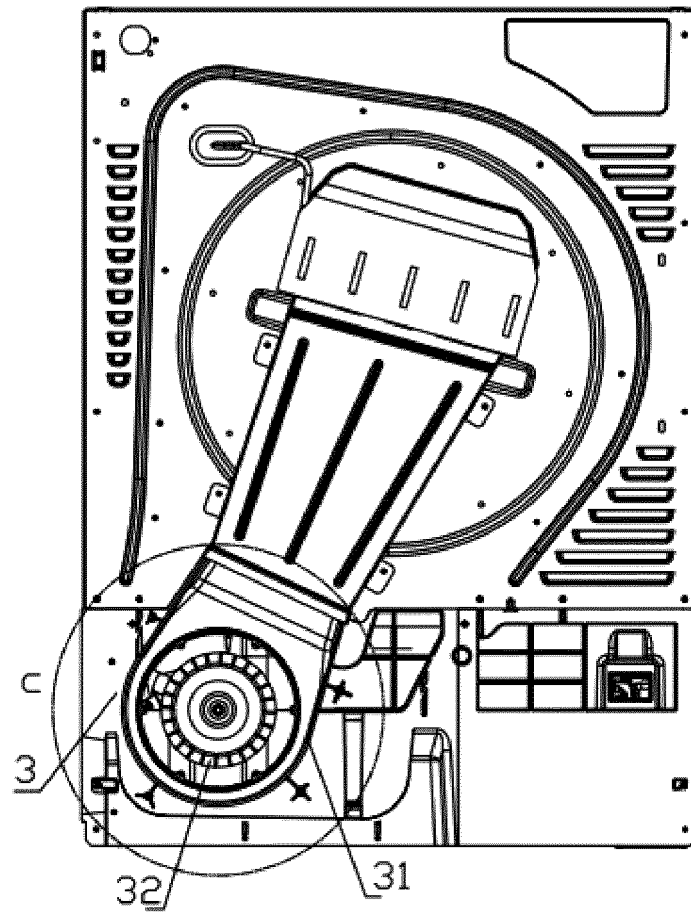


Fig.4

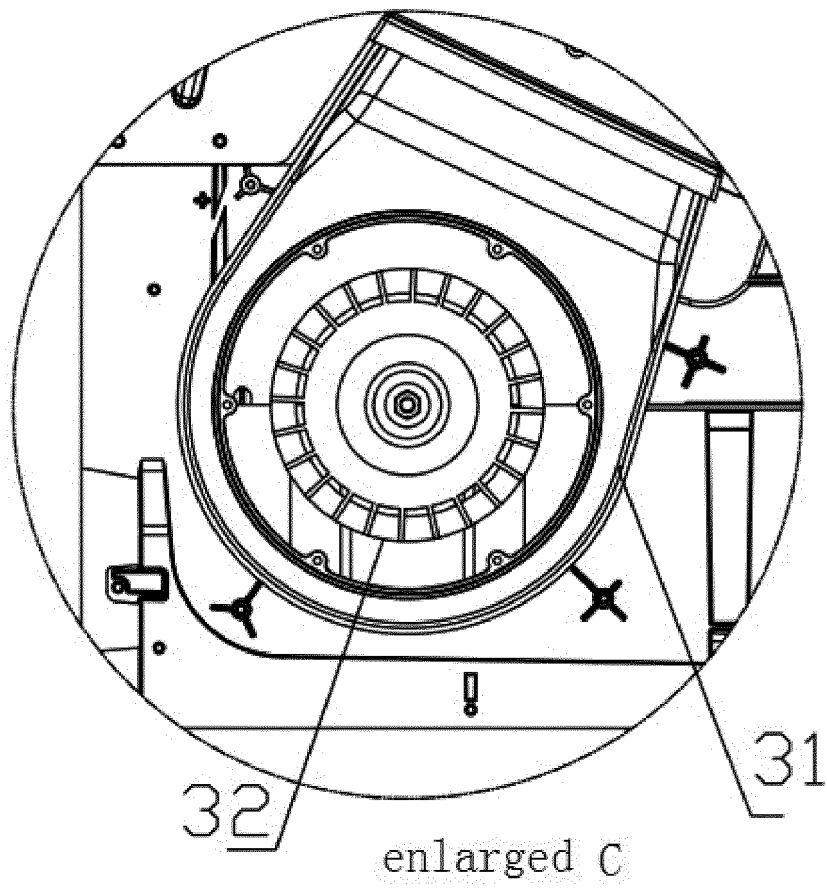


Fig.5

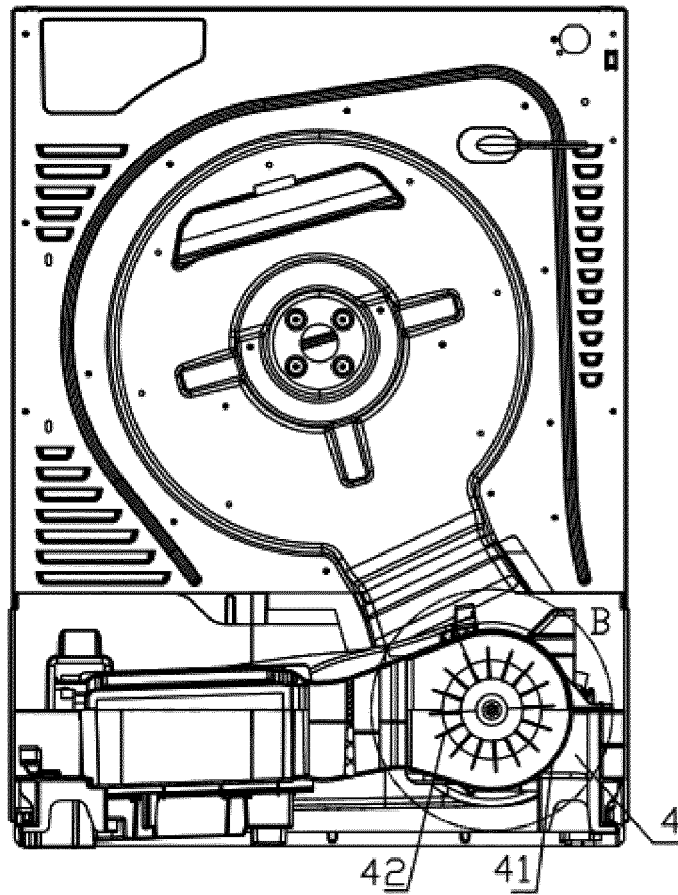


Fig.6

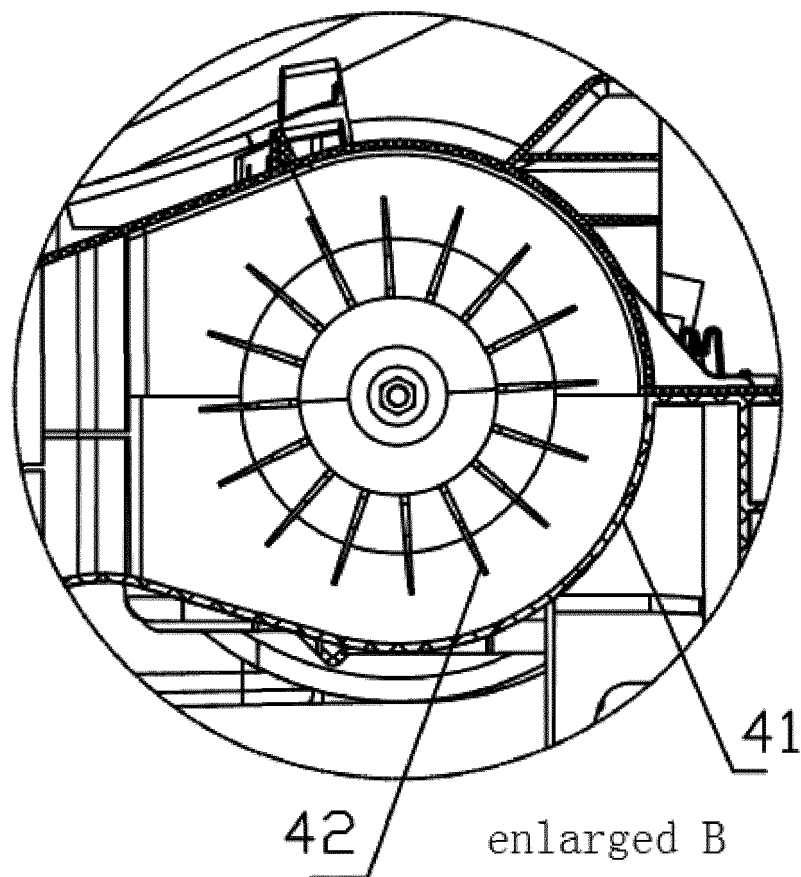


Fig.7

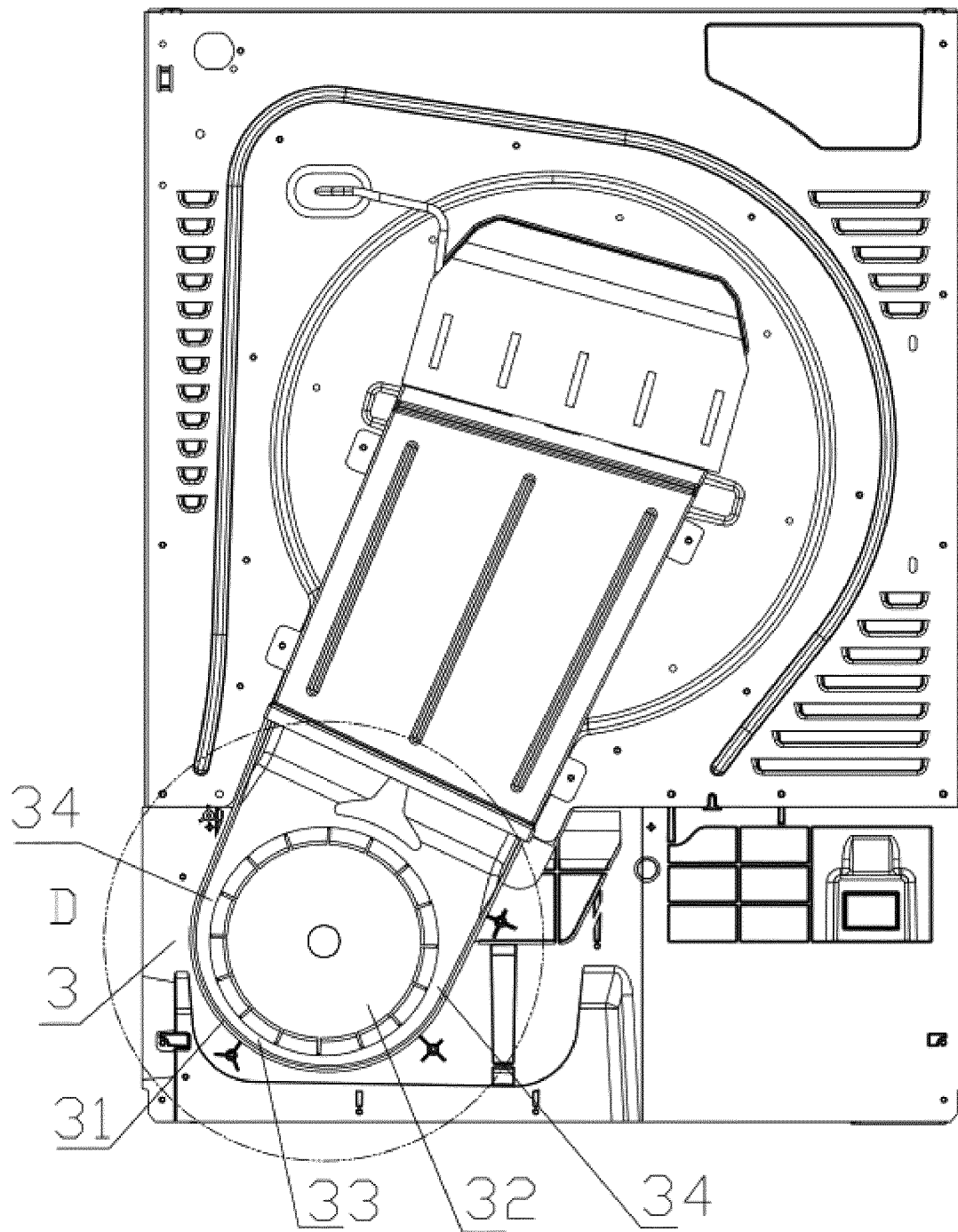


Fig.8

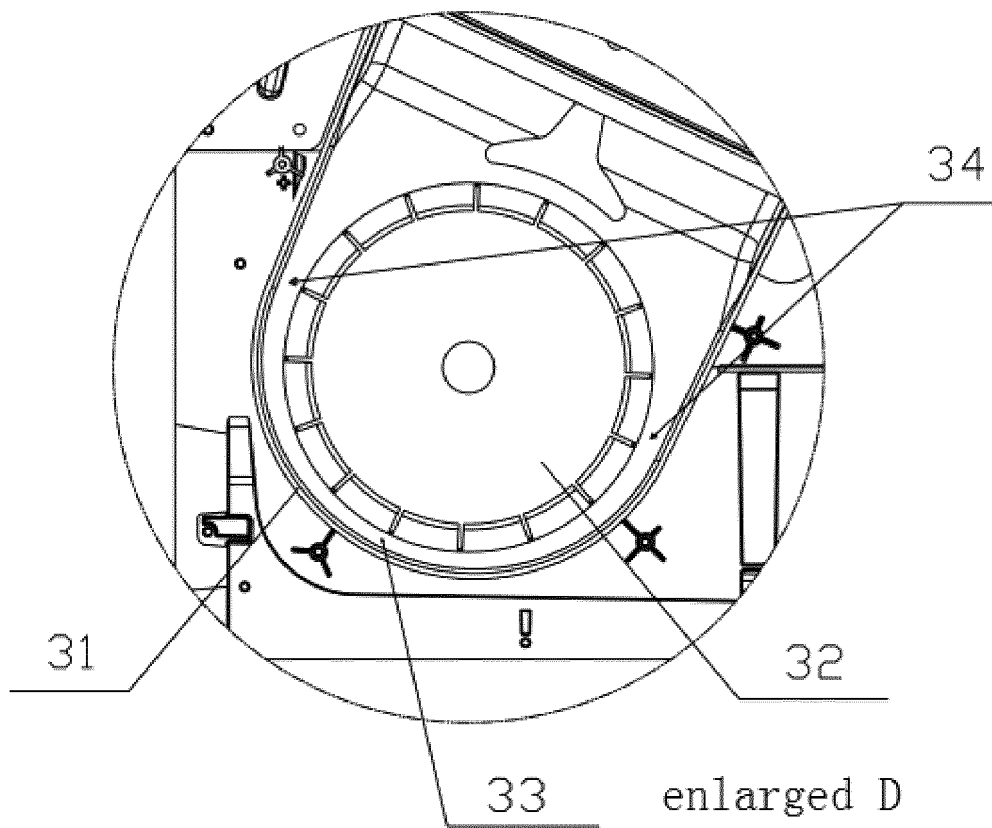


Fig.9

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2016/103756

A. CLASSIFICATION OF SUBJECT MATTER

D06F 58/08 (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)

CNTXT; CNABS; SIPOABS, DWPI: clothes dryer, dryer, forward and reverse, identical, air volume, equivalent, drier, drying, fan, ventilator, reverse, inversion, opposite, clockwise, anticlockwise, motor, same, volume, equal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 0047810 A1 (MIELE & CIE), 17 August 2000 (17.08.2000), abstract, claims 5-8, and figures 1-2	1-10
A	CN 1724803 A (LG ELECTRONICS INC.), 25 January 2006 (25.01.2006), the whole document	1-10
A	CN 102482838 A (BSH BOSCH UND SIEMENS HAUSGERAETE GMBH), 30 May 2012 (30.05.2012), the whole document	1-10
A	GB 843334 A (GEN MOTORS CORP.), 04 August 1960 (04.08.1960), the whole document	1-10

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

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	
"E" earlier application or patent but published on or after the international filing date	"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
"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)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search
25 January 2017 (25.01.2017)Date of mailing of the international search report
13 February 2017 (13.02.2017)Name and mailing address of the ISA/CN:
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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2016/103756

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
WO 0047810 A1	17 August 2000	EP 1070165 A1	24 January 2001
		DE 50002805 D1	14 August 2003
		ES 2199785 T3	01 March 2004
		DE 19904993 A1	10 August 2000
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		EP 2470713 A2	04 July 2012
		KR 20120073207 A	04 July 2012
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		EP 2470713 B1	24 June 2015
		US 2012144691 A1	14 June 2012
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Form PCT/ISA/210 (patent family annex) (July 2009)