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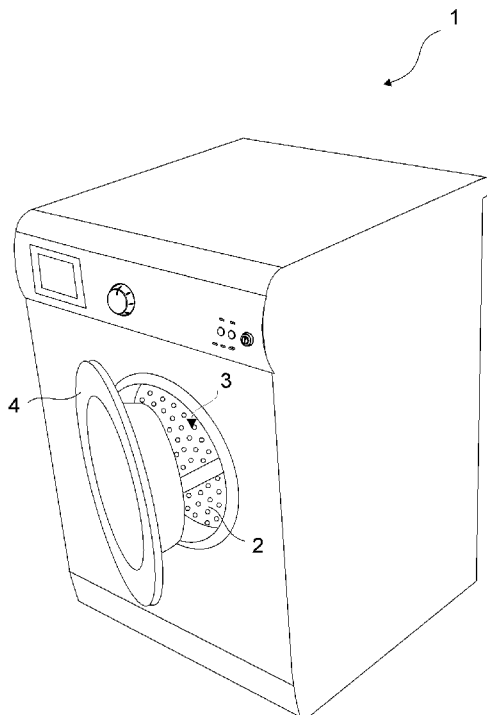
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[Continued on next page]

- (54) Title: A DRYING RACK SUITABLE FOR USE ON LAUNDRY DRYING OR WASHING-DRYING MACHINES

Figure 1



(57) Abstract: The present invention relates to a drying rack (7) is suitable for use in a laundry drying or washing/drying machine (1) having a drum (2) wherein the drying process is realized, an opening (3) providing access into the drum (2) and a door (4) covering the opening (3), the drying rack (7) comprising two walls (5) that are oppositely disposed and a plurality of supports (6) that extend between the walls (5) and that are produced from elastic material.



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**Description****A DRYING RACK SUITABLE FOR USE ON LAUNDRY DRYING OR  
WASHING-DRYING MACHINES**

- [0001] The present invention relates to a drying rack that is disposed in the drum.
- [0002] In laundry drying or washing-drying machines, the laundry is generally placed into the drum and dried with the hot process air passed through the drum. However, in case the laundry is loaded into the drum in an untidy manner, wrinkles cannot be completely removed and delicate laundry can wear down by rubbing against the drum. Therefore, in the state of the art, in order to dry, ventilate and remove wrinkles and odors, drying racks that are fixedly placed into the drum are used. The drying racks are generally produced in small sizes so as to facilitate the placement thereof into the drum. However, in this case the users are obliged to fold, in particular, the wide laundry in order to fit the same into the drying rack, thus the drying performance decreases. On the other hand, the larger drying racks cannot be effectively used in the drying or washing/drying machines with a small drum volume, and in fact, the same cannot be fit into the drum.
- [0003] In the state of the art Chinese Paten Document No. CN101463551, a drying apparatus that is placed into the drum is disclosed, the length of which can be adjusted by means of a telescopic pipe.
- [0004] In the state of the art United States Patent Application No. US20010010125, a basket is disclosed, that is placed into the drum and that can be fitted into volumes smaller than the size thereof by means of its flexible structure.
- [0005] The aim of the present invention is the realization of a drying rack that is suitable for use in the laundry drying or washing/drying machines and that enables the drying process to be effectively performed.
- [0006] The drying rack realized in order to attain the aim of the present invention, explicated in the claims, is suitable for use in the drum of the laundry drying or washing/drying machine, and comprises two walls that are oppositely disposed and supports that extend between the walls and that are produced from elastic material. The laundry is stretched over the supports and placed onto the drying rack.

- [0007] The drying rack of the present invention has the supports that extend perpendicularly to the walls when no force is applied thereon, and is placed into the drum through the opening so that one wall is in contact with the rear wall of the drum and the other wall remains outside the drum. While the user is closing the door, the door bears against the wall remaining outside the drum and pushes the said wall into the drum. Thus, the supports stretch and get closer to the wall of the drum and the drying rack is completely placed into the drum. Moreover, by means of the flexible structure thereof, the drying rack can be used in drums with different dimensions.
- [0008] In another embodiment of the present invention, the drying rack has a spring that is connected to the wall from the ends thereof. The spring supports the walls during the movement of the supports and increases the rigidity of the drying rack.
- [0009] In another embodiment of the present invention, a tube surrounds the spring. The tube gets shorter and longer together as the spring compresses and stretches. Thus, the tube protects the spring and prevents the humid laundry from contacting and thus corroding the spring.
- [0010] In another embodiment of the present invention, the walls comprise holes that allow the drying air to be circulated between the supports and the tube. Thus, the drying efficiency is increased by passing more air over the laundry.
- [0011] In another embodiment of the present invention, the walls comprise housings that enable the supports to be detachably mounted onto the walls and wherein the ends of the supports are seated. Thus, the user can mount to the drying rack the supports in a number sufficient for the laundry to be wrapped around the drying rack. Thus, the use of the drying rack is facilitated.
- [0012] In another embodiment of the present invention, the wall comprises feet that contact the rear wall of the drum when the drying rack is placed into the drum and the door is closed. The feet provide a balanced and stable contact between the drying rack and the rear wall of the drum.
- [0013] In another embodiment of the present invention, the wall has at least one

protrusion against which the door bears while the door is brought to the closed position. Thus, the drying rack can be pushed into the drum in a balanced manner.

[0014] The drying rack of the present invention allows wide laundry to be placed into the drum without being folded. Thus, the laundry can be efficiently dried and the formation of wrinkles due to the folding of the laundry is prevented.

[0015] The drying rack realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

[0016] Figure 1 – is the perspective view of the laundry drying or washing/drying machine related to an embodiment of the present invention.

[0017] Figure 2 – is the front perspective view of the drying rack related to an embodiment of the present invention.

[0018] Figure 3 – is the rear perspective view of the drying rack related to an embodiment of the present invention.

[0019] Figure 4 – is the schematic view of the laundry drying or washing/drying machine and the drying rack when the door is open related to another embodiment of the present invention.

[0020] Figure 5 – is the schematic view of the laundry drying or washing/drying machine and the drying rack when the door is closed related to another embodiment of the present invention.

[0021] The elements illustrated in the figures are numbered as follows:

1. Laundry drying or washing-drying machine
2. Drum
3. Opening
4. Door
5. Wall
6. Support
7. Drying rack
8. Spring
9. Tube
10. Hole
11. Housing

12. Foot

13. Protrusion

[0022] The drying rack (7) is suitable for use in a laundry drying or washing/drying machine (1) having a drum (2) wherein the drying process is realized, an opening (3) providing access into the drum (2) and a door (4) covering the opening (3), the drying rack (7) comprising two walls (5) that are oppositely disposed and a plurality of supports (6) that extend between the walls (5) and that are produced from elastic material. The laundry to be dried is stretched over the supports (6) and then, the drying rack (7) is placed into the drum (2).

[0023] The drying rack (7) of the present invention has a first position wherein the supports (6) extend parallel to the wall of the drum (2) so that one wall (5) contacts the rear wall of the drum (2) and one wall (5) remains outside the drum (2) when the drying rack (7) is placed into the drum (2) through the opening (3), and a second position wherein the drying rack (7) does not remain outside the drum (2) such that the wall (5) is pushed by the door (4) into the drum (2) and the supports (6) stretch and get closer to the wall of the drum (2) when the door (4) is closed. In the first position, the supports (6) extend perpendicularly to the walls (5) and the drying rack (7) is in the drum (2) so that one end extends outside through the opening (3) (Figure 4). While the user is closing the door (4), the door (4) bears against the wall (5) of the drying rack (7) remaining outside the drum (2) and pushes the said wall (5) into the drum (2). Thus, the supports (6) stretch outwards, and the drying rack (7) bulges from the center thereof and fits into the drum (2) (Figure 5). Thus, the laundry can be openly laid out over the supports (6) that are long enough, and can be dried without leaving any fold lines.

[0024] In another embodiment of the present invention, between the walls (5) at least one spring (8) is disposed, that supports the walls (5) by being compressed while the drying rack (7) shifts from the first position to the second position and that returns to the free position while the drying rack (7) shifts from the second position to the first position (Figure 4). The spring (8), that is compressed while the drying rack (7) is in the second

position, pushes the walls (5) towards the rear wall of the drum (2) and the door (4) and enables the position of the drying rack (7) in the drum (2) to be fixed. When the door (4) is opened, the force acting on the spring (8) is removed and the spring (8) returns to the free position and enables the drying rack (7) to shift to the first position.

- [0025] In another embodiment of the present invention, the drying rack (7) comprises a tube (9) that is disposed between the walls (5) so as to surround the spring (8) and that gets longer and shorter together with the spring (8) during the movement of the spring (8) (Figure 3). The tube (9) is produced from an elastic material so as to compress and stretch between the walls (5). The tube (9) prevents the laundry placed on the supports (6) from contacting the spring (8). Thus, the spring (8) is prevented from damaging the laundry.
- [0026] In another embodiment of the present invention, the drying rack (7) comprises at least one hole (10) that is arranged on the wall (5) and that enables the drying air to reach the region between the tube (9) and the supports (6) (Figure 2). The hole (10) enables the drying air to be circulated between the laundry placed on the supports (6) and the tube (9). Thus, the contact area between the laundry and the drying air is increased, thus improving the drying performance.
- [0027] In another embodiment of the present invention, the drying rack (7) has a plurality of housings (11) that are disposed on the walls (5) so as to face each other, that enable the support (6) to be detachably connected to the walls (5) and wherein the ends of the support (6) are seated. The housing (11) is in the form of a hole through which the end of the support (6) is passed. Thus, the supports (6), that stretch while the drying rack (7) is in the second position, are prevented from dislodging from the housings (11).
- [0028] In another embodiment of the present invention, the wall (5) has at least one foot (12) thereon that bears against the rear wall of the drum (2) while the drying rack (7) is in the second position. The feet (12) balance the force acting on the wall (5).
- [0029] In another embodiment of the present invention, the wall (5) has at least one protrusion (13) thereon that bears against the door (4) while the drying

rack (7) is in the second position. The protrusion (13) is preferably disposed at the center of the wall (5). Thus, the door (4) is enabled to push the wall (5) always from the center thereof and the drying rack (7) can be used in the laundry drying or washing-drying machines (1) with doors (4) in different shapes.

[0030] By means of the long and flexible supports (6), the drying rack (7) of the present invention allows the efficient use of the drum (2) volume. By means of the spring (8) that supports the walls (5), the drying rack (7) is kept in the drum (2) without sliding and thus the need for using an additional connection means such as hook, hanger, etc. to fix the drying rack (7) in the drum (2) is eliminated. Thus, a simple and easy-to-use drying rack (7) is realized, that is suitable to be used in the drums (2) in different dimensions.

## Claims

1. A drying rack (7) that is suitable for use in a laundry drying or washing/drying machine (1) having a drum (2) wherein the drying process is realized, an opening (3) providing access into the drum (2) and a door (4) covering the opening (3), **comprising** two walls (5) that are oppositely disposed and a plurality of supports (6) that extend between the walls (5) and that are produced from elastic material, **characterized by**
  - a first position wherein the supports (6) extend parallel to the wall of the drum (2) so that one wall (5) contacts the rear wall of the drum (2) and one wall (5) remains outside the drum (2) when the drying rack (7) is placed into the drum (2) through the opening (3), and
  - a second position wherein the drying rack (7) does not remain outside the drum (2) such that the wall (5) is pushed by the door (4) into the drum (2) and the supports (6) stretch and get closer to the wall of the drum (2) when the door (4) is closed.
2. A drying rack (7) as in Claim 1, **characterized by** at least one spring (8) that is disposed between the walls (5), that supports the walls (5) by being compressed while the drying rack (7) shifts from the first position to the second position and that returns to the free position while the drying rack (7) shifts from the second position to the first position.
3. A drying rack (7) as in Claim 1 or 2, **characterized by** a tube (9) that is disposed between the walls (5) so as to surround the spring (8) and that gets longer and shorter together with the spring (8) during the movement of the spring (8).
4. A drying rack (7) as in any one of the above claims, **characterized by** at least one hole (10) that is arranged on the wall (5) and that enables the drying air to reach the region between the tube (9) and the supports (6).
5. A drying rack (7) as in any one of the above claims, **characterized by** a plurality of housings (11) that are disposed on the walls (5) so as to face each other, that enable the support (6) to be detachably connected to the walls (5) and wherein the ends of the support (6) are seated.
6. A drying rack (7) as in any one of the above claims, **characterized by** at least one foot (12) that is disposed on the wall (5) and that bears against the rear

wall of the drum (2) while the drying rack (7) is in the second position.

7. A drying rack (7) as in any one of the above claims, **characterized by** at least one protrusion (13) that is disposed on the wall (5) and that bears against the door (4) while the drying rack (7) is in the second position.

Figure 1

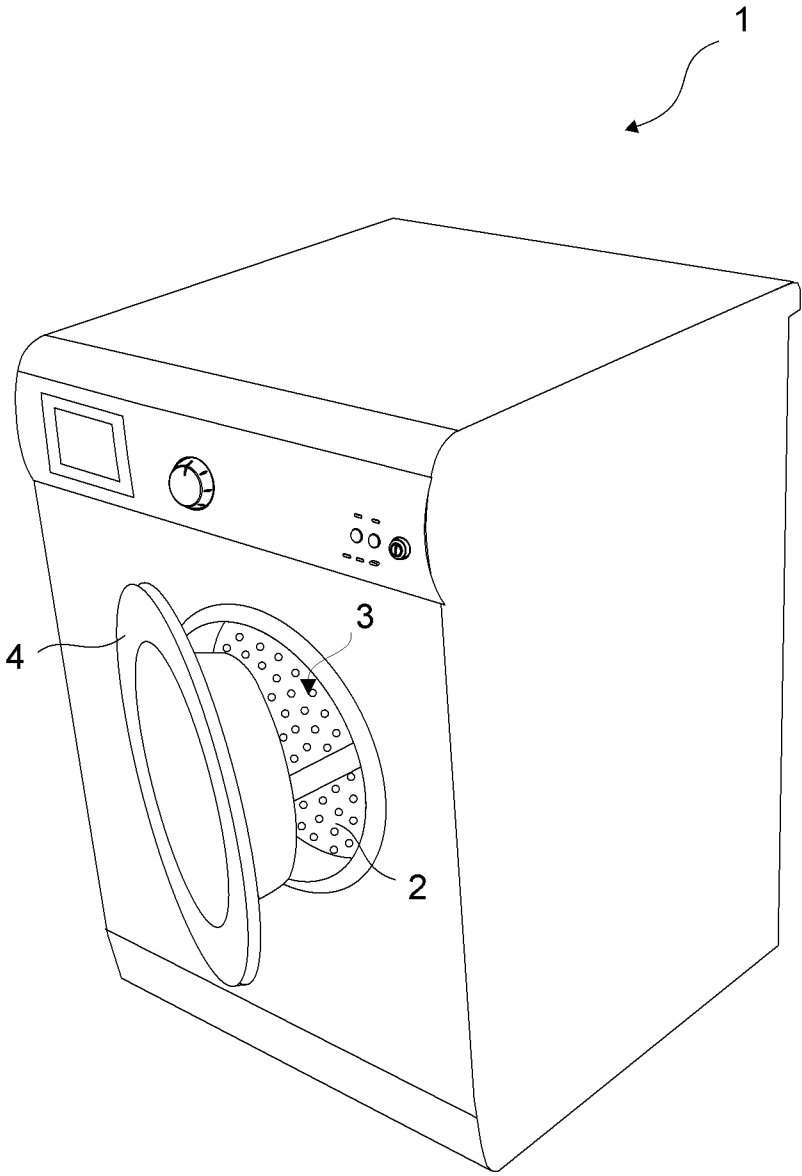


Figure 2

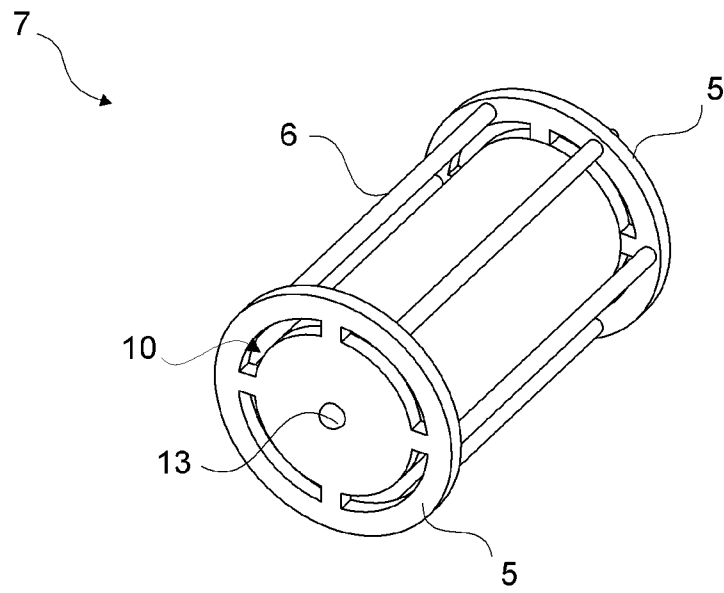


Figure 3

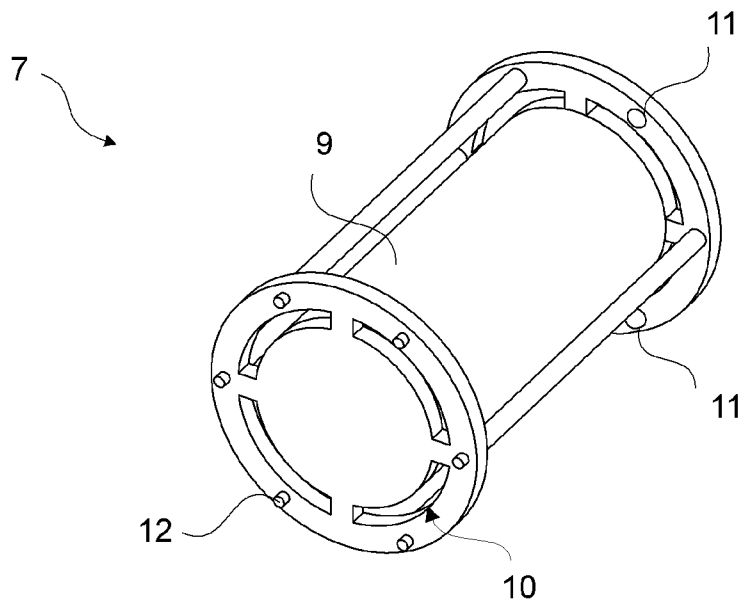


Figure 4

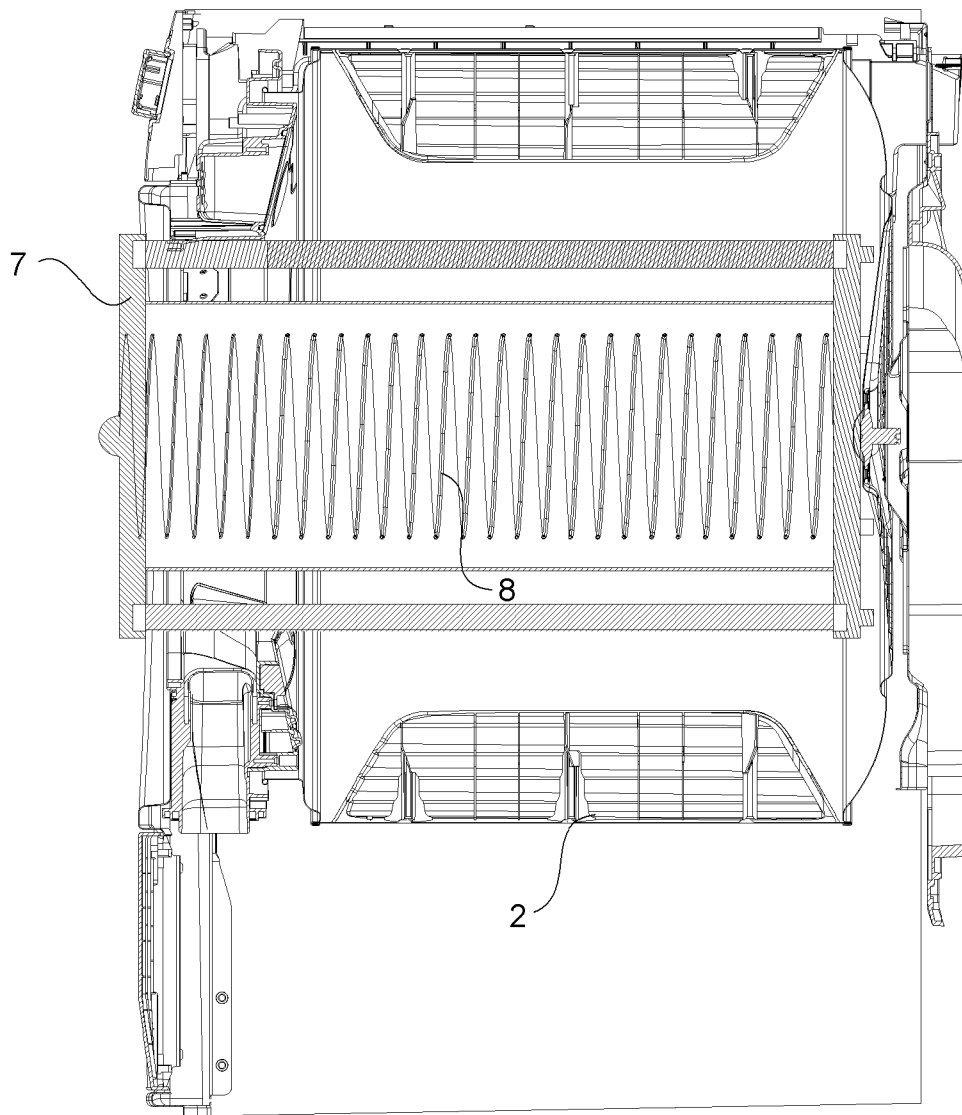
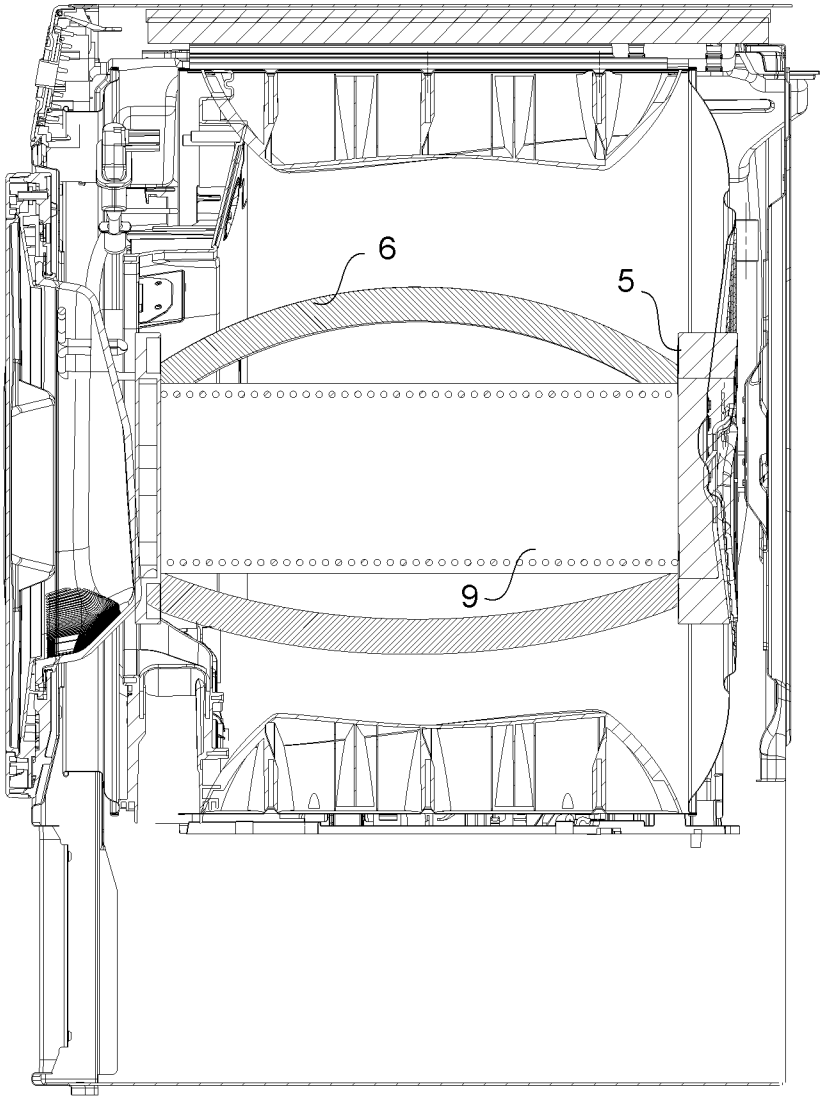


Figure 5



## INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER  
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ADD.

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)

EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Further documents are listed in the continuation of Box C.



See patent family annex.

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International application No  
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| C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT |                                                                                                                                                   |                       |
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Information on patent family members

International application No

PCT/EP2017/058369

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