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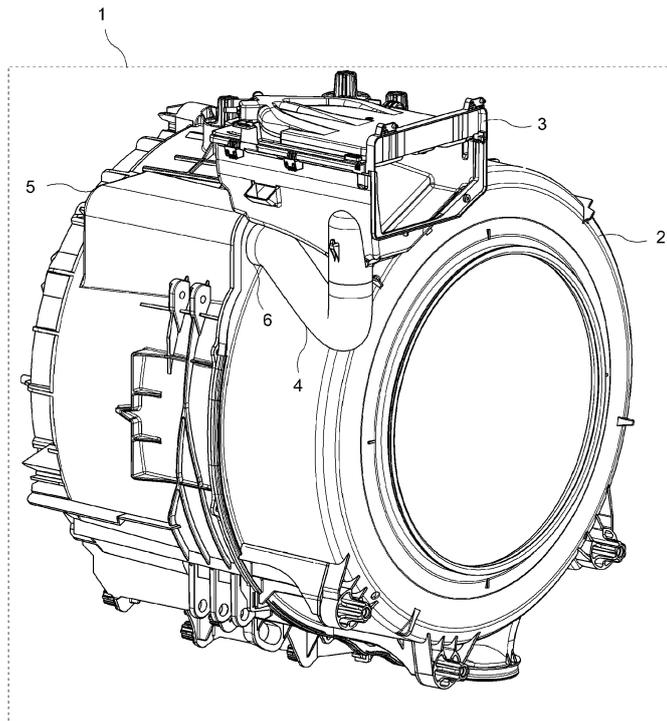
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(54) **A WASHER/DRYER WHERE STEAM LEAKAGE IS PREVENTED**

(57) The present invention relates to a washer/dryer (1) comprising a tub (2); a detergent dispenser (3) that has one or more than one compartment wherein different

types of cleaning agents (detergent, softener, etc.) are placed; a hose (4) that is disposed between the detergent dispenser (3) and the tub (2).

Figure 1



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## Description

**[0001]** The present invention relates to a washer/dryer where the steam forming during the washing and drying of the laundry is prevented from reaching the detergent dispenser.

**[0002]** In washer/dryers a hose is provided, in the form of a "U", so-called 'goose neck', between the detergent dispenser and the tub, which provides the transfer of the cleaning agents such as detergent, softener, etc. in the detergent dispenser to the tub. By means of this "U" form, water is enabled to remain within the hose and the steam forming within the tub during the washing, particularly the drying process is prevented from reaching the detergent dispenser through the hose.

**[0003]** The said hose is worn by rubbing against the tub and the body over the time. Moreover, the bent section of the hose must be deeper in order to prevent the steam from reaching the detergent dispenser. This causes the hose to occupy a larger space within the body.

**[0004]** In the state of the art International Patent Application No. WO2005106101, a lid in the section of the hose opening to the detergent dispenser is disclosed, that allows the transfer of the water and the cleaning agents from the detergent dispenser to the tub but that prevents the passage of the steam emanating from the tub to the detergent dispenser.

**[0005]** The aim of the present invention is the realization of a washer/dryer wherein the steam emanating from the tub is prevented from reaching the detergent dispenser.

**[0006]** The washer/dryer realized in order to attain the aim of the present invention, explicated in the first claim and the respective claims thereof, comprises a chamber that is disposed between the detergent dispenser and the tub and wherein one end of the hose, the other end of which is connected to the detergent dispenser, opens and wherein the steam emanating from the tub enters first before the hose.

**[0007]** The chamber is preferably in the form of a triangle, the base of which has the same form with the tub. The outlet of the chamber is a protrusion in the form of a slit, disposed in the section where the base intersects with the ceiling.

**[0008]** The washer/dryer comprises a pipe that completely surrounds the inlet of the chamber and that extends almost up to half the length of the chamber. Thus, the hose connected to the inlet is enabled to extend into the chamber. In order to prevent the steam entering the chamber from passing through the pipe and reaching the hose and the detergent dispenser, a wall is provided, that covers the top of the opening from which the pipe opens into the chamber. Thus, the steam filling into the tub is enabled to hit the wall and the pipe and condense before reaching the hose, and thus is prevented from reaching the hose.

**[0009]** By means of the wall, the water remaining inside the chamber is enabled to close the opening of the pipe

and the steam filling into the chamber is prevented from moving through the pipe and reaching the hose.

**[0010]** By means of the present invention, the steam emanating from the tub is prevented from reaching the hose and hence the detergent dispenser.

**[0011]** Moreover, by means of the present invention, instead of a hose with a complex structure, a simpler hose which is directly connected to the tub is used, thus providing cost reduction. Furthermore, the need for designing and using a new hose for each model is eliminated. The possibility of the steam reaching the detergent dispenser is minimized. The wearing problem in the hose is eliminated.

**[0012]** The washer/dryer realized in order to attain the aim of the present invention is illustrated in the attached figures where

Figure 1 - is the perspective view of a tub, a detergent dispenser, a hose and a chamber.

Figure 2 - is the perspective view of the chamber and the pipe opening into the chamber.

Figure 3 - is the bottom cross-sectional perspective view of the chamber, the pipe and the wall.

**[0013]** The elements illustrated in the figures are numbered as follows:

1. Washer/dryer
2. Tub
3. Detergent dispenser
4. Hose
5. Chamber
6. Inlet
7. Outlet
8. Pipe
9. Wall
10. Opening

**[0014]** The washer/dryer (1) comprises a tub (2); a detergent dispenser (3) that has one or more than one compartment wherein different types of cleaning agents (detergent, softener, etc.) are placed; a hose (4) that is disposed between the detergent dispenser (3) and the tub (2), and a chamber (5)

- wherein one end of the hose (4), the other end of which opens to the detergent dispenser (3), opens,
- That is disposed between the hose (4) and the tub (2), and
- wherein the steam emanating from the tub (2) enters before the hose (4)

(Figure 1).

**[0015]** In the washer/dryer (1), the hot air is blown into the tub (2) in the drying process. The said hot air evaporates the moisture on the laundry. The steam inside the tub (2) tends to leave the tub (2) due to the pressure.

After leaving the tub (2), the said steam enters the chamber (5), which is colder than the tub (2) due to being located outside the tub (2), and condenses inside the chamber (5) before reaching the hose (4) and remains there.

**[0016]** The washer/dryer (1) comprises an inlet (6) by means of which the hose (4) is connected to the chamber (5), and an outlet (7) that enables the water, which is transferred together with the cleaning agents such as detergent, softener, etc. taken from the detergent dispenser (3) by means of the hose (4), to pass through the chamber (5) and to be delivered to the tub (2).

**[0017]** The washer/dryer (1) comprises a pipe (8) that is disposed on the periphery of the inlet (6) and that extends into the chamber (5); an opening (10) that enables the pipe (8) to open into the chamber (5), and a wall (9) that closes the opening (10). In an embodiment of the present invention, the wall (9) is in the form of a quarter sphere and is disposed on the opening (10) and covers the lower half of the pipe (8). In the preferred embodiment of the present invention, the pipe (8) extends almost up to half the length of the chamber (5). By means of the wall (9), the steam entering from the tub (2) into the chamber (5) is prevented from directly reaching the hose (4) and the steam moving inside the chamber (5) toward the hose (4) first hits the wall (9) and condenses there, thus prevented from entering the hose (4) (Figure 2).

**[0018]** In another embodiment of the present invention, the chamber (5) comprises a base in the same form with the periphery of the tub (2) and a ceiling that joins two ends of the said base. The outlet (7) is in the form of a slit in the section where the base joins the ceiling (Figure 3).

**[0019]** In another embodiment of the present invention, the opening (10) faces downward, toward the base of the chamber (5).

**[0020]** In another embodiment of the present invention, part of the wash water filling into the chamber (5) is transferred to the tub (2), while the other part thereof remains in the chamber (5). The steam entering from the tub (2) into the chamber (5) cannot enter the pipe (8) due to the water remaining in the chamber (5) and closing the opening (10), and is prevented from reaching the hose (4).

## Claims

1. A washer/dryer (1) comprising a tub (2); a detergent dispenser (3) that has one or more than one compartment wherein different types of cleaning agents (detergent, softener, etc.) are placed; a hose (4) that is disposed between the detergent dispenser (3) and the tub (2), **characterized by** a chamber (5)

- wherein one end of the hose (4), the other end of which opens to the detergent dispenser (3), opens,
- that is disposed between the hose (4) and the

tub (2), and

- wherein the steam leaving the tub (2) enters before the hose (4).

- 5    2. A washer/dryer (1) as in Claim 1, **characterized by** the chamber (5) that is disposed outside the tub (2).
3. A washer/dryer (1) as in Claim 1 or 2, **characterized by** an inlet (6) by means of which the hose (4) is connected to the chamber (5), and an outlet (7) that enables the water, which is transferred together with the cleaning agents such as detergent, softener, etc. taken from the detergent dispenser (3) by means of the hose (4), to pass through the chamber (5) and to be delivered to the tub (2).
4. A washer/dryer (1) as in Claim 3, **characterized by** a pipe (8) that is disposed on the periphery of the inlet (6) and that extends into the chamber (5); an opening (10) that enables the pipe (8) to open into the chamber (5), and a wall (9) that closes the opening (10).
5. A washer/dryer (1) as in Claim 4, **characterized by** the wall (9) in the form of a quarter sphere.
6. A washer/dryer (1) as in Claim 4 or 5, **characterized by** the wall (9) that covers the lower half of the pipe (8).
7. A washer/dryer (1) as in Claim 4, 5 or 6, **characterized by** the pipe (8) that extends almost up to half the length of the chamber (5).
8. A washer/dryer (1) as in any one of the above claims, **characterized by** the chamber (5) comprising a base in the same form with the periphery of the tub (2) and a ceiling which joins two ends of the base.
9. A washer/dryer (1) as in Claim 8, **characterized by** the outlet (7) in the form of a slit in the section where the base meets the ceiling.
10. A washer/dryer (1) as in Claim 8, **characterized by** the opening (10) facing downward, towards the base of the chamber (5).

Figure 1

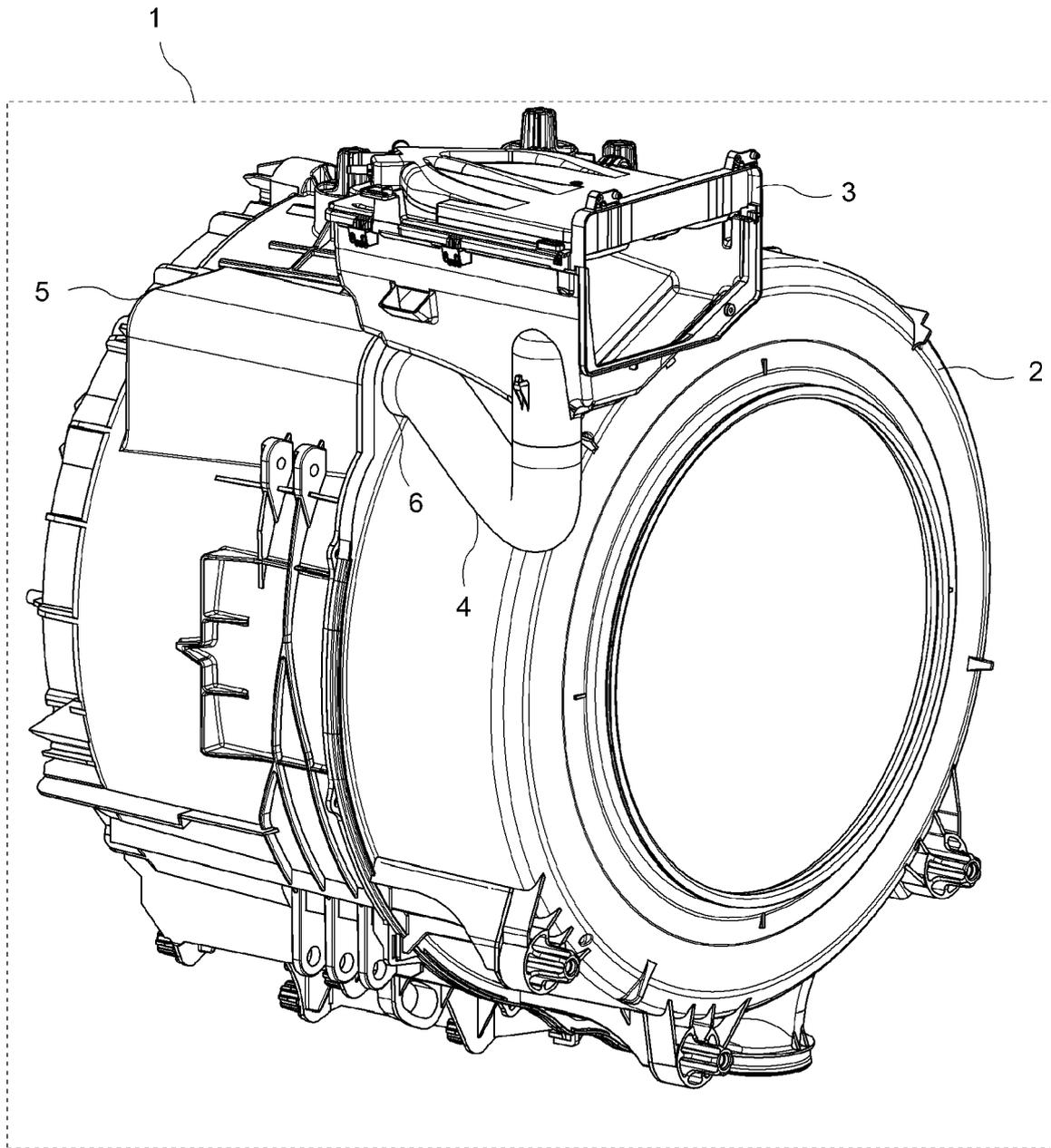


Figure 2

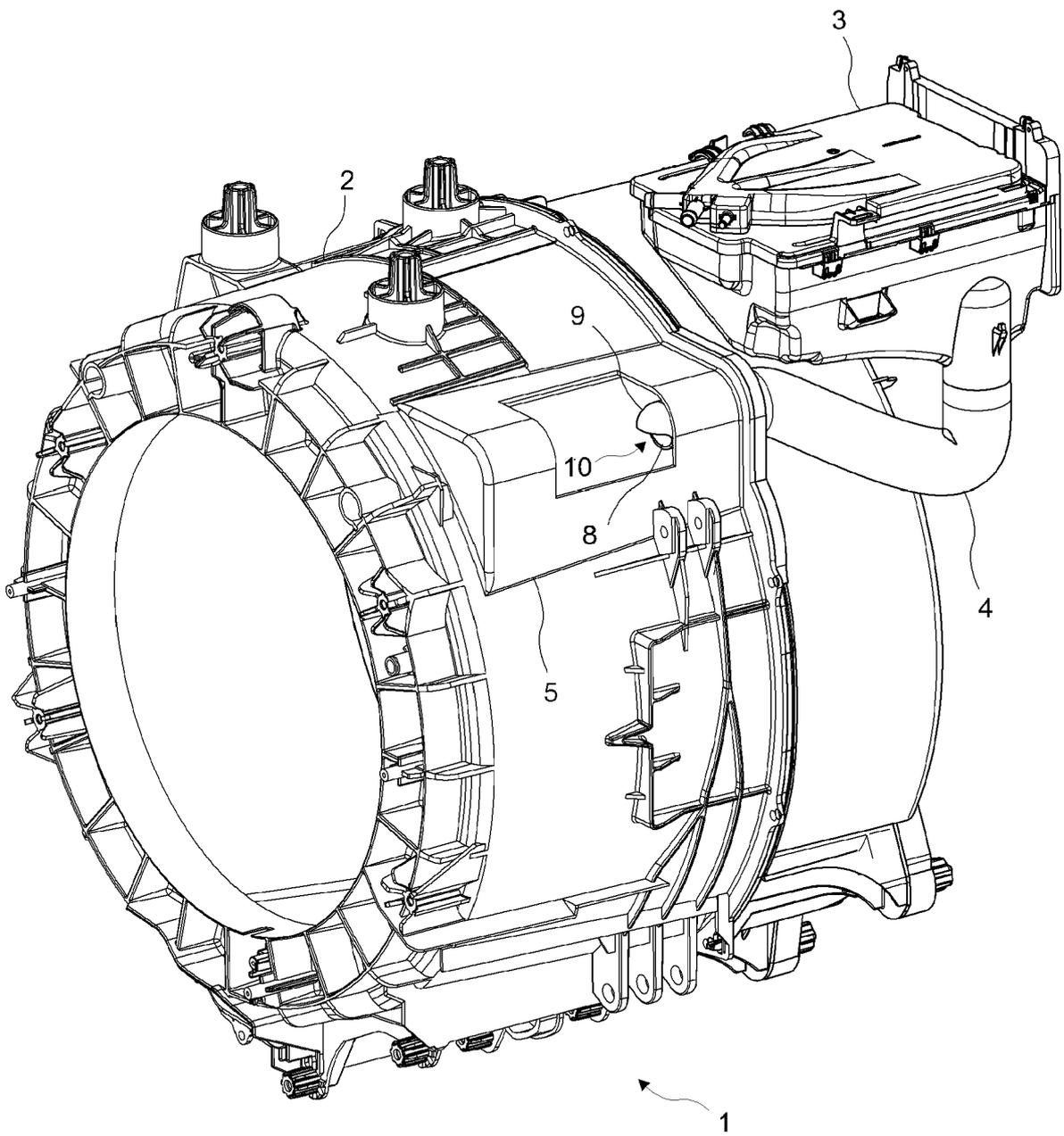
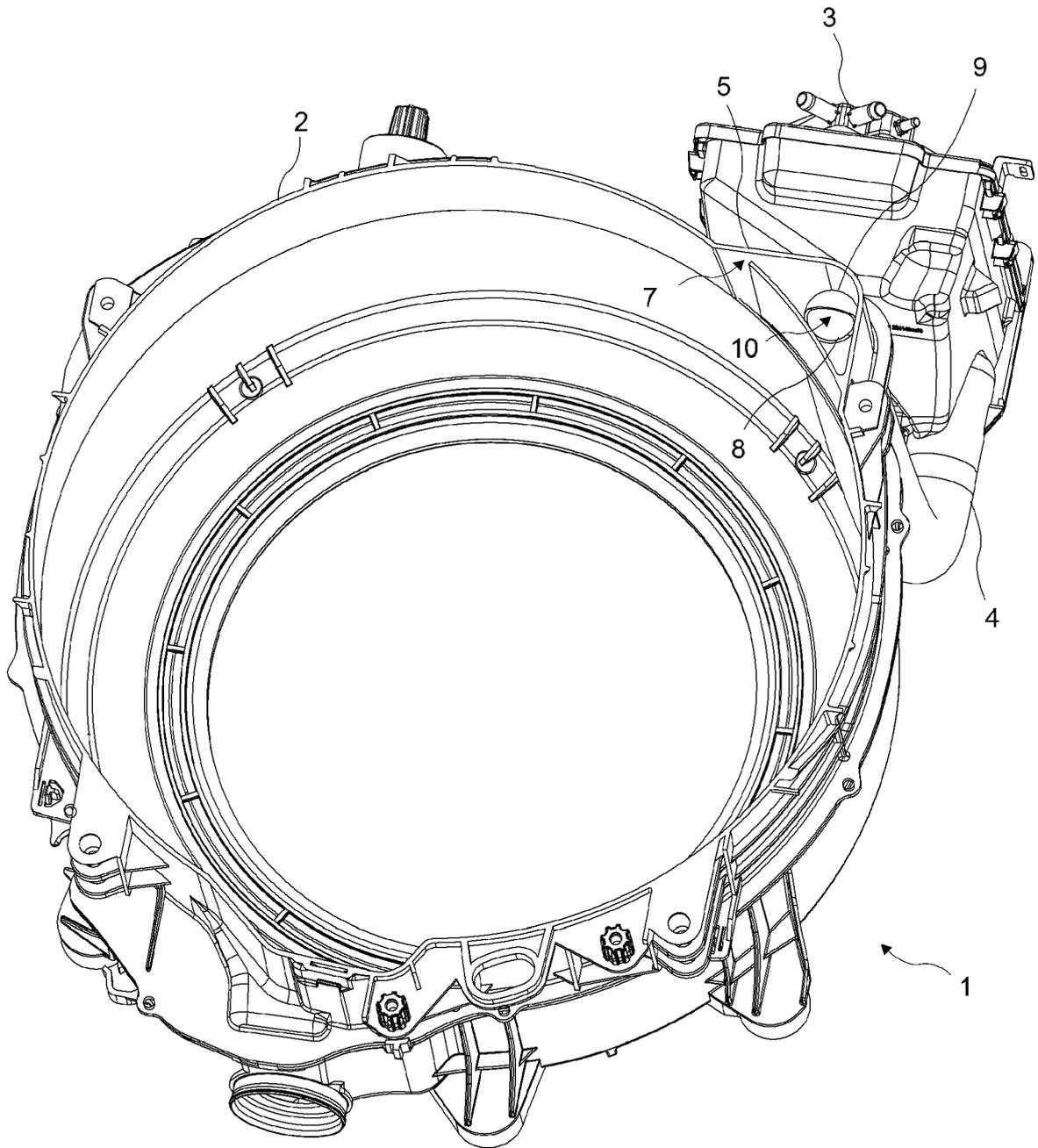


Figure 3





EUROPEAN SEARCH REPORT

Application Number  
EP 16 19 6593

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A	* paragraph [0007] - paragraph [0020] * * paragraph [0044] - paragraph [0047] * * figures 1-4 *	4-10	ADD. D06F37/26 D06F39/08
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			D06F
Place of search		Date of completion of the search	Examiner
Munich		16 January 2017	Bermejo, Marco
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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  
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EP 16 19 6593

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  
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16-01-2017

10	Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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**REFERENCES CITED IN THE DESCRIPTION**

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