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- (73) Patenthaver: **V-Zug AG, Industriestrasse 66, 6301 Zug, Schweiz**
- (72) Opfinder: **Hansmann, Christoph, Luzernerstrasse 9, 6343 Rotkreuz, Schweiz**
- (74) Fuldmægtig i Danmark: **Zacco Denmark A/S, Arne Jacobsens Allé 15, 2300 København S, Danmark**
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**Laundry dryer with fluff filter cassette**Field of the invention

5           The invention relates to a laundry dryer with  
a fluff filter device for removing fluffs from the  
process air stream with a fluff filter cassette,  
comprising a main filter and a fluff precipitator with a  
fluff collection tank.

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Background

          A fluff filter device should be present in a  
laundry dryer for removing fluffs from a process air  
15 stream. The fluff filter device has a main filter which  
has to be periodically cleaned by hand or is kept clean  
by an automatic cleaning device due to the fluffs  
precipitated on the main filter.

          EP 2 495 363 shows a laundry dryer with a  
20 main filter and a suction nozzle. The fluff filter can be  
rotated relatively to the suction nozzle, such that the  
suction nozzle passes over the entire fluff filter and  
sucks off the fluffs from the main filter during this  
process. The air enriched with fluffs, which passes  
25 through the suction nozzle, flows in the direction of a  
precipitation device, where the sucked up fluffs are  
precipitated and delivered to a fluff container.

          A main filter which cleans itself  
automatically has the advantage that the fluff filter  
30 device has to be cleaned less. However, it is  
disadvantageous that the fluff container has to be  
emptied in addition to the cleaning of the main filter  
and the fluff precipitator, which supplies the sucked up  
fluffs to the fluff container, has to be cleaned.

35

Description of the invention

It is the objective of the present invention to design a self-cleaning fluff filter device of a laundry dryer in such a way that the fluff filter device can be maintained efficiently by a user.

5 This objective is reached with the laundry dryer according to claim 1. According to it, the laundry dryer comprises a drum for receiving laundry, a first means for generating a process air stream for drying the laundry, and a fluff filter device for removing fluffs  
10 from the process air stream. The fluff filter device comprises a fluff filter cassette and a second means for generating an exhaust air stream. The fluff filter cassette comprises a cassette housing, a main filter and a fluff precipitator with a fluff collection tank. The  
15 fluff filter cassette is arranged in such a way in the device that the process air stream passes through the main filter and is adapted in such a way that the exhaust air stream removes the fluffs from the main filter. The fluff precipitator is adapted in such a way that fluffs  
20 from the exhaust air stream are precipitated inside the fluff collection tank.

In this way the main filter is cleaned automatically by transporting the fluffs precipitated on the main filter by means of the exhaust air stream to the  
25 fluff precipitator and the fluffs deposit inside the fluff collection tank.

The fluff filter cassette is formed in such a way that it is removable from the laundry dryer for cleaning as single component assembly. In other words,  
30 the user can thus separate the fluff filter cassette as a whole from the laundry dryer, advantageously without tools, for cleaning it. The removal is reversible, such that the fluff filter cassette can be removed and reinserted numerous times.

35 This arrangement allows simplification of the cleaning of the fluff filter device, because all components of the filter system which have to be

regularly cleaned by the user are arranged in a unit and can be removed from the laundry dryer in a single process.

Preferably, the main filter has a first side and a second side. In one embodiment, the main filter is arranged in such a way inside the device that the process air stream flows through the main filter in a direction from the first side to the second side and the exhaust air stream flows through the main filter in a direction from the second side to the first side.

The main filter preferably serves as first filter for filtering the process air after the process air has left the drum.

Thereafter, the fluffs from the process air stream deposit on the first side of the main filter and are again removed from the first side of the main filter by the exhaust air stream, particularly during the time between two drying processes, during which the process air stream doesn't flow or only flows with slow speed (as compared to a drying process).

In a particular embodiment, the main filter is arranged inside the device in such a way that the process air stream flows through the main filter in a direction from the first side to the second side and the exhaust air stream flows along the first side of the main filter. In this embodiment, the exhaust air stream doesn't flow through the main filter but flows along the first side of the main filter, collects the fluffs precipitated on the first side of the main filter by the process air stream and transports them to the fluff collection tank.

Preferably, the laundry dryer has a control adapted in such a way that the first means for generating a process air stream is operated during the suction of the main filter. Particularly, the power of the first means for generating a process air stream is lower during

the suction of the main filter than during the drying operation.

This controlling of the first means leads to the point that during the fluff filter cleaning process  
5 no process air charged with fluffs flows in backward direction, i.e. opposite to the flow direction of the process air stream during the drying process, through the device for drying air, particularly through the heat exchanger of the dehumidifying and heating device, such  
10 that fluffs could deposit in the device for drying air, which would reduce the drying efficiency, particularly the efficiency of the heat exchangers.

In a particular embodiment, the drum and the fluff filter cassette are arranged in such a way that the  
15 process air stream flows through the drum and through the fluff filter cassette. The process air stream is guided through the drum for drying the laundry and is enriched with humidity and fluffs during this process. In order to remove the fluffs, the process air stream is guided  
20 through the fluff filter cassette after it has flown through the drum. Particularly, the process air stream thereafter flows through the heat exchangers of the device for drying the air only after the fluff filter cassette.

25 Advantageously, the main filter has a circular disc shape and a rotational drive is provided for rotating the main filter about a circle middle axis of the main filter.

In a particular embodiment, the cassette  
30 housing has a suction nozzle which is arranged relatively to the main filter in such a way that the suction nozzle extends from the circle middle axis of the main filter to a periphery of the main filter.

On the one hand this arrangement allows the  
35 suction nozzle to be kept small such that the process air stream which flows through the main filter is not unnecessarily hindered by the suction nozzle, but on the

other hand the main filter can still be entirely aspirated by rotating the main filter by the rotational drive.

Preferably, the fluff filter cassette has a first toothed wheel and the rotational drive has a second toothed wheel, in such a way that the first toothed wheel and the second toothed wheel engage one another in inserted state of the fluff filter cassette and form a detachable connection for drive force transmission.

In a particular embodiment, the fluff filter cassette can be removed from the laundry dryer from the front side. The front side is understood as the side of the laundry dryer, where the user door (1a) for charging and discharging the drum is arranged. Due to the fact that the user positions the laundry dryer in such a way that he can charge and discharge the drum without problems, the fluff filter cassette is also accessible without problems due to its removal via the front side and can be detached in a simple way for cleaning.

Preferably, the fluff collection tank is made at least partly of a textile material which is permeable to air and/or of a plastic which is permeable to air. Particularly, the fluff collection tank can be made of a material provided for single use. In case of single use, it is provided that the fluff collection tank is not emptied but is disposed of with the content, particularly when it is full. Textile material is understood as an object made by fibres, i.e. a tissue, fleece, fabric or knitted fabric. Optionally, the fluff collection tank of the fluff filter cassette can be removable. Air permeability allows that the air entering the fluff collection tank can exit it through its walls and deposit the fluffs.

Advantageously, the fluff collection tank is arranged inside the cassette housing and the cassette housing has a removable cover which covers the fluff collection tank. In this way the cassette housing forms a

guide for the air exiting the fluff collection tank and the user still has access to the fluff collection tank by removing the cover.

In this case, the cover is accessible from  
5 outside the laundry dryer advantageously without removing the fluff filter cassette from the laundry dryer. In case the user e.g. only wishes to empty the fluff collection tank with a vacuum cleaner or to exchange a textile bag adapted as fluff collection tank, this action is possible  
10 in a simple way because he doesn't have to remove the entire fluff filter cassette from the laundry dryer.

In a further particular embodiment, the fluff collection tank has a sealing lip and the cassette housing has a suction nozzle. The sealing lip seals the  
15 fluff collection tank against the suction nozzle and the exhaust air stream enters the fluff collection tank through the suction nozzle. The term "seals against the suction nozzle" is understood in such a way that the sealing lip of the particularly exchangeable fluff  
20 collection tank connects the suction nozzle with the fluff collection tank in such a way that no or only a negligible amount of air escapes through the suction nozzle during the flow through this connection.

Advantageously, the fluff precipitator has an  
25 additional filter in the exhaust air stream after the fluff collection tank, i.e. the exhaust air stream first flows through the fluff collection tank and only after that through the additional filter. The additional filter serves for removing the rest of the fluffs from the  
30 exhaust air stream, i.e. for removing fluffs which were not retained in the fluff collection filter. The additional filter removes the remaining fluffs which haven't deposited in the fluff collection tank from the exhaust air stream, such that an as clean as possible  
35 exhaust air stream leaves the fluff filter cassette.

Short description of the drawings



Further embodiments, advantages and applications of the invention result from the dependent claims and from the now following description based on the figures. It is shown in:

Fig. 1 a laundry dryer as seen from the front side,

Fig. 2 a fluff filter cassette as seen from the rear side without main filter,

Fig. 3 a schematic illustration of the process air stream and exhaust air stream for two embodiment alternatives (3a) and (3b),

Fig. 4 a fluff filter cassette as seen from the front side in an exploded view,

Fig. 5 a fluff collection tank,

Fig. 6 a fluff filter cassette as seen from the rear side in exploded view.

#### Ways of carrying out the invention

Fig. 1 shows an embodiment of a laundry dryer 1 with a drum 2, wherein the front side 11 of the laundry dryer 1 is located in the foreground of the figure. The drum 2 is accessible from the front side by opening a door 1a for filling it with laundry to be dried. Furthermore, the laundry dryer 1 has a fluff filter cassette 3-10, inside which fluffs can be removed from the process air stream. The fluff filter cassette forms part of the fluff filter device which additionally has a suction fan (not shown). During the drying process, a process air stream flows through the drum 2 for drying the laundry. The process air stream is enriched with humidity and fluffs during this process. In the present embodiment, the humid process air stream enriched with fluffs exits the drum 2 in the direction of the front

side 11 and enters the fluff filter cassette 3-10 from the top.

The fluff filter cassette 3-10 is arranged below the drum 2 in the base of the laundry dryer 1 on the front side 11.

The process air stream enters the fluff filter cassette 3-10 from the top. Advantageously, the fluff filter cassette 3-10 is quadratic and has a top edge through which the process air can enter it from the drum 2. The process air stream then exits towards the rear side (i.e. through the side of the fluff filter cassette 3-10 which is opposed to the front side 11), and subsequently enters a dehumidifying and heating device 13 (described further down) of the laundry dryer.

Fig. 2 and 6 show the fluff filter cassette 3-10 from the rear side. The fluff filter cassette 3-10 comprises a cassette housing 3, a suction nozzle 4, a main filter 5 with a first side 51, a second side 52 and a circle middle axis 53. In the present embodiment, the main filter 5 has a circular disc shape. The first side 51 of the main filter 5 is oriented towards the interior of the fluff filter cassette 3-10 and the second side 52 is oriented outward, wherein the second side 52 is shown from the front in Fig. 6.

The main filter 5 is arranged on the side of the fluff filter cassette 3-10, which is opposed to the front side 11.

The process air stream enters through a mesh structure 31 into the fluff filter cassette 3-10 and exits the fluff filter cassette 3-10, as mentioned, in the direction of the rear side (in Fig. 2 and 6 the front side), wherein during this process the process air stream flows through the main filter 5. The process air stream enters the main filter 5 through the first side 51 and leaves the main filter 5 through the second side 52. The fluffs located in the process air stream are filtered by the main filter 5, wherein the fluffs are collected on

the first side 51 of the main filter 5 due to the flow direction.

The process air exiting the fluff filter cassette 3-10 cleaned from fluffs can be used further in an arbitrary way. In the present embodiment, the process air stream is treated in the base of the laundry dryer 1 by a dehumidifying and heating device 13 and is again inserted into the drum 2 for drying laundry.

The dehumidifying and heating device 13 has, as known, e.g. a first cooled heat exchanger where humidity is extracted from the process air, and a second heated heat exchanger (downstream of the first heat exchanger in the process air stream), by means of which the process air can be heated again for receiving new humidity.

Figs. 3a and 3b show schematically the structure as well as the air streams of the laundry dryer. In both figures, the process air loaded with humidity and fluffs (solid line with arrows) is transported from the drum 2 to the fluff filter cassette 3-10, wherein a process air fan 14 provides the suction power. The process air stream exits the fluff filter cassette 3-10 through the main filter 5, flows through the dehumidifying and heating device 13 and gets back into the drum.

A suction fan 15 is provided for sucking up the fluffs from the main filter 5, which transports the air in a pipe 18 from the fluff filter cassette 3-10, past the dehumidifying and heating device 13, to a location which is situated between the dehumidifying and heating device 13 and the drum 2 in the process air circuit.

A closing valve 17 is arranged in the pipe 18, by means of which the pipe 18 can be blocked in order to avoid that air flows through the pipe 18 during laundry drying. This would be undesired because in this way on the one hand the dehumidifying and heating device

13 would be bypassed and on the other hand humidity would be introduced into the fluff tank.

Fig. 3a and 3b differ with respect to the path of the exhaust air stream (dashed line with arrows).

5           During operation according to Fig. 3a, the process air fan 14 as well as the suction fan 15 are operated during the suction process. The process air fan 14, which serves primarily to generate the process air stream during the laundry drying, is operated on a lower  
10 power during the suction process than during the drying process. By not entirely switching off the process air fan 14, it is possible to avoid approximately entirely that process air charged with fluffs flows backwards (i.e. during the drying process in the opposite direction  
15 of the flow direction of the process air stream) through the dehumidifying and heating device 13 during the suction process and reduces the efficiency of the heat exchangers by depositing fluffs on the same. Due to this, the exhaust air stream gets into the fluff filter  
20 cassette 3-10 through the mesh structure 31 described further down, flows along the first side 51 of the main filter 5 for removing the fluffs from the main filter 5 and enters the fluff collection tank 6 through the suction nozzle 4 and is transported back into the drum 2.

25           The process air fan 14 is not operated during operation according to Fig. 3b during the suction process. In this case, the exhaust air stream enters the area between the dehumidifying and heating device 13 and the drum 2 through the pipe 18. From there, the air may  
30 flow back into the fluff filter cassette 3-10 via the drum 2 and/or the dehumidifying and heating device 13. This alternative has the disadvantage as compared to the operation alternative according to Fig. 3a that fluffs may under circumstances deposit on the dehumidifying and  
35 heating device 13 and may reduce its efficiency.

The suction process is e.g. carried out between two consecutive drying processes, or the drying

process is interrupted shortly for sucking up the main filter 5. A suction process may e.g. be triggered in such a way that a control 16 of the laundry dryer initiates the suction of the main filter 5 after a preprogrammed process duration, or when a measurement device detects the fluff quantity deposited on the main filter 5 and based on that initiates the suction of the main filter 5.

During the suction process, the exhaust air stream flows into the suction nozzle 4 after having received the fluffs at the main filter 5. Because of the thin and elongated shape of the suction nozzle 4 of the embodiment according to Fig. 2 and 6, which extends from the circle middle axis 53 of the main filter 5 to a periphery of the main filter 5, only the fluffs located on the first side 51 of the main filter 5 immediately before the suction nozzle 4 are removed.

A rotational drive is provided for rotating the main filter 5 about the circle middle axis 53 of the main filter 5. The entire main filter 5 is cleaned by rotating the main filter 5, during which time the fluffs are removed from the suction nozzle 4 by the exhaust air stream. A thin suction nozzle leads on the one hand to a locally better suction power and on the other hand hinders only to little extent the process air stream. The suction nozzle 4 is arranged at immediate distance to the main filter 5, wherein the suction nozzle 4 is at a distance of e.g. 2 mm from the main filter.

The suction nozzle 4 is arranged in a separating wall 20 of the cassette housing 3. The separating wall 20 separates a filter space 21 from a tank chamber 22, which are both arranged before the filter cassette 3-10.

An entry opening 23 is provided at the filter space 21, through which the process air coming from the drum 2 enters the filter cassette 3-10. The entry opening 23 is preferably arranged at an edge of the filter cassette 3-10, particularly at its top edge. A mesh

structure 31 is provided at the entry opening 23 in the shown embodiment, which avoids that coarse particles enter the filter space 21 and damage the main filter 5 there.

5                   Furthermore, an exit opening 24 is provided at the filter space 21, which is preferably round. The main filter 5 is arranged at this exit opening.

                  The exit opening 24 is arranged preferably transversally, particularly perpendicularly, to the entry  
10 opening 23.

                  The filter space 21 has an entry side section 21a and an exit side section 21b (Fig. 2). The entry side section 21a is arranged closer to the entry opening 23 than the exit side section 21b. The entry side section  
15 21a has in a direction perpendicular to the main filter 5 a larger extension than the exit side section 21b. In this way, the entry side section 21a offers a large pipe cross-section for the entering process air stream, while the exit side section 21b leaves space for the tank  
20 chamber 22.

                  Fig. 4 shows the fluff filter cassette 3-10 from a lateral perspective in an exploded view. The fluff filter cassette 3-10 comprises a fluff collection tank 6 which is arranged inside the container chamber 22.

25                   Furthermore, an additional filter 9 is arranged at an exit opening of the tank chamber 22, through which the suction air leaves the container chamber.

                  The additional filter 9 comprises a cover of  
30 the additional filter, a filter pad, a main body and an embedded sieve (individual parts not shown). The exhaust air stream charged with fluffs enters the fluff collection tank 6 (arrow direction) through the suction nozzle 4.

35                   A cover 10 is oriented towards the front side 11 of the laundry dryer 1 and closes the container chamber 22 in this direction.

The fluff collection tank 6 is e.g. made of a textile material which is permeable to air, wherein the fibres in the textile serve as filter and retain the major part of the fluffs in the fluff collection tank 6.

5 A dust bag which is similar to the one of a vacuum cleaner may e.g. serve as fluff collection tank 6.

The exhaust air stream leaves the fluff collection tank 6 through its walls which are permeable to air and is guided out of the container chamber 22 through the additional filter 9 in order to remove the rest of fibres and dust particles as completely as possible. The cleaned air stream exits the fluff filter cassette via an outlet nozzle 12 (shown in Fig. 2).

15 The fluff collection tank 6 is a disposable part to be used only once or it is provided for multiple use, depending on embodiment.

In another embodiment it is e.g. possible to do without a bag which is permeable to air, if the fluffs are deposited in a robust fluff collection tank 6 e.g. by centrifugal forces.

20 The fluff collection tank 6 is accessible from the front side 11 of the laundry dryer 1 by opening the cover 10, without having to remove the entire fluff filter cassette from the laundry dryer. In this way the fluff filter tank can be exchanged effortlessly or a fluff collection tank formed as plastic tank can be cleaned with a vacuum cleaner.

The cover 10 may optionally be covered by the front panel of the laundry dryer 1.

30 Fig. 5 shows in detailed view the fluff collection tank 6 with a feeder plate 7 and a sealing lip 8. The feeder plate 7 surrounds the sealing lip 8. The sealing lip 8 surrounds an opening in the fluff collection tank 6. The feeder plate 7 is inserted into a device (not shown) at the cassette housing 3 in order to align the fluff collection tank 6 relatively to the cassette housing 3.

In mounted state, the end of the suction nozzle 4 on the side of the fluff collection tank protrudes into the fluff collection tank 6 through the mentioned opening. In this way, the exhaust air stream guided through the suction nozzle 4 gets directly into the fluff collection tank 6. The sealing lip 8 seals the fluff collection tank 6 towards the suction nozzle 4, such that the exhaust air stream enters the fluff collection tank 6 without substantial flow losses.

10 The fluff filter cassette 3-10 can be removed on the front side 11 of the laundry dryer 1 in a simple way. Due to the compact construction of the fluff filter cassette it is possible to lodge the main filter 5, the fluff collection tank 6 as well as the additional filter 15 9 in one module assembly which can be removed from the laundry dryer as a unit. Due to this, after the removal of the fluff filter cassette 3-10 the user has access to all components which need to be cleaned regularly and a complicated unmounting of various components is obsolete. 20 The user places the fluff filter cassette 3-10 on a work surface and cleans the individual components. The cassette housing 3, the main filter 5 and the additional filter 9 are adapted in such a way that they can be cleaned with water. In order to position the fluff filter 25 cassette 3-10 in a correct way relatively to the laundry dryer 1, a lock may be provided, which can be operated manually by the user.

Notes:

30 - In a particular embodiment, the fluff filter cassette 3-10 may be arranged in such a way that fluff filter cassette 3-10 can only be removed when the user door 1a is opened.

35 - The fluff filter cassette may have a cassette lock for avoiding removal of the fluff filter cassette during a drying process.



- Particularly, fluff filter cassette 3-10 is arranged in such a way that the exhaust air stream flows through the main filter 5 and through the fluff precipitator 6-9 or that the exhaust air stream flows  
5 along the main filter 5, particularly along the first side 51 of the main filter 5, and through the fluff precipitator 6-9.

- In a particular embodiment, the main filter 5 is arranged at the fluff filter cassette 3-10 on the  
10 side of the laundry dryer which is opposite of the front side 11 in inserted state. This arrangement leads to a simpler insertion of the fluff filter cassette because the first toothed wheel of the fluff filter cassette immediately engages the second toothed wheel of the  
15 rotational drive due to the insertion movement carried out by the user.

- In a particular embodiment, the exhaust air stream, is sucked out of the fluff filter cassette and is introduced into the channel of the process air stream  
20 between the drum and the dehumidifying and heating device.

While preferred embodiments of the invention are described in the present application, it is clearly  
25 noted that the invention is not limited thereto and may also be carried out in other ways within the scope of the now following claims.

## Patentkrav

1. Tørretumbler (1) med

en tromle (2) til optagelse af vasketøj,

et første middel (14) til generering af en procesluftstrøm til tørring af vasketøj,

en fnugfilterindretning til fjernelse af fnug fra procesluftstrømmen omfattende en fnugfilterkassette (3-10) og et andet middel (15) til generering af en udsugningsluftstrøm,

hvor fnugfilterkassetten (3-10) omfatter

- et kassettehus (3), et hovedfilter (5) og en fnugudskiller (6-9) med en fnugopsamlingsbeholder (6) og

- er anbragt på en sådan måde, at procesluftstrømmen strømmer gennem hovedfilteret (5) og

- er udformet på en sådan måde, at fnugget kan fjernes fra hovedfilteret (5) ved hjælp af udsugningsluftstrømmen,

- hvor fnugudskilleren (6-9) er udformet på en sådan måde, at fnug fra udsugningsluftstrømmen aflejres i fnugopsamlingsbeholderen (6),

**kendetegnet ved, at** fnugfilterkassetten (3-10) til rengøring kan udtages fra tørretumbleren (1) som enkelt konstruktionsenhed.

2. Tørretumbler (1) ifølge krav 1, hvor hovedfilteret (5) omfatter en første side (51) og en anden side (52), er anbragt på en sådan måde, at procesluftstrømmen strømmer gennem hovedfilteret (5) i retning fra den første side (51) til den anden side (52), og udsugningsluftstrømmen strømme gennem hovedfilteret (5) i retning fra den anden side (52) til den første side (51).

3. Tørretumbler (1) ifølge krav 1, hvor hovedfilteret (5) omfatter en første side (51) og en anden side (52), er anbragt på en sådan måde, at procesluftstrømmen strømmer gennem hovedfilteret (5) i retning fra den første side (51) til den anden side (52), og udsugningsluftstrømmen strømmer langs den første side (51).

4. Tørretumbler (1) ifølge et af de foregående krav, hvor tørretumbleren (1) omfatter en styreindretning (16), der er udformet til, at det første middel (14) til generering af en procesluftstrøm drives under udsugningen af hovedfilteret

(5), og effekten af det første middel til generering af en procesluftstrøm især under udsugningen af hovedfilteret (5) er lavere end under tørredriften.

5 **5.** Tørretumbler (1) ifølge et af de foregående krav, hvor fnugfilterkassetten (3-10) er anbragt således, at procesluftstrømmen oppefra strømmer ind i fnugfilterkassetten (3-10) og således strømmer ud af fnugfilterkassetten (3-10) gennem en side, der ligger modsat en frontside (11) af tørretumbleren.

10 **6.** Tørretumbler (1) ifølge et af de foregående krav, hvor hovedfilteret (5) er udformet cirkelskiveformet, og hvor der er tilvejebragt et rotationsdrev til rotation af hovedfilteret (5) omkring en cirkelmidterakse (53) af hovedfilteret (5), og især hvor kassettehuset (3) omfatter en udsugningsdyse (4) og er anbragt i forhold til hovedfilteret (5) på en sådan måde, at udsugningsdysen (4) strækker sig fra hovedfilterets (5) cirkelmidterakse (53) til en periferi af hovedfilteret (5).  
15

**7.** Tørretumbler (1) ifølge krav 6, hvor rotationsdrevet til rotation af hovedfilteret (5) er anbragt stationært i tørretumbleren (1) og er koblet mekanisk frigørligt med fnugfilterkassetten (3-10) på en sådan måde, at fnugfilterkassetten (3-10) kan udtages uden rotationsdrevet.  
20

**8.** Tørretumbler (1) ifølge et af kravene 6 eller 7, hvor fnugfilterkassetten (3-10) omfatter et første tandhjul (54), og rotationsdrevet omfatter et andet tandhjul således, at det første tandhjul (54) og det andet tandhjul i indsat tilstand af fnugfilterkassetten (3-10) griber ind i hinanden.  
25

**9.** Tørretumbler ifølge et af kravene 6 til 8, hvor fnugfilterkassetten (3-10) danner et filterrum (21) og et beholderkammer (22), der er adskilt af en skillevæg (20),  
30 hvor fnugopsamlingsbeholderen (6) er anbragt i beholderkammeret (22), hvor filterrummet (21) har en indgangsåbning (23) til indstrømning af procesluftstrømmen i og en udgangsåbning (24) til udstrømning af procesluftstrømmen ud af fnugfilterkassetten (3-10), og hvor hovedfilteret (6) er anbragt ved udgangsåbningen (24), og  
35 hvor udsugningsdysen (4) er anbragt på skillevæggen (20).

5 **10.** Tørretumbler (1) ifølge et af kravene 6 til 9, hvor fnugopsamlingsbeholderen (6) omfatter en tætningslæbe (8), hvor tætningslæben (8) tætnet fnugopsamlingsbeholderen (6) mod udsugningsdysen (4), og udsugningsluftstrømmen strømmer ind i fnugopsamlingsbeholderen (6) gennem udsugningsdysen (4).

10 **11.** Tørretumbler (1) ifølge et af kravene 1 til 5, hvor fnugopsamlingsbeholderen (6) omfatter en tætningslæbe (8), og kassettehuset (3) omfatter en udsugningsdyse (4), hvor tætningslæben (8) tætnet fnugopsamlingsbeholderen (6) mod udsugningsdysen (4), og udsugningsluftstrømmen strømmer ind i fnugopsamlingsbeholderen (6) gennem udsugningsdysen (4).

15 **12.** Tørretumbler (1) ifølge et af de foregående krav, hvor fnugfilterkassetten (3-10) kan udtages af tørretumbleren (1) fra en frontside (11), og især hvor hovedfilteret (5) er anbragt på en side af fnugfilterkassetten (3-10), der ligger modsat frontside (11).

20 **13.** Tørretumbler (1) ifølge et af de foregående krav, hvor fnugopsamlingsbeholderen (6) i det mindste delvist er udformet af et luftgennemtrængeligt tekstilmateriale og/eller af luftgennemtrængeligt kunststof, og hvor fnugopsamlingsbeholderen (6) især kan udtages af fnugfilterkassetten (3-10).

25 **14.** Tørretumbler (1) ifølge et af de foregående krav, hvor fnugopsamlingsbeholderen (6) er anbragt i kassettehuset (3), og kassettehuset (3) omfatter et aftageligt låg (10), der dækker fnugopsamlingsbeholderen (6), og især hvor låget (10) er tilgængeligt fra en yderside af tørretumbleren uden udtagning af fnugfilterkassetten (3-10) af tørretumbleren (1).

30 **15.** Tørretumbler (1) ifølge et af de foregående krav, hvor fnugudskilleren (6-9) omfatter et yderligere filter (9) i udsugningsluftstrømmen efter fnugopsamlingsbeholderen (6) til fjernelse af restfnug fra udsugningsluftstrømmen, og især hvor det yderligere filter (9) kan rengøres med vand.

35 **16.** Tørretumbler (1) ifølge et af de foregående krav med en affugtnings- og opvarmningsindretning (13) til affugtning og opvarmning af procesluftstrømmen, hvor fnugfilterkassetten (3-10) er anbragt i procesluft-

strømmen mellem tromlen (2) og affugtnings- og opvarmningsindretningen (13), og

5 en rørledning (18) fra fnugfilterkassetten (3-10) til et sted mellem affugtnings- og opvarmningsindretningen (13) og tromlen (2) til føring af udsugningsluftstrømmen forbi affugtnings- og opvarmningsindretningen (13), når den har forladt fnugfilterkassetten (3-10), og

10 en afspærringsventil (17) til blokering af rørledningen.

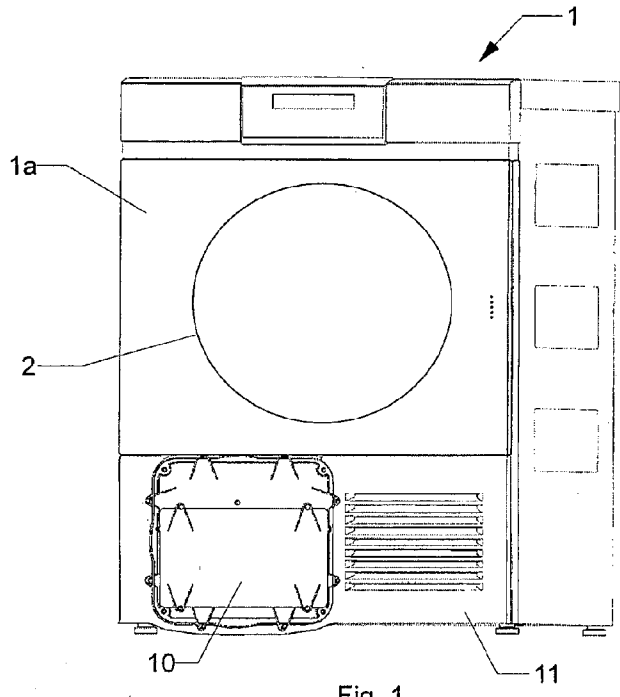


Fig. 1

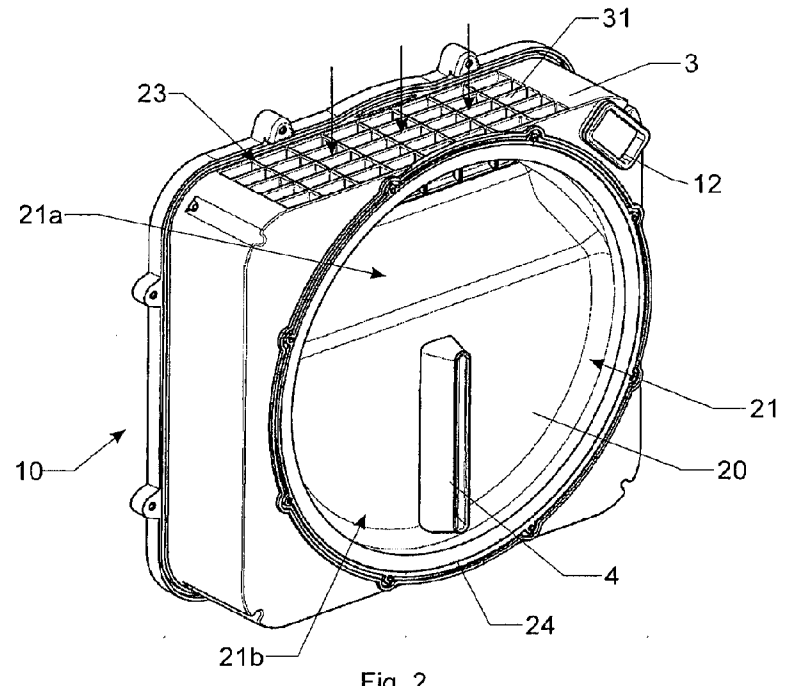


Fig. 2

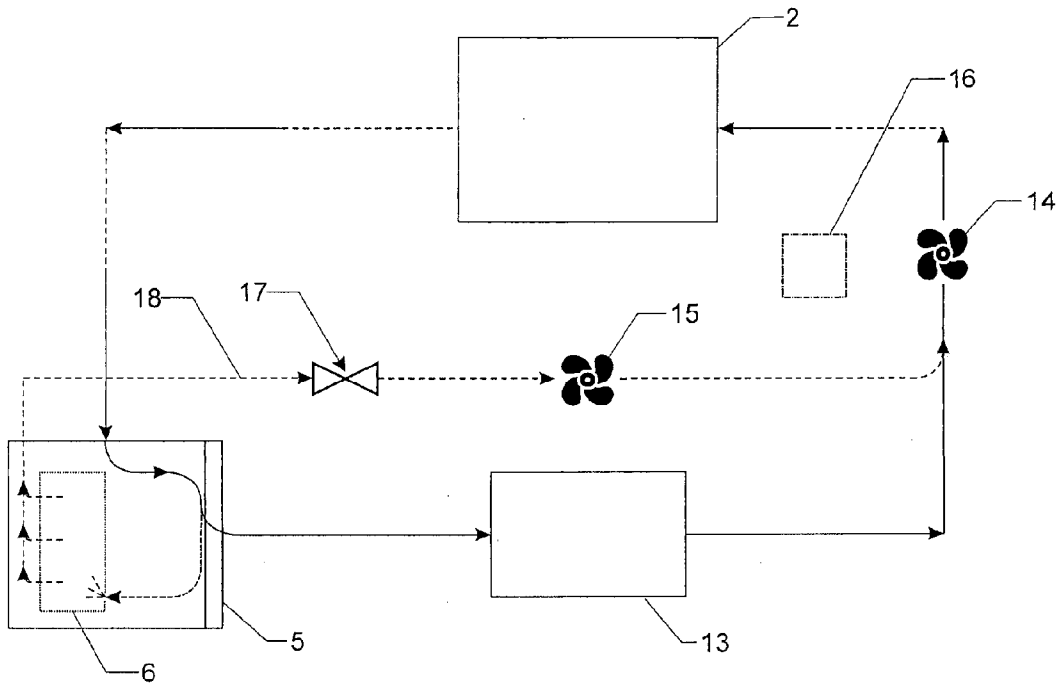


Fig. 3a

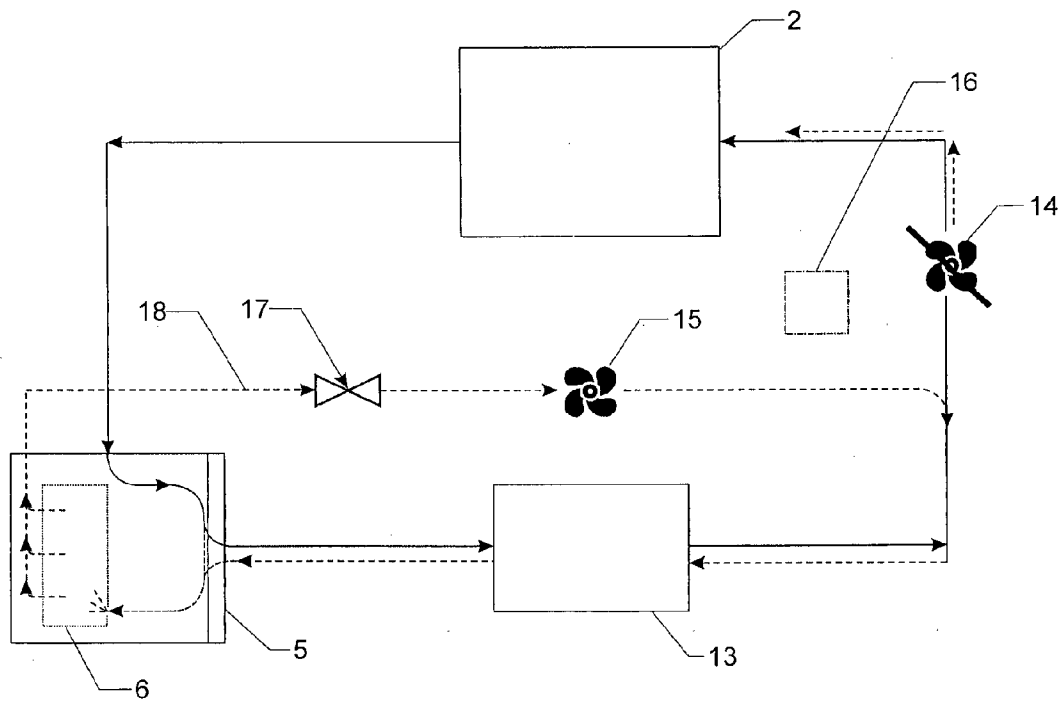


Fig. 3b

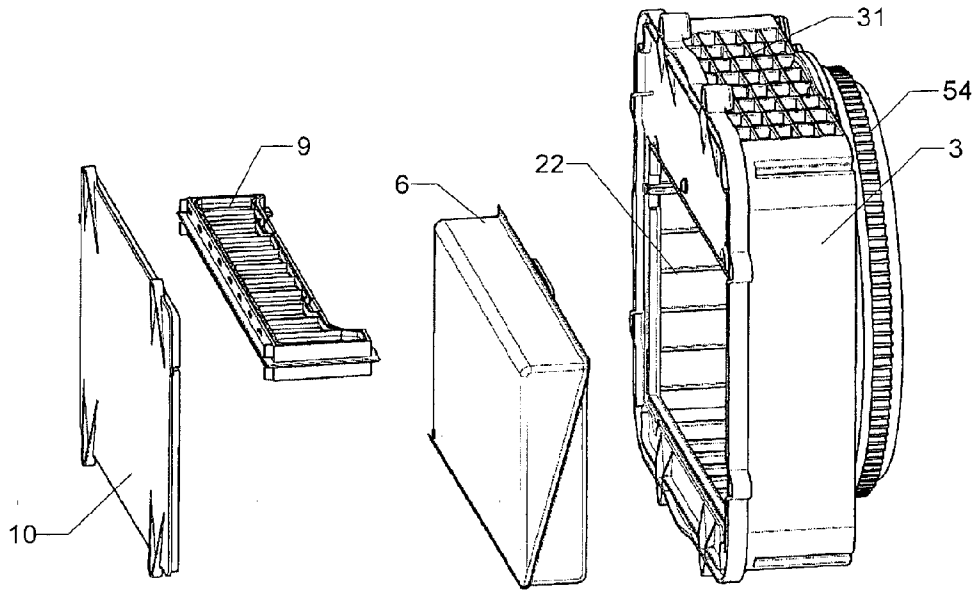


Fig. 4

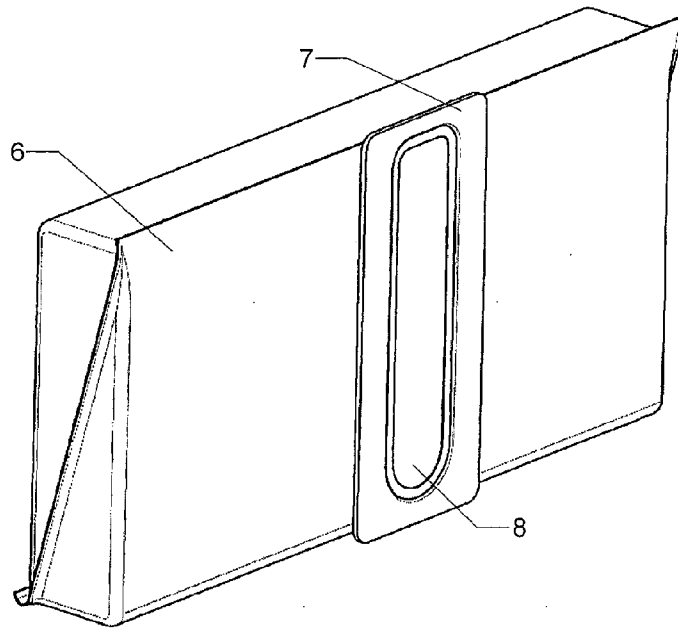


Fig. 5



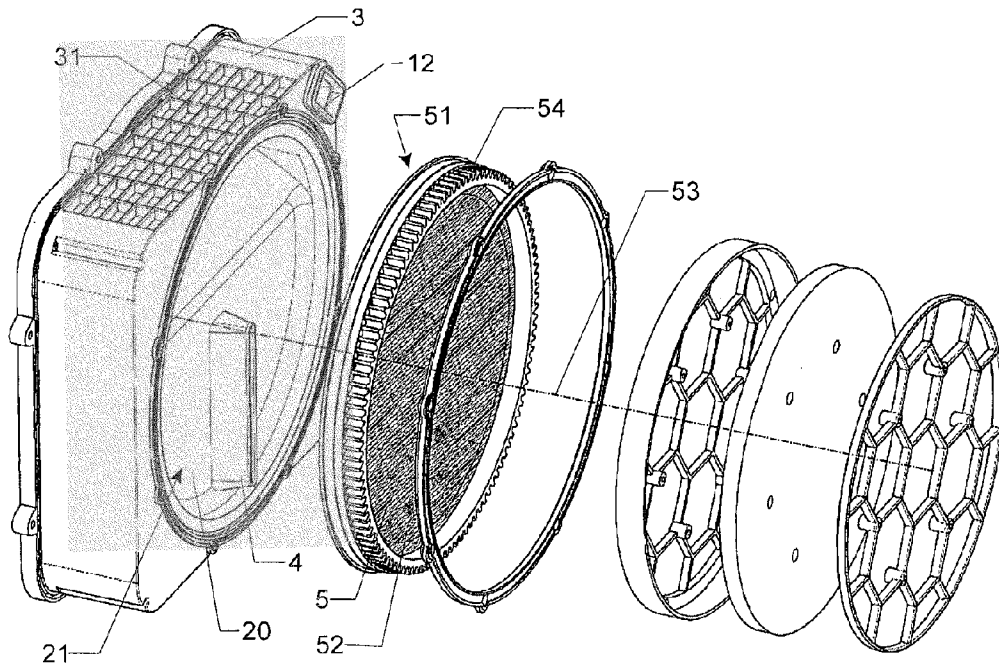


Fig. 6