



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
24.10.2018 Bulletin 2018/43

(51) Int Cl.:
D06F 58/22 ^(2006.01) **D06F 58/20** ^(2006.01)

(21) Application number: **18156970.8**

(22) Date of filing: **15.02.2018**

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**
Designated Extension States:
BA ME
Designated Validation States:
MA MD TN

(71) Applicant: **Candy S.p.A.**
20900 Monza (MB) (IT)

(72) Inventor: **FUMAGALLI, Aldo**
20900 Monza (MONZA E BRIANZA) (IT)

(74) Representative: **Leihkauf, Steffen Falk
Jacobacci & Partners S.p.A.**
Via Senato, 8
20121 Milano (IT)

(30) Priority: **21.04.2017 IT 201700044187**

(54) **LAUNDRY DRYER**

(57) A laundry dryer (1) comprises a housing (2) which houses a laundry compartment (3), an air circuit (4) which includes the laundry compartment (3) and a heat exchanger (5) for extracting moisture from the drying air (11), a fluff trap (6) with a screen filter wall (7), posi-

tioned in the air circuit (4) downstream of the laundry compartment (3) and upstream of the heat exchanger (5), wherein a cleaning system (8) brushes and/or scrapes the filter wall (7) when the fluff trap (6) is assembled in the laundry dryer (1).

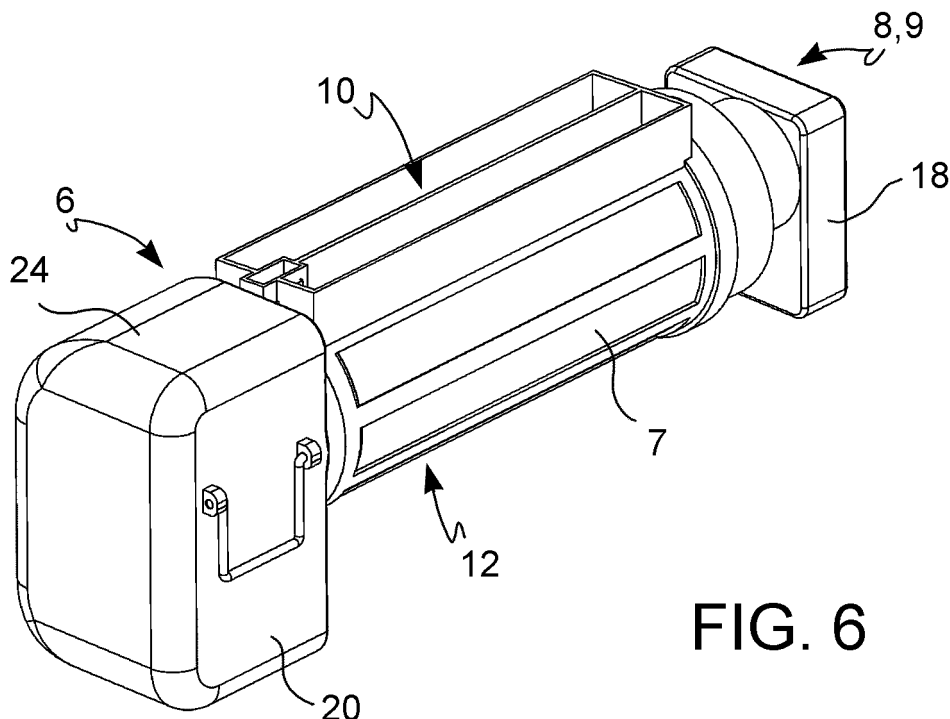


FIG. 6

Description

[0001] The present invention relates to a laundry dryer or combo washer dryer which provides for drying laundry by means of a drying air flow, in which the moist drying air from the laundry compartment passes through a fluff trap before entering into a heat exchanger for moisture extraction by means of condensation.

[0002] In a closed drying circuit with an electrical resistor or a heat pump, the warm and dry drying air is conveyed into the laundry compartment, in particular a basket or drum, where, by passing through the wet laundry, it causes the evaporation of the water contained in the fabrics. After exiting the laundry compartment, the drying air loaded with moisture passes through a heat exchanger where it is cooled down, in order to extract the moisture therefrom by means of condensation. The dehumidified drying air is then sucked in again by the fan, heated and sent into the laundry compartment.

[0003] Upstream of the heat exchanger (where the moisture extraction occurs) a fluff trap is arranged to protect the heat exchanger from dirt and sedimentation of substances extracted from the laundry together with the moisture, e.g. hair, fabric fibers, detergent residues, which would otherwise reduce the heat exchange efficiency and therefore the performance of the dryer.

[0004] In the case of a laundry dryer with a heat pump, the fluff trap is arranged upstream of the heat exchanger for cooling (formed by the heat pump evaporator) to protect both the latter and a next heat exchanger for heating (formed by the heat pump evaporator) from dirt and sedimentation of substances extracted from the laundry together with the moisture, e.g. hair, fabric fibers, detergent residues, which would otherwise reduce the heat exchange efficiency and therefore the performance of the dryer.

[0005] The additional fluff traps must be regularly extracted from the laundry dryer and cleaned by the user (usually after each drying cycle). The positioning of the fluff traps in the lower part of the laundry dryer and the need to first open the base and extract and re-insert the fluff trap in a bent posture create discomfort for the user.

[0006] It is thus the object of the present invention to provide a laundry dryer, having features such as to obviate the need for frequent extraction, cleaning and re-insertion of the additional fluff trap.

[0007] This and other objects are achieved by a laundry dryer according to claim 1 and a drying procedure according to claim 10.

[0008] According to an aspect of the invention, a laundry dryer comprises a housing which houses a laundry compartment, in particular a rotating drum or basket, a drying air circuit which includes the laundry compartment, a heat exchanger for extracting moisture from the drying air, as well as a fluff trap positioned in the drying air circuit downstream of the laundry compartment and upstream of the heat exchanger, in which the fluff trap comprises a screen filter wall and a filter cleaning system configured

to brush and/or scrape the filter wall when the fluff trap is assembled in the laundry dryer.

[0009] By virtue of the cleaning of the fluff trap by means of automatic brushing or scraping inside the laundry dryer, it is not necessary to remove and clean the fluff trap manually at each drying cycle.

[0010] Furthermore, the automatic cleaning of the fluff trap obviates the risk of an inaccurate cleaning, a reinsertion of the fluff trap in the wrong position, and damages to the fluff trap due to improper handling.

[0011] According to a further aspect of the invention, the machine or the fluff trap further comprises a fluff compacting system configured to compact, in particular by means of mechanical pressure, fluff brushed and/or scraped from the filter wall, to form a pad or a clump of compacted fluff which can be extracted from the machine.

[0012] Thanks to the compacting the fluff removed from the fluff trap, it is possible to collect a high amount of fluff in a relatively small area, to remove the fluff collected at long time intervals and to reduce the dispersion of loose fluff at the time of removal and disposal.

[0013] According to an even further aspect of the invention, the laundry dryer comprises an electronic control system, which can be programmed by the user to select or set one from a plurality of drying cycles, respectively, and configured to automatically activate the filter cleaning system and/or the fluff compacting system, for example according to the execution of the drying cycles.

[0014] In order to better understand the invention and appreciate the advantages thereof, a number of non-limiting embodiments will be described below, with reference to the drawings, in which:

Figure 1 diagrammatically depicts a closed drying circuit with a heat pump, implemented in a laundry washing machine or combo washer dryer in accordance with the invention;

Figure 2 diagrammatically depicts a closed drying circuit with an electrical resistor, implemented in a laundry washing machine or combo washer dryer in accordance with the invention;

Figure 3 is a diagrammatic front view according to a vertical section plane of a laundry dryer according to an embodiment of the invention;

Figure 4 is a diagrammatic side view according to a vertical section plane, of the laundry dryer in Figure 3 with the indication of the drying air flow;

Figure 5 is a diagrammatic top view according to a horizontal section plane, of the laundry dryer in Figure 3 with the indication of the drying air flow (continuous arrows) and of a cooling air flow (dashed arrows);

Figure 6 is a perspective view of a self-cleaning fluff trap according to an embodiment;

Figure 7 is an exploded view of the self-cleaning fluff trap in Figure 6;

Figures 8 and 9 are longitudinal section views of the

fluff trap in Figure 6 in a start-of-stroke position (Figure 8) and in an end-of-stroke position (Figure 9); Figure 10 is a diagrammatic front view according to a vertical section plane of a laundry dryer according to a further embodiment of the invention; Figure 11 is a diagrammatic top view according to a horizontal section plane, of the laundry dryer in Figure 10 with the indication of the drying air flow (continuous arrows) and of a cooling air flow (dashed arrows); Figure 12 is a perspective view of a self-cleaning fluff trap according to a second embodiment; Figure 13 is an exploded view of the self-cleaning fluff trap in Figure 12; Figure 14 is a perspective view of a self-cleaning fluff trap according to a further embodiment; Figure 15 is an exploded view of the self-cleaning fluff trap in Figure 14; Figures 16 and 17 are longitudinal section views of the fluff trap in Figure 14 in a start-of-stroke position (Figure 16) and in an end-of-stroke position (Figure 17).

[0015] With reference to **Figures 1, 2 and 3**, a laundry dryer 1 comprises a housing 2 which houses a laundry compartment 3, in particular a drum or basket which can be rotated by means of a motor 37, an air circuit 4 for the drying air 11 which includes the laundry compartment 3, a heat exchanger 5 for extracting moisture from the drying air 11, as well as a fluff trap 6 positioned in the air circuit 4 downstream of the laundry compartment 3 and upstream of the heat exchanger 5.

[0016] In accordance with the invention, the fluff trap 6 comprises a screen filter wall 7 and a cleaning system 8 configured to brush and/or scrape the filter wall 7 when the fluff trap 6 is assembled in the laundry dryer 1.

[0017] By virtue of the cleaning of the fluff trap 6 by means of brushing or scraping directly inside the laundry dryer 1, it is not necessary to remove and clean the fluff trap 6 manually at each drying cycle, and the fluff trap 6 may even be assembled inside the housing 2 in a fixed manner.

[0018] According to a further aspect of the invention, the machine 1 or the fluff trap 6 further comprises a compacting system 9 configured to compact, in particular by means of mechanical pressure, fluff and/or other residues brushed and/or scraped from the filter wall 7, so as to form a "pad" or a block of compacted fluff which can be extracted from the machine 1.

[0019] By compacting the fluff removed from the fluff trap 6, it is possible to collect a high amount of fluff in a relatively small area, to remove the collected fluff at long time intervals, and to reduce the dispersion of loose fluff at the time of removal and disposal.

[0020] In accordance with an embodiment, the fluff trap 6 comprises a filter housing 12, for example a frame or grille made of a plastic or metal material, which forms an inlet opening 10 for the entrance of the air flow 11 from

the laundry compartment 3, as well as one or more outlet openings 13 for the exit of the air 11 after filtering. The filter housing 12 supports the filter wall 7, e.g. in its interior, so that an inlet surface 14 of the filter wall 7 faces against the direction of the drying air flow 11 or, in other words, towards the inlet opening 10, and an opposite outlet surface 15 of the filter wall 7 faces in the direction of the air flow 11 or, in other words, towards the outlet openings 13. Thereby, the fluff withheld by the air flow 11 is deposited on the inlet surface 14 of the filter wall 7. Advantageously, the inlet opening 10 is positioned in an upper area with respect to the filter wall 7 and the filter wall 7 is curved so as to give its inlet surface 14 a concave shape, adapted not only to withhold fluff from the air flow, but also to collect and support from below parts of fluff which are detached therefrom.

[0021] As shown in **Figures 7 and 13** by way of non-limiting example, the filter housing 12 has a substantially cylindrical grille shape with the inlet opening 10 formed as a longitudinal gap or slot in the cylindrical grille.

[0022] In an embodiment, the filter wall 7 comprises an open channel portion (**Figure 7**) or, alternatively, a closed channel portion, for example cylindrical in shape or shaped as a cylindrical sector extending along a longitudinal axis 16.

[0023] The filter wall 7 may be formed by a mesh or fabric made of a synthetic polymeric material, possibly reinforced with glass or carbon fibers or, alternatively, made of a metal material, or of a perforated sheet made of a synthetic or metal material. The fluff trap 6 is preferably positioned in a front region of the laundry dryer 1, below the laundry compartment 3 (**Figure 4**).

[0024] According to an embodiment (**Figures 3, 8, 9, 10**), the cleaning system 8 comprises one or more scrapers or brushes 17 which can be moved by means of an actuator 18, e.g. an electric motor, in contact along the (inlet surface 14 of the) filter wall 7 so as to clean it from the withheld fluff.

[0025] According to an embodiment (**Figures 10, 13**), the at least one scraper or brush 17 has a helical shape and can be rotationally moved in contact with the (inlet surface 14 of the) filter wall 7.

[0026] Alternatively (not shown), the at least one scraper or brush 17 has a linear shape and can be rotationally moved in contact with the (inlet surface 14 of the) filter wall 7.

[0027] Alternatively (**Figures 5, 7, 8, 9**), the at least one scraper or brush 17 has a circular or annular shape and can be translationally moved in contact with the (inlet surface 14 of the) filter wall 7.

[0028] Although the invention expressly considers embodiments in which the (inlet surface 14 of the) filter wall 7 is planar in shape or has a freely selectable shape, depending on space conditions and fluid dynamic requirements, and in which the fluff trap cleaning system 8 is configured so as to brush the (inlet surface 14 of the) filter wall 7 by means of the scraper or brush 17 following the specific shape of the filter wall 7, the (inlet surface 14

of the) filter wall 7 advantageously forms a cylinder segment, as shown in **Figure 7** for example, so as to facilitate the cleaning of the fluff trap and the disposal of the removed fluff by means of simple rotation or translation mechanisms of the scraper/brush 17.

[0029] According to a further advantageous embodiment (**Figures 14-17**), the fluff trap 6 comprises a plurality of (possibly two or three) filter walls 7 positioned in series and overlapped in the direction of the air flow to be filtered, and possibly with a mutually parallel orientation, in which the cleaning system 8 comprises a plurality of scrapers or brushes 17 each positioned in contact with one of the filter walls 7, respectively, and which can be simultaneously moved so as to simultaneously brush (the inlet surfaces 14 of) all the filter walls 7.

[0030] The multiple filter walls may be substantially planar and insertable or accommodated in a filter housing 12 that can be possibly substantially rectangular (**Figure 15**).

[0031] Although the invention expressly considers embodiments in which the (inlet surface 14 of the) filter wall 7 is planar or of a freely selectable shape, depending on space and fluid dynamic requirements conditions, and in which the fluff trap cleaning system 8 is configured so as to brush the (inlet surface 14 of the) filter wall 7 by means of the scraper or brush 17 following the specific shape of the filter wall 7, the (inlet surface 14 of the) filter wall 7 advantageously forms a cylinder segment, as shown in **Figure 7** for example, so as to facilitate the cleaning of the fluff trap and the disposal of the fluff removed by means of simple rotation or translation mechanisms of the scraper/brush 17.

[0032] The compacting system 9 may be configured as a system which is independent, and possibly independently actuatable, of the cleaning system 8, or advantageously as a combined cleaning 8 and compacting 8 system.

[0033] In an embodiment (**Figures 6-9, 14-17**), the compacting system 9 comprises a piston pusher/conveyor 33 which can be translationally moved by means of the same actuator 18 of the cleaning system 8 or by means of a further dedicated actuator, and positioned in the fluff trap 6 so as to convey the fluff detached from the filter wall 7 towards a collection area 20, preferably external to the filter wall 7, and to compress the fluff in the collection area 20.

[0034] In an alternative embodiment (**Figures 10-13**), the compacting system 9 comprises a screw conveyor 19 which can be rotationally actuated by means of the same actuator 18 of the cleaning system 8 or by means of a further dedicated actuator that is positioned in the fluff trap 6 so as to convey the fluff detached from the filter wall 7 towards a collection area 20, preferably external to the filter wall 7, and to compress the fluff in the collection area 20.

[0035] According to preferred embodiments, the fluff trap 6 cleaning and fluff compacting functions are carried out by a combined cleaning and compacting system 8,

9 in which one or more scrapers or brushes 17 form a free (peripheral) edge of a conveyor 19, 33 which can be moved so as to brush the (inlet surface 14 of the) filter wall 7 by means of said free edge and, simultaneously, convey the fluff detached from the filter wall 7 towards the collection area 20 and compress the fluff in the collection area 20.

[0036] In particular, the scraper or brush 17 may form a peripheral annular edge of a piston 21 positioned inside the filter wall 7 and which can be translated along the (longitudinal axis 16 of the) filter wall 7 by means of the actuator 18, e.g., an electric motor with a jack screw transmission 22, so as to brush/scrape and clean the filter wall 7 of the fluff and convey the fluff towards a collection area 20 and compact the fluff in the collection area 20 (**Figures 8, 9**).

[0037] Alternatively, a plurality of scrapers or brushes 17 may be formed along rods 39 of a piston 21, arranged for example in the manner of a comb and alternated with the filter walls 7, and which can be translated as a comb along the filter walls 7 by means of the actuator 18, e.g., an electric motor with a jack screw transmission 22, so as to brush/scrape and clean the plurality of filter walls 7 of the fluff and convey the fluff towards a collection area 20 and compact the fluff in the collection area 20 (**Figures 14, 15**).

[0038] Alternatively, the scraper or brush 17 may form a peripheral helical edge of worm screw 23 positioned inside the filter wall 7 and which can be rotated (about the longitudinal axis 16) with respect to the filter wall 7 by means of the actuator 18, e.g., an electric motor with a transmission shaft, so as to brush and clean the filter wall 7 of the fluff and convey the fluff towards a collection area 20 and compact the fluff in the collection area 20 (**Figures 10, 13**).

[0039] The collection area 20 may be formed in a drawer 24 which can be opened towards the outside of the housing 1 or which is removable from the machine 1 by the user for the fluff disposal.

[0040] The cleaning system 8 may comprise a brush 38 (or a scraper edge) positioned in contact with and configured so as to carry out a movement relative to the piston 21 (**Figures 7-9, 14-16**) or the worm screw 23 (**Figures 10-13**) with the function of cleaning the surface thereof which pushes and compacts the fluff. The brush 38 (or the scraper edge) is advantageously formed at the drawer 24 to carry out the aforesaid relative movement and the cleaning when removing and/or inserting the drawer 24, which movements may be translational, rotational or roto-translational.

[0041] The invention described so far can be advantageously implemented in laundry dryers having a closed air circuit with an electrical resistor or a heat pump.

[0042] In the embodiment with a closed drying circuit 4 and an electrical resistor (**Figures 2, 4, 5**), the drying air 11 is conveyed by means of a fan 25 (activated by a motor 26), is heated by means of an electrical resistor 27 and is routed into the laundry compartment 3, in par-

ticalar a rotating basket or drum, where, by passing through the wet laundry, causes the evaporation of the water contained in the fabrics. After exiting the laundry compartment 3, the drying air 11 loaded with moisture passes through the heat exchanger 5, where it is cooled down, for example by means of a flow of cold water or of fresh air 28 conveyed by means of a second fan (preferably, but not necessarily, activated by means of the same electric motor 26), in order to extract the moisture therefrom by means of condensation. The condensation is collected in a condensation container which can be extracted, or drained by means of a drain pump and/or together with the cooling water. The dehumidified drying air 11 is then sucked in again by the fan 25, heated by means of the electrical resistor 27 and rerouted into the laundry compartment 3.

[0043] Upstream of the heat exchanger 5 (where the moisture extraction occurs) the fluff trap 6 with the cleaning system 8 and, preferably, with the fluff compacting system 9 described above, is arranged.

[0044] In the embodiment with a closed drying circuit 4 and with a heat pump (**Figure 1**), after exiting the laundry compartment 3, the drying air 11 loaded with moisture passes through a first (cold) heat exchanger 27 formed by an evaporator 30 of the heat pump, where the air 11 is cooled down in order to extract the moisture therefrom by means of condensation. Also in this case, the condensation may be collected in a condensation container which can be extracted, or may be drained, e.g., by means of a drain pump. The dehumidified and cooled drying air 11 is then routed into a second (hot) heat exchanger formed by a condenser 31 of the heat pump, where the air is heated up. The dehumidified and heated air is sucked in by means of a fan 25, and routed again into the laundry compartment 3 in order to continue the extraction of the moisture from the laundry.

[0045] The heat pump further comprises a compressor 32 which sucks in a refrigerant fluid through the evaporator 30, where the fluid itself evaporates at low pressure (absorbing the heat of the drying air 11), compresses the refrigerant fluid and pushes it inside the condenser 31 where the compressed and heated refrigerant fluid condenses and cools down at high pressure (thus releasing its heat to the drying air 11). After the condenser 31, the refrigerant fluid passes through a thermal expansion valve 34 which reduces the fluid pressure, thus lowering the temperature, and then enters again in the evaporator 30, thus restarting the cycle.

[0046] Also in the embodiment with the heat pump, upstream of the first heat exchanger 27 (evaporator 30) the aforesaid fluff trap 6 with the cleaning system 8 and, preferably, with the fluff compacting system 9 is also arranged.

[0047] According to an embodiment, in order to allow the inspection, maintenance and, if required, the replacement of the filter wall 7, the fluff trap 6, or only the filter wall 7, may be assembled in the housing 2 so as to be extractable from the laundry dryer 1.

[0048] The laundry dryer 1 comprises an electronic control system 35, which can be programmed by the user to select or set one from a plurality of drying programs, and configured to automatically activate the filter cleaning system 8 and/or the fluff compacting system 9, according to the execution of the drying cycles, for example after each drying cycle or after a predetermined number of hours of operation of the laundry dryer 1.

[0049] As known, the control system 35 is in signal connection with and controls the electrical supply of the individual functional groups of the laundry dryer 1, as diagrammatically shown in **Figures 1 and 2**.

[0050] The control system 35 may further comprise an optical indicator, e.g., a LED, display, etc. or an acoustic indicator to signal to the user the need to extract the fluff collected in the fluff area 20, in particular in the form of a pad or a compacted fluff clump.

[0051] According to a further embodiment, the laundry washing machine 1 may comprise a fluff ejection mechanism 36 (**Figures 1, 2**) which ejects (in other words: drops towards the outside of the housing 2) the fluff collected into the fluff area 20, possibly contained in a fluff bag.

[0052] According to a further embodiment, the fluff area 20 is arranged to accommodate a bag or a general disposable/single-use fluff container (similar to a small dust bag of a vacuum cleaner) so that the fluff is collected and compacted directly in the bag and extracted from the machine 1 together with the latter.

Claims

1. A laundry dryer (1) comprising a housing (2) which houses:

- a laundry compartment (3),
- an air circuit (4) which includes the laundry compartment (3) and a heat exchanger (5) for extracting moisture from the drying air (11),
- a fluff trap (6) with a screen filter wall (7), positioned in the air circuit (4) downstream of the laundry compartment (3) and upstream of the heat exchanger (5),

characterized in that it comprises a cleaning system (8) configured to brush and/or scrape the filter wall (7) when the fluff trap (6) is assembled in the laundry dryer (1).

2. A laundry dryer (1) according to claim 1, further comprising a compacting system (9) configured to compact fluff and other residues removed from the filter wall (7) so as to form a compacted fluff clump that can be extracted from the machine (1).

3. A laundry dryer (1) according to claim 1 or 2, wherein the fluff trap (6) comprises a filter housing (12) which

forms an inlet opening (10) for the inlet of the air flow (11) from the laundry compartment (3), wherein the inlet opening (10) is positioned in an upper region with respect to the filter wall (7) and the filter wall (7) is housed in the filter housing (12) in a curved manner such as to give a concave shape to an inlet surface thereof (14) suitable for withholding fluff from the air flow and withholding and supporting parts of fluff from below which are detached from the filter wall (7) during cleaning.

4. A laundry dryer (1) according to claim 3, wherein the filter housing (12) has a substantially cylindrical grille shape with the inlet opening (10) formed as longitudinal slot in the cylindrical grille, wherein the filter wall (7) comprises a cylindrical sector shaped portion housed in the filter housing (12) and interrupted at the inlet opening (10).

5. A laundry dryer (1) according to one of the preceding claims, wherein the cleaning system (8) comprises one or more scrapers or brushes (17) movable in contact along the filter wall (7) by means of an actuator (18).

6. A laundry dryer (1) according to claim 5, wherein the at least one scraper or brush (17) has a helical shape and can be moved in rotation with respect to the filter wall (7).

7. A laundry dryer (1) according to claim 5, wherein the at least one scraper or brush (17) has a circular or annular shape and can be moved in translation with respect to the filter wall (7).

8. A laundry dryer (1) according to one of the preceding claims, as dependent on claim 2, wherein the compacting system (9) comprises a piston pusher (33) positioned in the fluff trap (6) and movable by means of an actuator (18) so as to convey the fluff detached from the filter wall (7) towards a collection area (20) and compress the fluff in the collection area (20).

9. A laundry dryer (1) according to one of the preceding claims, as dependent on claim 2, wherein the compacting system (9) comprises a worm screw conveyor (19) positioned in the fluff trap (6) and which can be actuated in rotation by means of an actuator (18) so as to convey the fluff detached from the filter wall (7) towards a collection area (20) and compress the fluff in the collection area (20).

10. A laundry dryer (1) according to one of the preceding claims, wherein one or more scrapers or brushes (17) form a free edge of a conveyor member (19, 33) which can be moved by means of an actuator (18) in such a manner as to brush the filter wall (7) by means of said free edge and simultaneously convey

the fluff detached from the filter wall (7) towards a collection area (20) and compress the fluff in the collection area (20).

11. A laundry dryer (1) according to claim 5, wherein the scraper or brush (17) forms a peripheral annular edge of a piston (21) positioned inside the filter wall (7) and which can be translated along the filter wall (7) so as to brush/scrape and clean the filter wall (7) of the fluff and convey the fluff towards a collection area (20) and compact the fluff in the collection area (20).

12. A laundry dryer (1) according to claim 5, wherein a plurality of said scrapers or brushes (17) is formed along rods (39) of a piston (21), said rods (39) being arranged in the manner of a comb and alternated with at least two filter walls (7), and which can be translated as a comb along said filter walls (7) so as to brush/scrape and clean the at least two filter walls (7) of the fluff and convey and compact the fluff towards/in the collection area (20).

13. A laundry dryer (1) according to claim 5, wherein the scraper or brush (17) forms a peripheral helical edge of a worm screw (23) positioned inside the filter wall (7) and which can be rotated with respect to the filter wall (7) so as to brush and scrape and clean the filter wall (7) of the fluff and convey the fluff towards a collection area (20) and compact the fluff in the collection area (20).

14. A laundry dryer (1) according to one of claims 8 to 13, wherein the collection area (20) is shaped as a drawer (24) which can be opened outwardly of the housing (1) or which is removable from the machine (1).

15. A laundry dryer (1) according to one of the preceding claims, as dependent on claim 2, wherein the cleaning system (8) comprises a scraper edge or an auxiliary brush (38) positioned in contact with and configured so as to execute a related movement with respect to a compacting member (21; 23) of the compacting system (9) to clean a surface which pushes and compacts the fluff.

16. A laundry dryer (1) according to one of the preceding claims, comprising an electronic control system (35) which can be programmed by the user to select one from a plurality of drying programs, and configured to automatically activate the filter cleaning system (8) and/or the fluff compacting system (9) according to the execution of the drying programs.

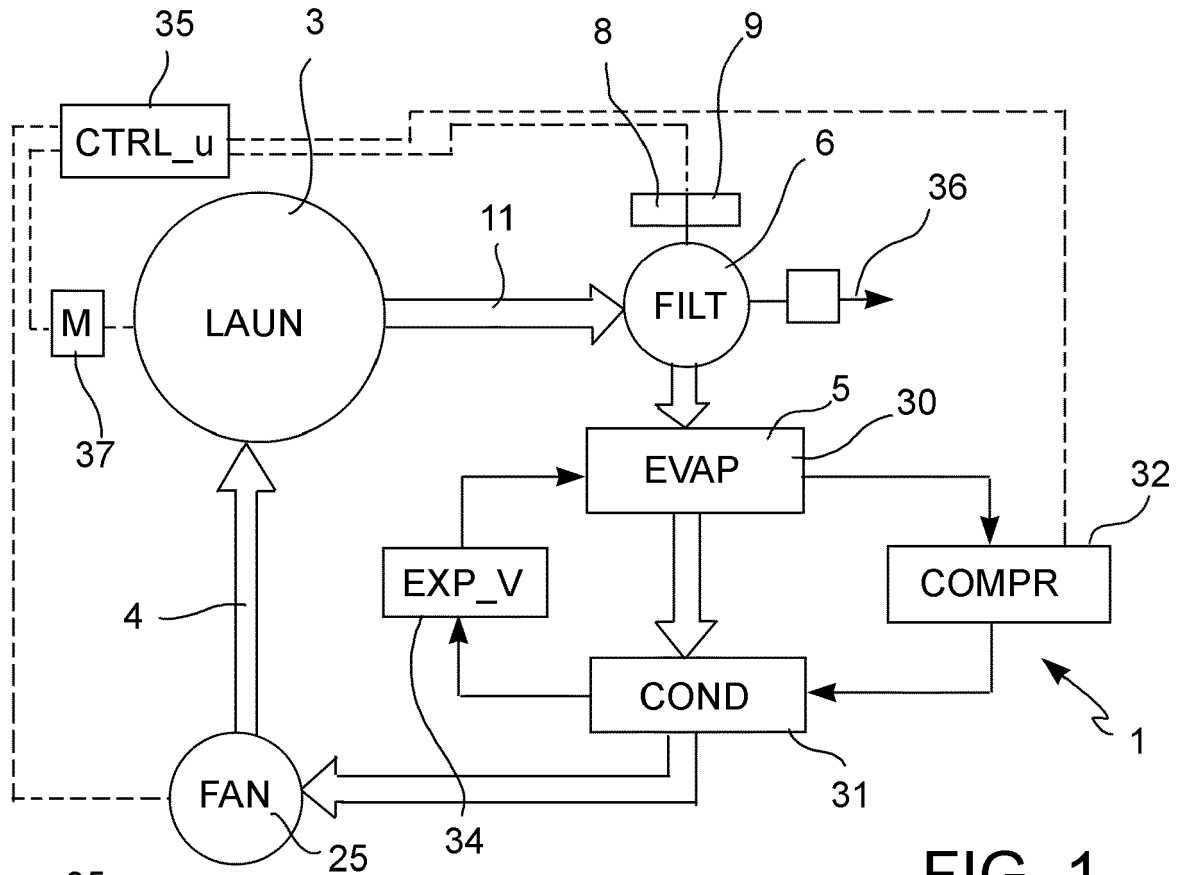


FIG. 1

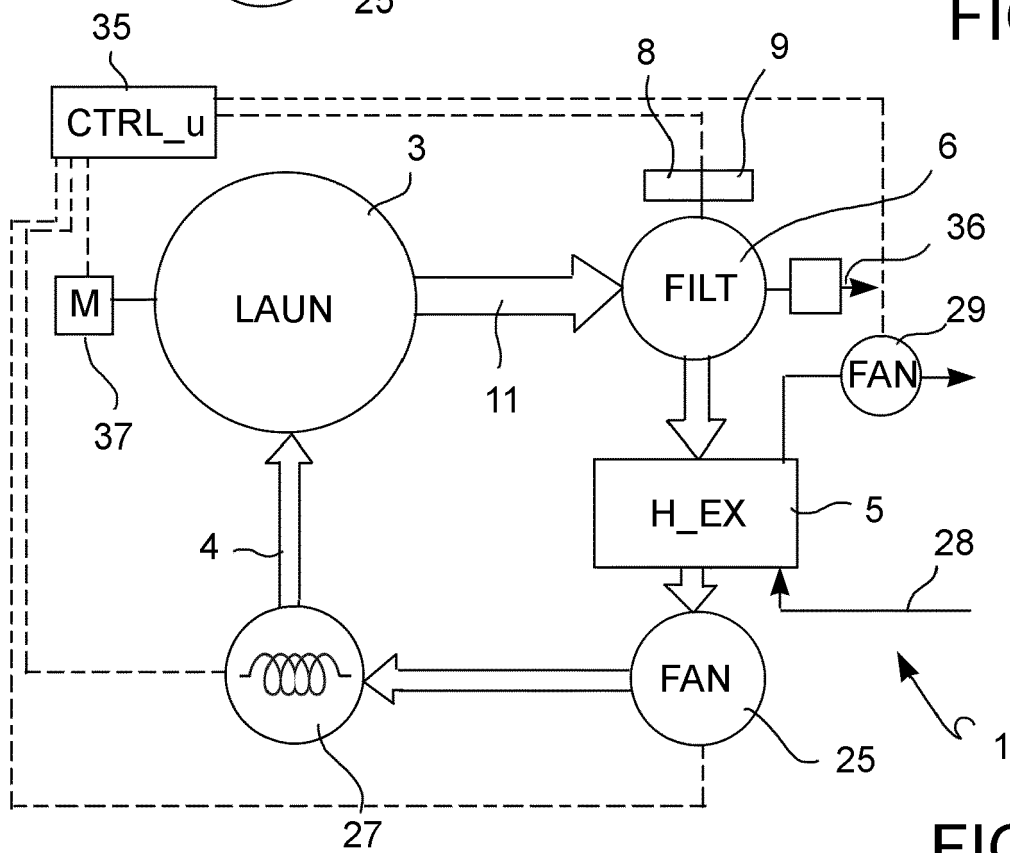


FIG. 2

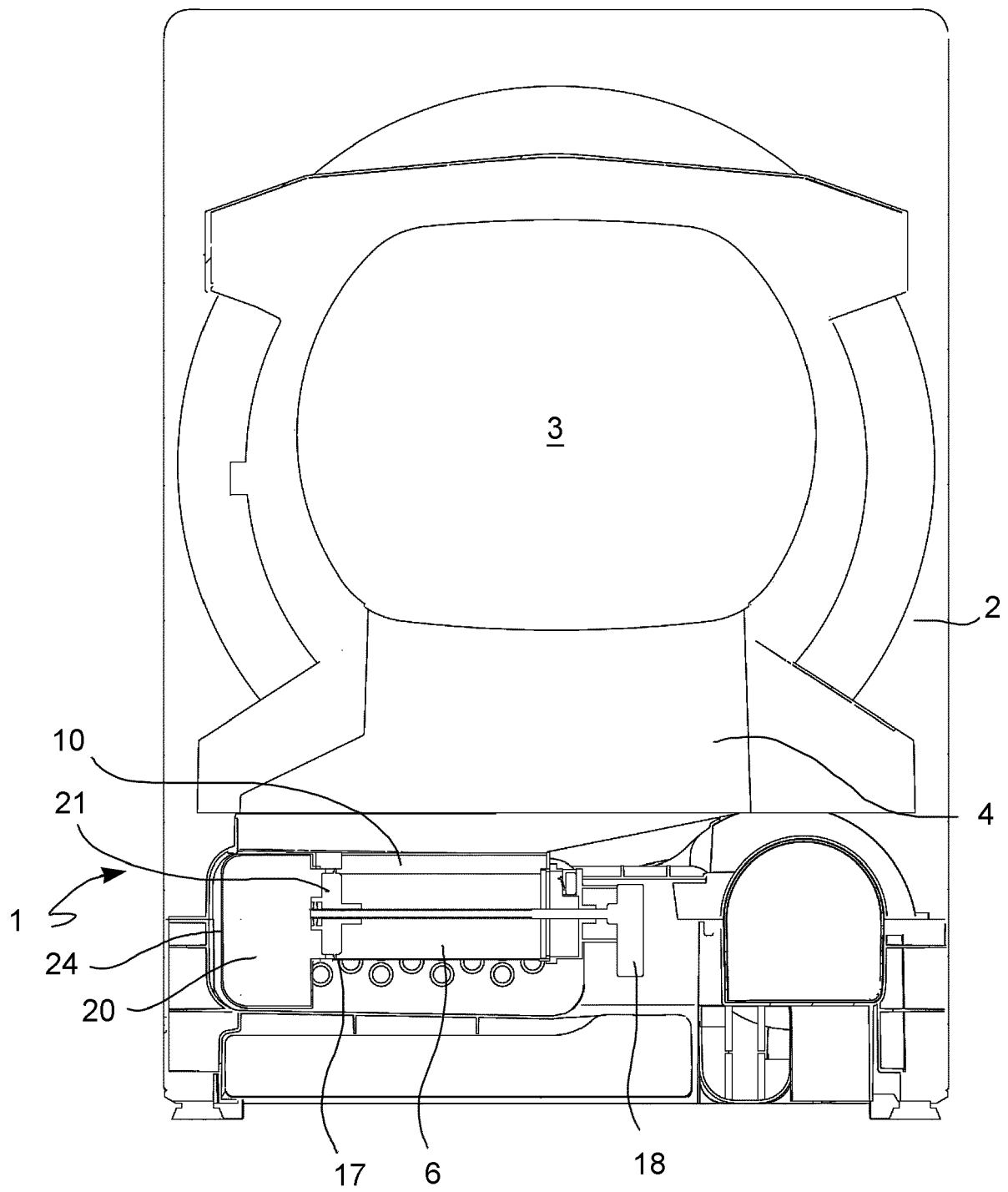


FIG. 3

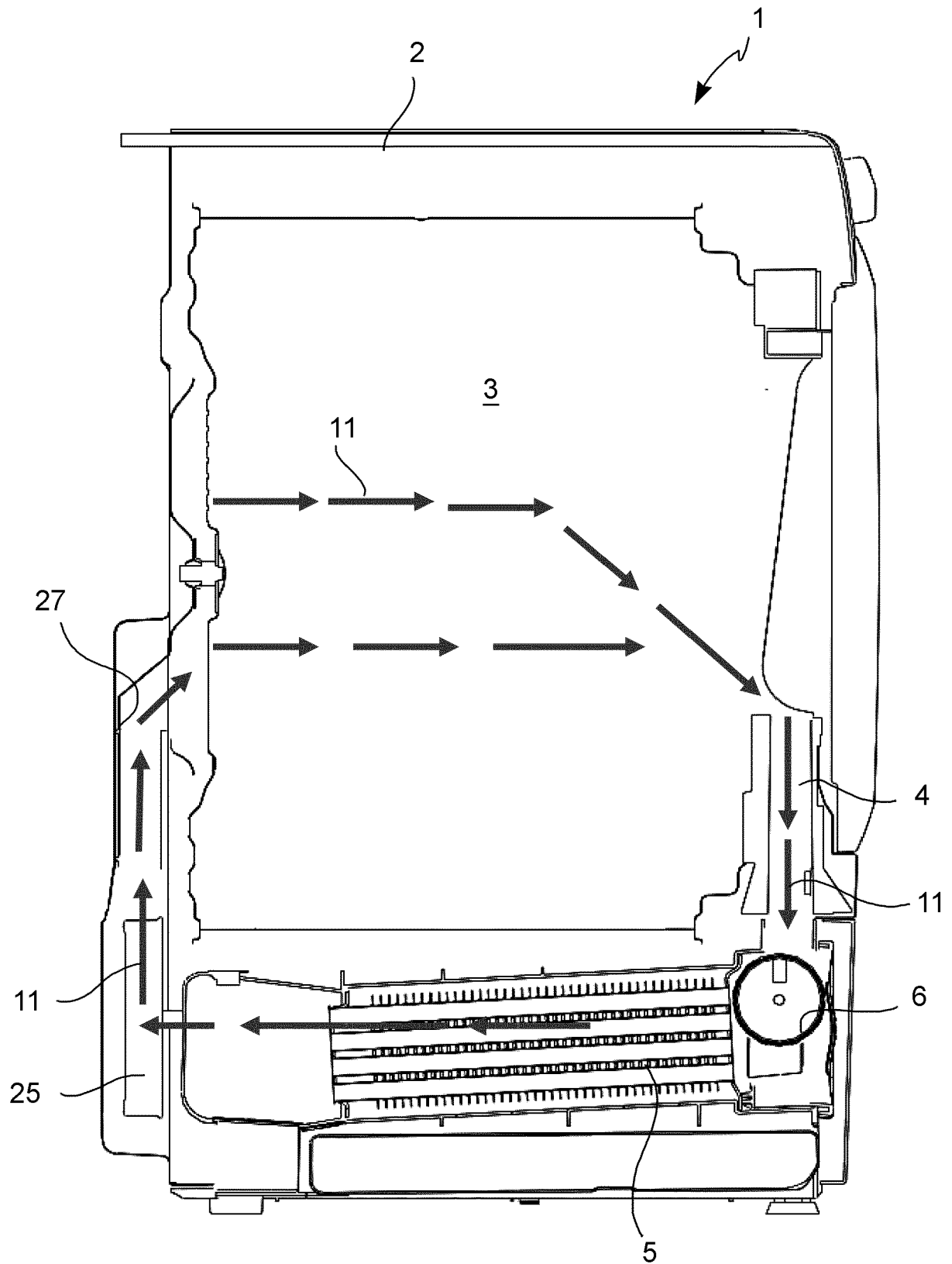


FIG. 4

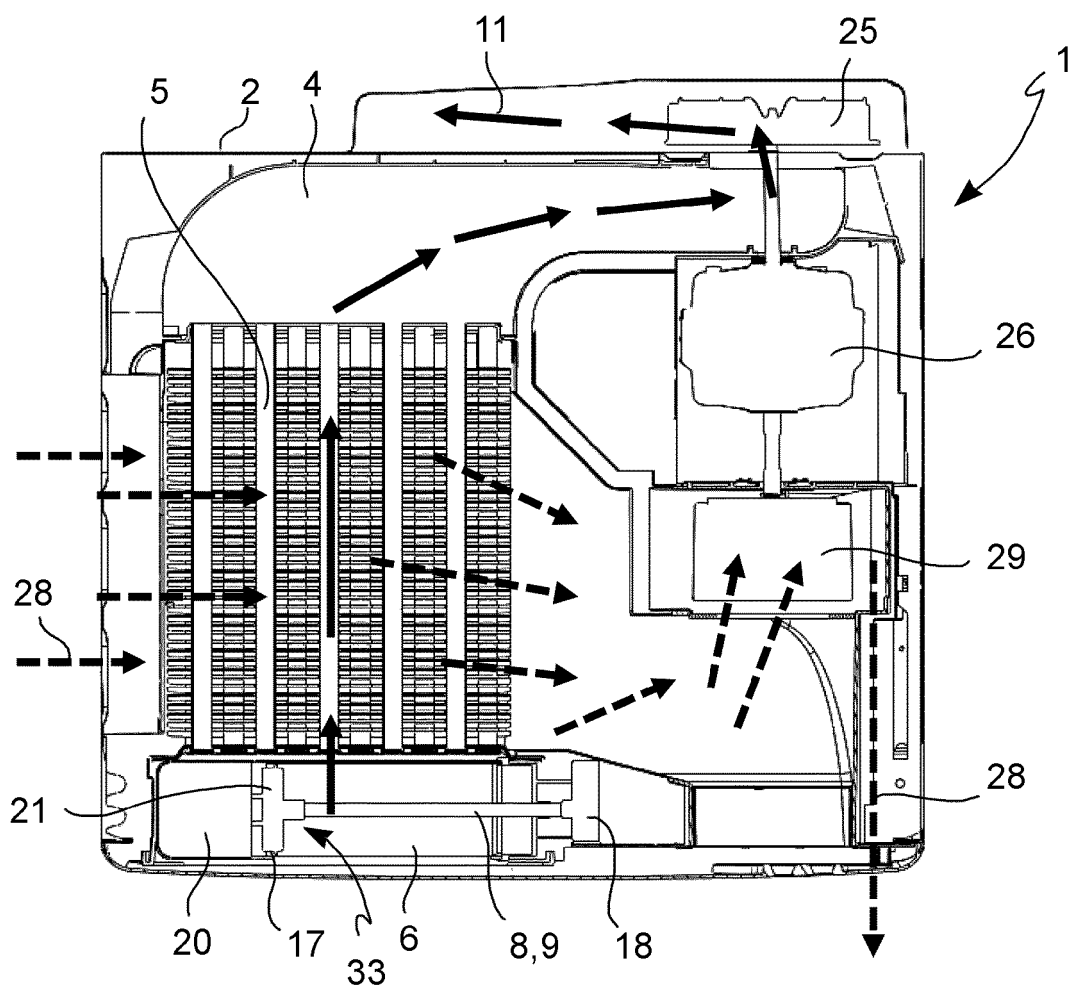


FIG. 5

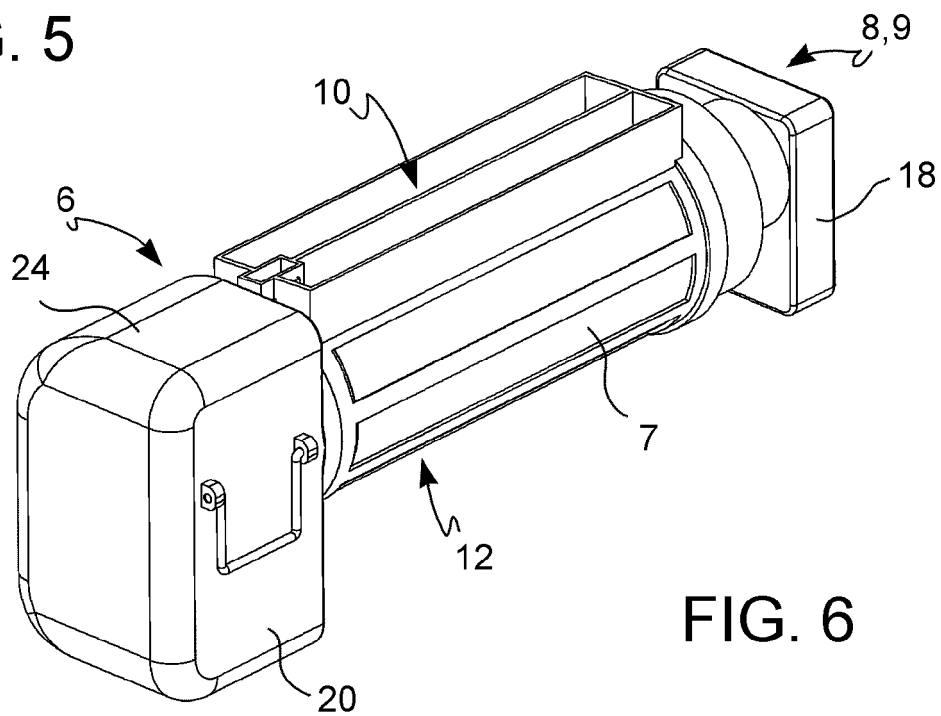


FIG. 6

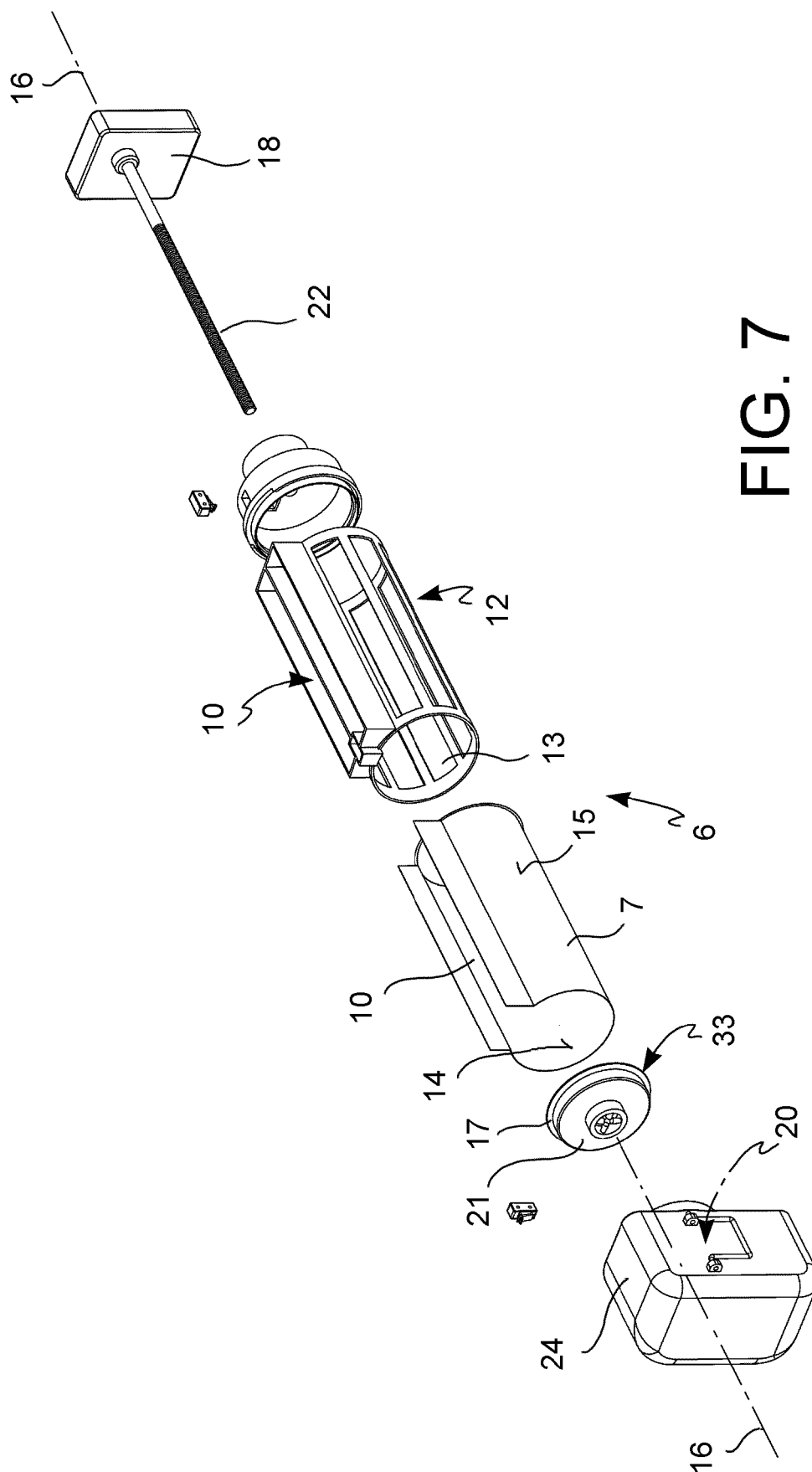


FIG. 7

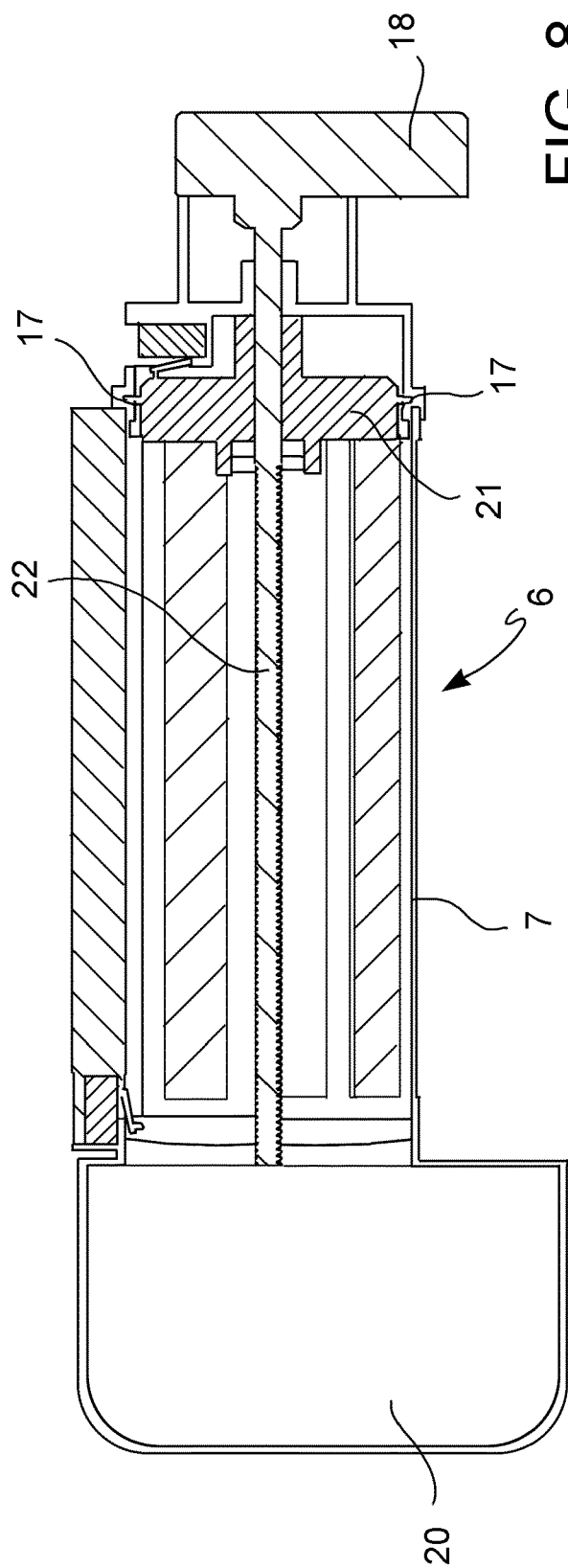


FIG. 8

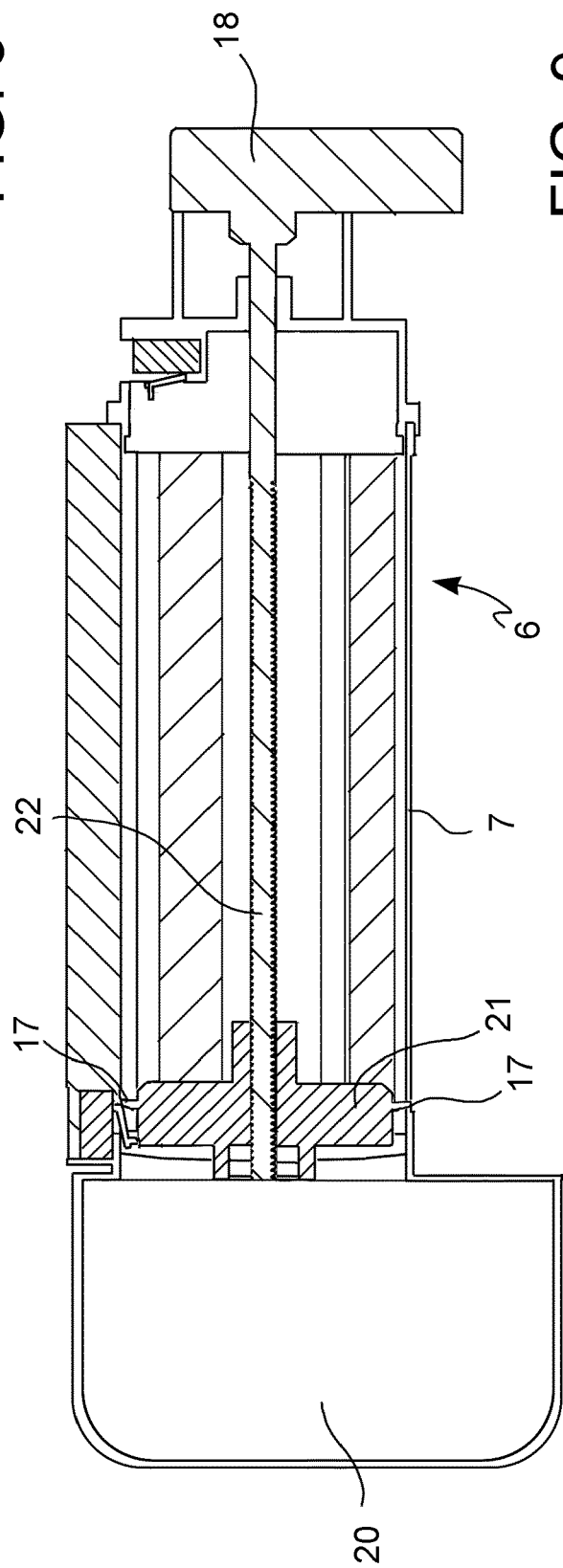


FIG. 9

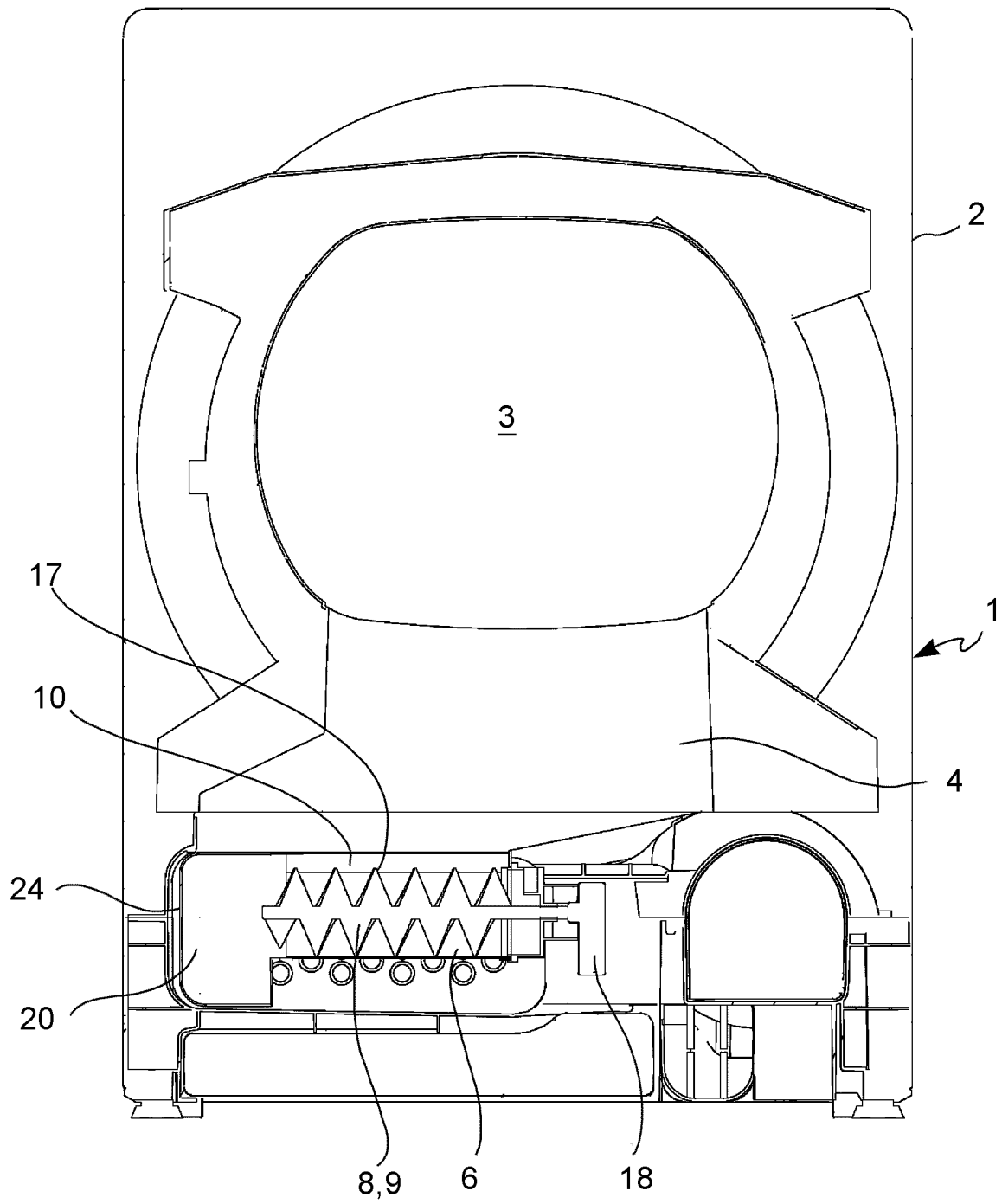


FIG. 10

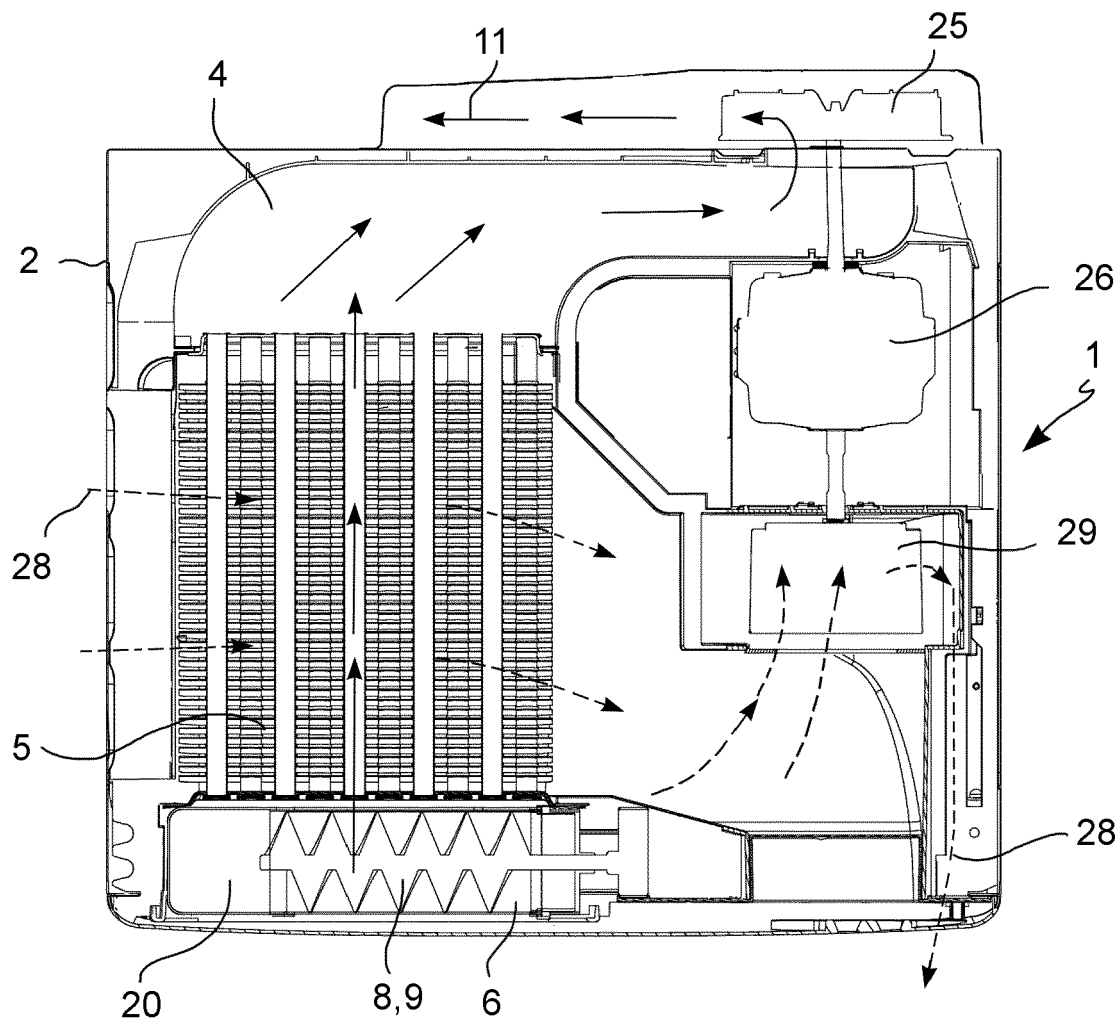


FIG. 11

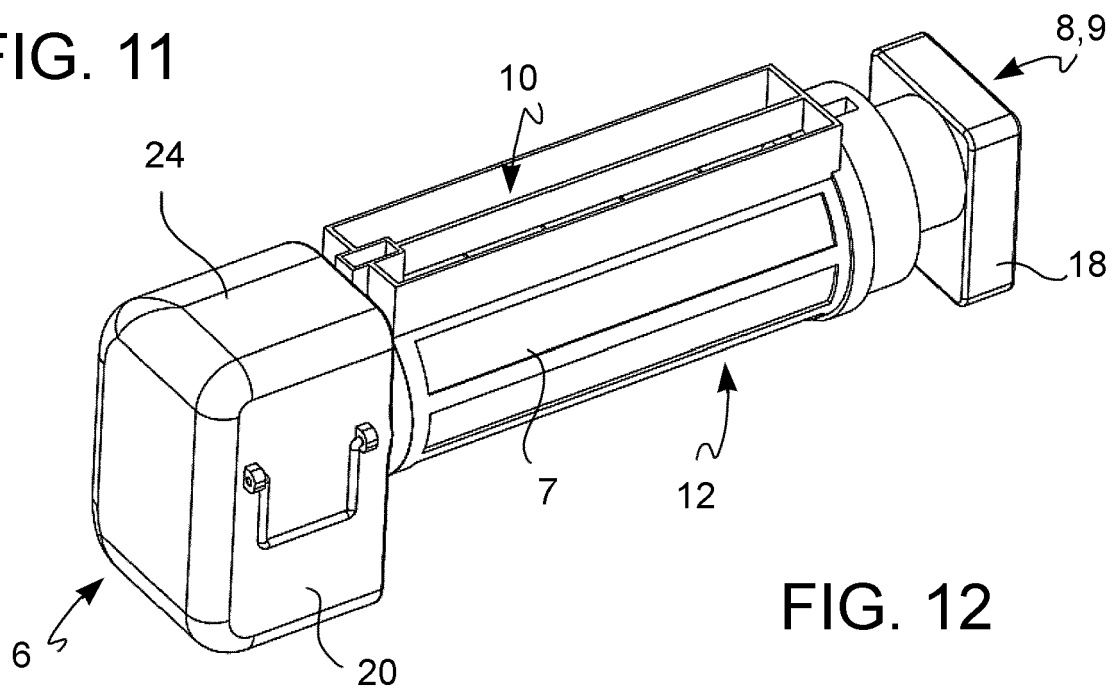


FIG. 12

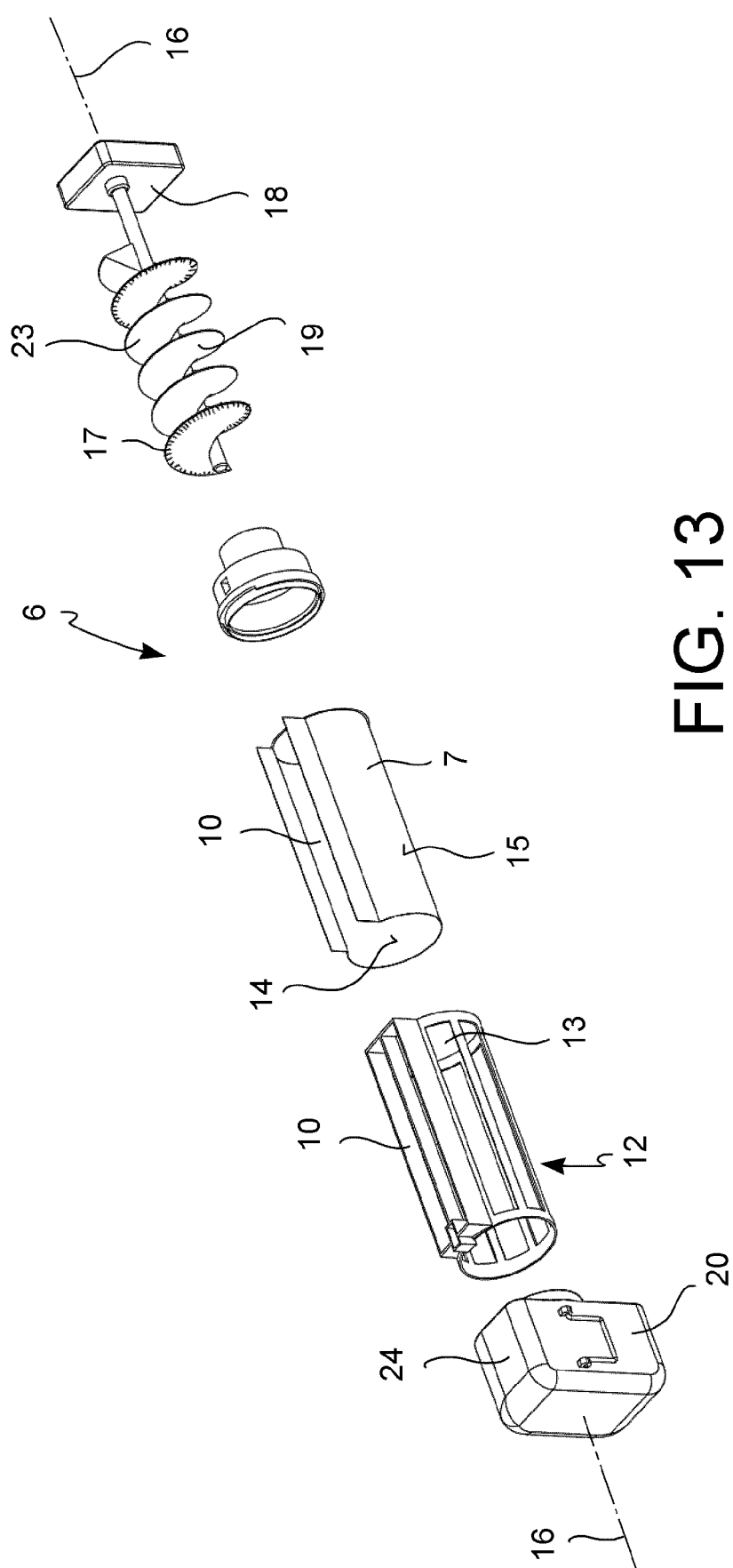


FIG. 13

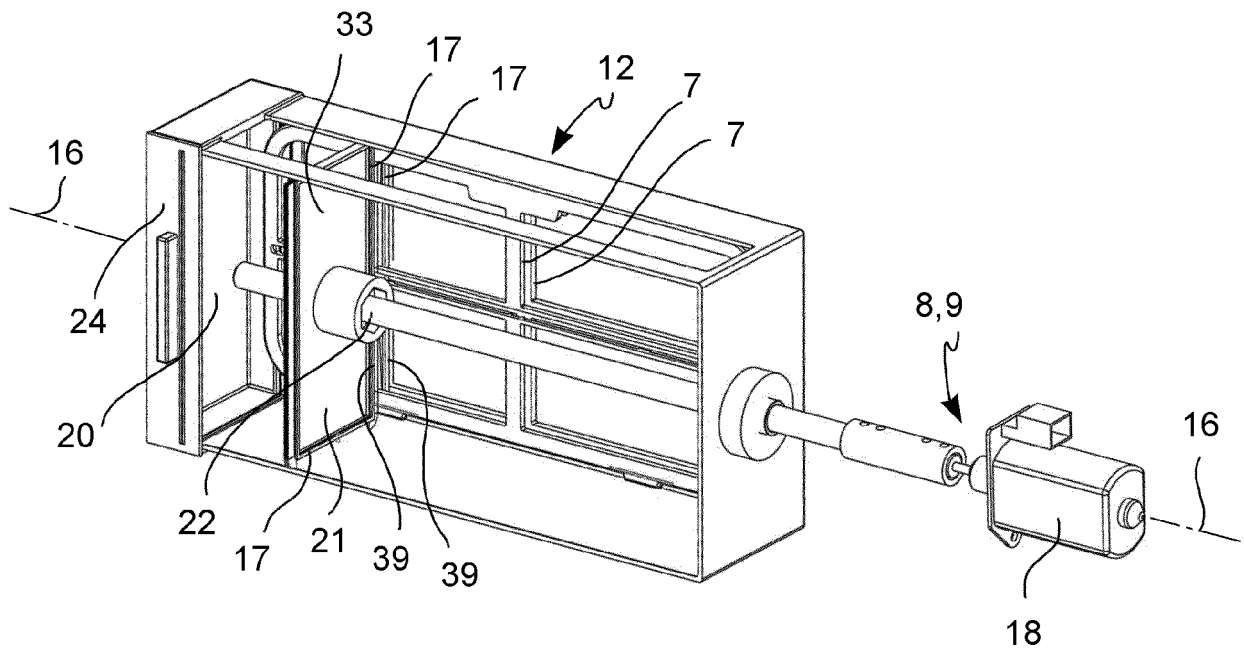


FIG. 14

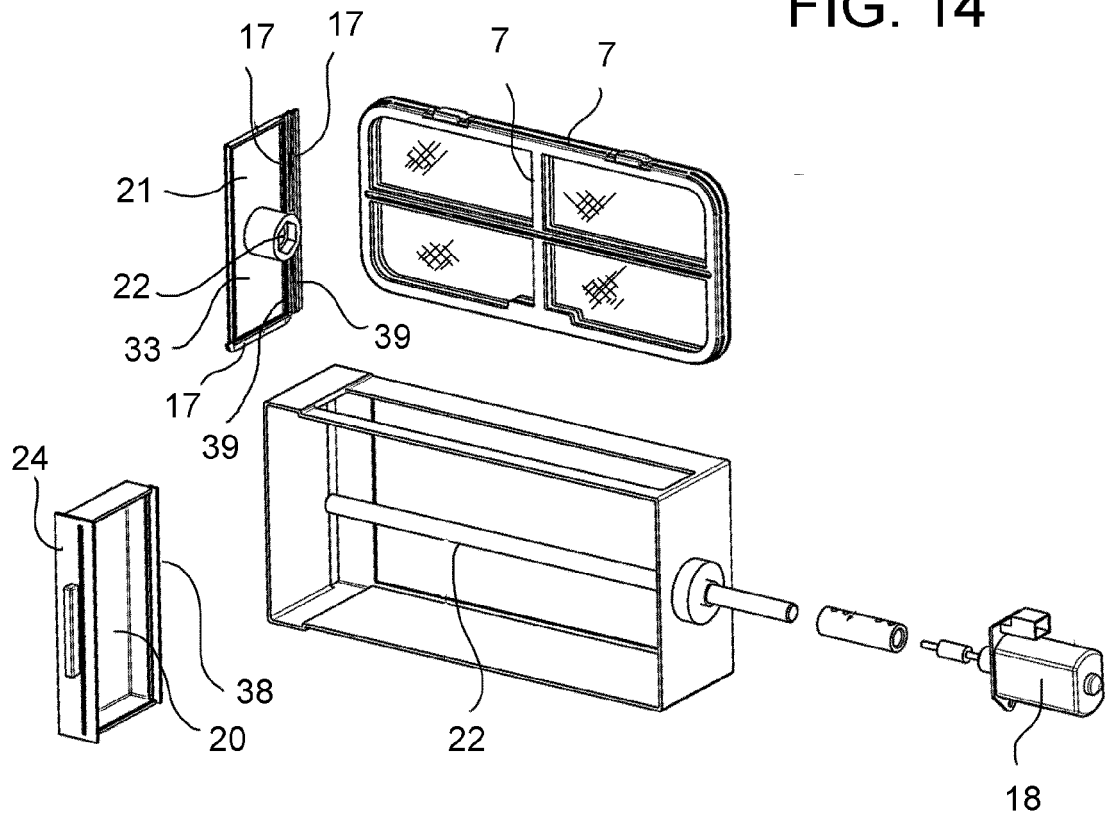


FIG. 15

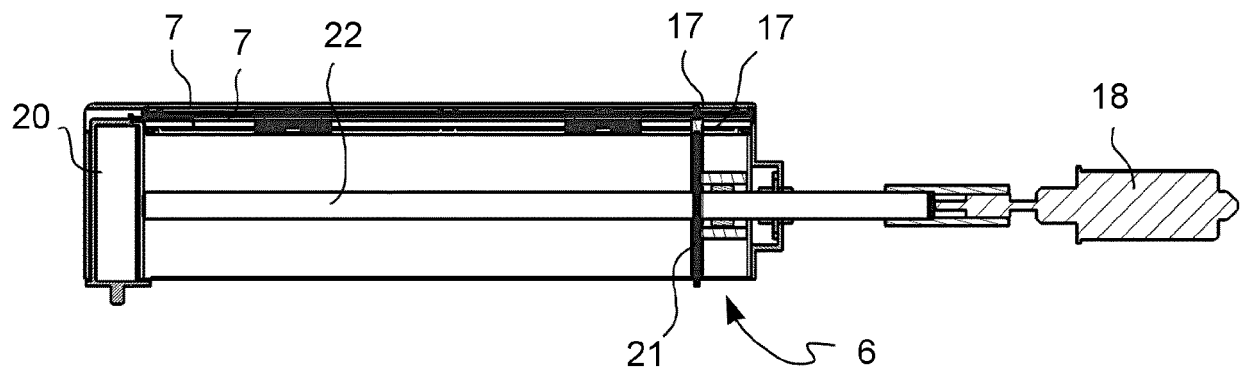


FIG. 16

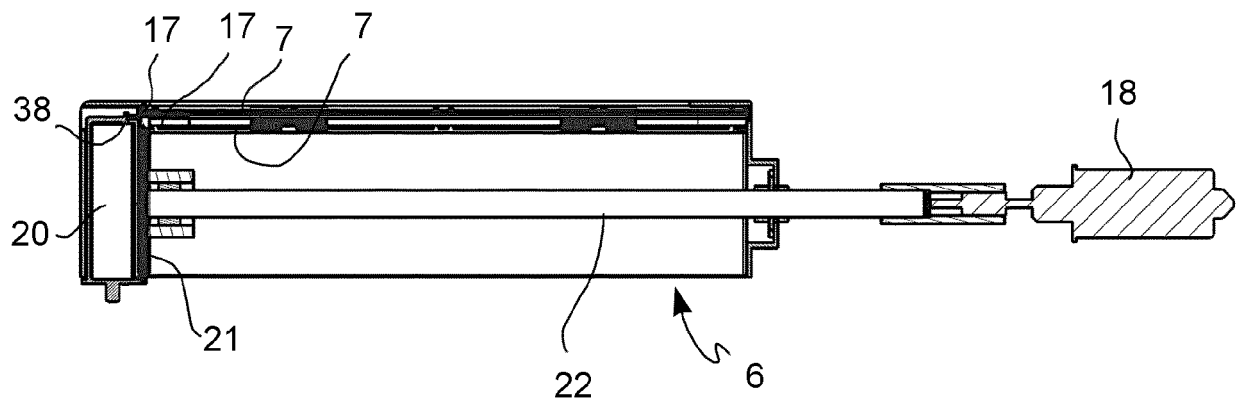


FIG. 17



EUROPEAN SEARCH REPORT

Application Number
EP 18 15 6970

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 3 026 169 A1 (SAMSUNG ELECTRONICS CO LTD [KR]) 1 June 2016 (2016-06-01) * paragraph [0031] - paragraph [0040] * * paragraph [0050] - paragraph [0091] * * figures 1-18 *	1-16	INV. D06F58/22 ADD. D06F58/20
X	JP 2013 236695 A (PANASONIC CORP) 28 November 2013 (2013-11-28) * paragraph [0008] - paragraph [0009] * * paragraph [0012] - paragraph [0017] * * paragraph [0026] - paragraph [0036] * * figures 1-10 *	1,2,5,6,9,10,13,16	
X	KR 2012 0022362 A (LG ELECTRONICS INC [KR]) 12 March 2012 (2012-03-12) * paragraph [0024] - paragraph [0033] * * paragraph [0058] - paragraph [0069] * * figures 1-9 *	1,2	
			TECHNICAL FIELDS SEARCHED (IPC)
			D06F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 2 August 2018	Examiner Bermejo, Marco
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03/82 (P04/C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 18 15 6970

5

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

02-08-2018

10

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 3026169 A1	01-06-2016	EP 3026169 A1	01-06-2016
		US 2016153136 A1	02-06-2016
JP 2013236695 A	28-11-2013	NONE	
KR 20120022362 A	12-03-2012	NONE	

15

20

25

30

35

40

45

50

55

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82