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(54) **A CLEANING AGENT DISPENSER COMPRISING AN UPPER CASING**

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Description

[0001] The present invention relates to a washer comprising a cleaning agent dispenser that comprises an upper casing.

[0002] The use of liquid cleaning agents in washers like washing machines and laundry washer/dryers is becoming widespread. Accordingly, in order to provide ease of utilization, automatic dosing units are developed for the liquid cleaning agent to be stored in a receptacle and to be delivered into the wash water controllably depending on the requirement of the washing program. In state of the art systems, the liquid cleaning agents of different types may mix with each other in the tanks they are stored, in the units whereto these tanks are connected and in the lines where they remain before mixing with the wash water. The cleaning agents of different types mixing with one another undergo a chemical reaction and create salts and precipitate when liquid detergents and softeners are concerned. The deposit formed by the cleaning agents of different types mixing with each another may decrease the washing performance of the machine. The deposit dries and stays in place, which is difficult to clean. On the other hand, the unclean cleaning agent deposits cause bacteria to multiply, adversely affecting hygiene.

[0003] In the Patent Application No. EP2428607, a washing machine is disclosed, that performs automatic dosing and wherein the dosing pump is disposed on the detergent dispenser lid.

[0004] European Patent Application EP 2 251 480 A1 discloses a washing machine with a dispenser that is built as a drawer. The dispenser is closed from above by a detachable cover that comprises apertures providing access to the compartments of the dispenser.

[0005] United States Patent Application US 2009/158782 A1 discloses a similar washing machine with a dispenser that is built as a drawer and that comprises a cover with openings to compartments beneath.

[0006] International Patent Application WO 2013/032 224 A2 discloses a washing machine with a dispenser arranged beneath a cover in the upper plate of the cabinet. The dispenser is removable and comprises several compartments.

[0007] United Kingdom Patent Application GB 2 147 613 A discloses a liquid-dispensing arrangement comprising a reservoir that is built as a drawer and that is closed from above by a lid fixed to the reservoir by ultrasonic welding.

[0008] The aim of the present invention is the realization of a washer wherein cleaning agents of different types are not mixed with each another.

[0009] The washer realized in order to attain the aim of the present invention, explicated in the first claim and the respective claims thereof, comprises a body, a tub that is disposed within the body and wherein the washing/drying processes are performed, a housing that extends from the front side of the body towards the interior of the body, a dispenser that is placed into the housing

and that has more than one division wherein the cleaning agents are filled, a dosing unit that is disposed in the body, at the rear side of the housing and that mixes the cleaning agents filled into the dispenser with the wash water by dosing, and an upper casing that covers the dispenser by being seated on the dispenser and division walls.

[0010] In the washer of the present invention, an upper casing that is seated over the dispenser and the division walls is used for covering the dispenser. By means of the upper casing, the liquid cleaning agents are prevented from flowing into the housing while the washer operates due to reasons like shaking.

[0011] In an embodiment of the present invention, a groove is arranged at the rear portion of the dispenser remaining inside the housing, whereto the surplus liquid cleaning agent is discharged when the dispenser is filled with liquid cleaning agent more than its volume. The groove opens into the housing and the surplus liquid cleaning agent that is discharged from the dispenser flows into the housing. The liquid cleaning agent flowing into the housing is delivered to the tub by being flushed with water during washing.

[0012] In an embodiment of the present invention, the upper casing is produced as a single piece with the dispenser. Using a single mold in the production of the dispenser and the upper casing both provides cost advantage and also decreases time loss in production.

[0013] In an embodiment of the present invention, the upper casing is adhered to the dispenser by welding methods, such as cold plastic welding or vibration welding. Thus, liquid cleaning agents of different types are prevented from overflowing the division walls and mixing with each another, thereby product durability perception is improved.

[0014] In an embodiment of the present invention, the upper casing is produced so as to be attached to/detached from the dispenser. The user detaches the upper casing and easily cleans the cleaning agents remaining in the divisions. By means of the upper casing being detachable, cleaning of the dispenser is facilitated and the formation of bacteria and bad odors inside the dispenser is prevented.

[0015] In an embodiment of the present invention, the upper casing comprises extensions that grasp the upper sides of the dispenser and the division walls from both sides. The upper casing is seated firmly on the upper sides of the walls by means of the extensions and prevents the liquid cleaning agents from overflowing or spilling from the dispenser in any way. If the user fills too much cleaning agent into the divisions, the cleaning agents are prevented from being transferred from one division to another thanks to the extensions.

[0016] In an embodiment of the present invention, filling lids are disposed on the upper casing so that the user can add in the cleaning agent. The user pulls out the dispenser partially, opens the lid and fills in the cleaning agent. Cleaning agents of different types are prevented

from mixing with each another by means of the different filling lids used for filling in cleaning agents of different types.

[0017] In an embodiment of the present invention, the upper casing comprises a barrier that extends into the powder cleaning agent division. The barrier enables the powder cleaning agent to remain inside the division until the cleaning agent is received during the washing process. Thus, the powder cleaning agent is mixed with wash water when required.

[0018] The dosing unit of the present invention is suitable to be used in washing machines, laundry washer/dryers or dishwashers.

[0019] In the washer of the present invention, liquid cleaning agents of different types are prevented from mixing with each another and forming deposits by means of the upper casing and the extensions. In situations wherein the user accidentally fills in liquid cleaning agent more than the volume of the dispenser, the surplus cleaning agent is discharged into the housing by means of the grooves arranged at the rear of the dispenser and used for the next washing process, thereby saving is provided. In the washer that can store liquid cleaning agent for a great number of washing processes, preventing the liquid cleaning agents of different types from mixing with each another also prevents cleaning agents from being wasted. Producing the upper casing and the dispenser with the same mold provides ease of production and cost advantage. By means of the upper casing being detachable from the dispenser, the dispenser can be easily cleaned by being pulled outwards and formation of bacteria and bad odors is prevented.

[0020] The washer realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

Figure 1 - is the front schematic view of a washer.

Figure 2 - is the perspective view of the housing and the dispenser in a washer.

Figure 3 - is the schematic view of a dispenser and an upper casing.

Figure 4 - is the partial view of a dispenser and a groove arranged on the dispenser.

Figure 5 - is the perspective view of a dispenser and an upper casing.

Figure 6 - is the sideways perspective view of an upper casing.

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

1. Washer
2. Body
3. Tub
4. Housing
5. Dispenser
- 6, 106. Division
7. Dosing unit

8. Upper casing
9. Extension
10. Filling lid
11. Groove
12. Barrier

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[0022] The washer (1) comprises a body (2), a tub (3) that is disposed within the body (2) and wherein the washing/drying processes are performed, a housing (4) that extends from the outer surface of the body (2) to the interior of the body (2), a dispenser (5) that is disposed inside the housing (4) and that has more than one division (6, 106) wherein the cleaning agents are stored, and a dosing unit (7) that is disposed inside the housing (4), that enables the liquid cleaning agents placed in the dispenser (5) to be transferred into the housing (4) in order to deliver to the tub (3) by dosing (Figure 1, Figure 2).

[0023] In the washer (1), the housing (4) is preferably situated at the upper side of the body (2). The dispenser (5), wherein the cleaning agents are stored, is seated into the housing (4) and preferably extends up to the rear side of the body (2). The user fills in the cleaning agents by pulling the dispenser (5) partially outwards. The dispenser (5) comprises at least two divisions (6) extending along the length of the dispenser (5) for liquid cleaning agents, such as liquid detergent, softener etc. and at least one division (106) for powder cleaning agents. The washer (1) can use liquid or powder cleaning agent as per user preference (Figure 2).

[0024] The washer (1) of the present invention comprises an upper casing (8) that covers the dispenser (5) by being seated on the side walls of the dispenser (5) and the walls surrounding the divisions (6) and that prevents the different liquid cleaning agents in the different divisions (6) from mixing with each another due to reasons like shaking etc. By means of the upper casing (8), the liquid cleaning agents are prevented from overflowing the dispenser (5) due to reasons like shaking (Figure 5).

[0025] In an embodiment of the present invention, the washer (1) comprises at least one groove (11) arranged on the rear wall of the dispenser (5). The groove (11) opens to the rear side of the housing (4) from the rear wall of the dispenser (5). Thus, when the user fills in more than the required amount of liquid cleaning agent and the liquid cleaning agent filled into the divisions (6) overflow, the surplus cleaning agent flows from the groove (11) to the rear side of the housing (4) and the cleaning agents of different types inside the dispenser (5) are prevented from mixing with each other and forming deposits. The overflowing cleaning agents are flushed during the flushing process and this region is cleaned (Figure 4, Figure 5).

[0026] In an embodiment of the present invention, the upper casing (8) is produced as a single piece with the dispenser (5). Thus, the dispenser (5) functions like a closed box and when the user dislodges the dispenser (5) when it is full, the liquid cleaning agents are prevented from overflowing. Furthermore, manufacturing the upper

casing (8) together with the dispenser (5) provides ease of production and decreases production costs.

[0027] In an embodiment of the present invention, the upper casing (8) is fixed to the dispenser (5) by plastic welding, for example by vibration welding method.

[0028] In an embodiment of the present invention, the dispenser (5) comprises a detachable upper casing (8). The dispenser (5) can be cleaned easily by means of the detachable upper casing (8).

[0029] In the washer of the present invention, the upper casing (8) comprises more than one vertical extension (9) that is seated on the upper sides of the dispenser (5) walls and the division (6) walls from both sides. When the upper casing (8) is seated on the dispenser (5), the liquid cleaning agents are prevented from overflowing from the dispenser (5) and the division (6) walls and from mixing with each another by means of the extensions (9) (Figure 5).

[0030] In an embodiment of the present invention, the washer (1) comprises an upper casing (8) that covers the dispenser (5) and that has at least one filling lid (10) allowing cleaning agents to be filled. By means of the filling lids (10), the user does not have to take off the upper casing (8) for filling in the cleaning agent and can fill the liquid cleaning agents of different types without mixing them with each another (Figure 5).

[0031] In an embodiment of the present invention, the washer (1) comprises a barrier (12) that is disposed at the upper casing (8) and that extends from the upper casing (8) to the interior of the powder cleaning agent division (106). In the washing process, some time passes for the cleaning agents to be mixed into the wash water and the powder cleaning agent have to be kept in the division (106) during this time. By means of the barrier (12), the powder cleaning agent is enabled to be kept in the division (106) until dosing is performed (Figure 6).

[0032] In an embodiment of the present invention, the washer (1) is a washing machine.

[0033] In an embodiment of the present invention, the washer (1) is a laundry washing and drying machine.

[0034] In an embodiment of the present invention, the washer (1) is a dishwasher.

[0035] In the washer of the present invention (1) the upper casing (8) that covers the dispenser (5) serves as a protector. The liquid cleaning agents of different types are prevented from mixing with each another due to reasons like shaking etc. By means of the detachable upper casing (8) covering the dispenser (5), the divisions (6, 106) forming the dispenser (5) can be easily cleaned and by means of the extensions (9), the cleaning agents are prevented from overflowing due to reasons like shaking while the divisions (6) are full and from mixing with each another between the divisions (6). By means of the grooves (11) arranged at the rear wall of the dispenser (5), when liquid cleaning agent is filled more than required, the surplus cleaning agent is transferred into the housing (4) and is used in the next washing process without being wasted. By means of the upper casing (8) cov-

ering the dispenser (5) and the filling lids (10) allowing the liquid cleaning agents to be filled, contact between the liquid cleaning agents and air is interrupted and the liquid cleaning agents are enabled to be stored inside the dispenser (5) without drying up for a long period of time.

Claims

1. A washer (1) comprising

- a body (2),
- a tub (3) that is disposed within the body (2) and wherein the washing/drying processes are performed,
- a housing (4) that extends from the outer surface of the body (2) to the interior of the body (2),
- a dispenser (5) that is disposed inside the housing (4) and that has more than one division (6, 106) wherein the cleaning agents are stored,
- a dosing unit (7) that is disposed in the housing (4) and that mixes the liquid cleaning agents placed into the dispenser (5) with wash water to be delivered to the tub (3),
- an upper casing (8) that covers the dispenser (5) by being seated on the side walls of the dispenser (5) and the walls surrounding the divisions (6),

characterized in that the upper casing (8) has more than one extension (9) seated on the upper sides of the dispenser (5) walls and the division (6, 106) walls from both sides.

2. A washer (1) as in Claim 1, **characterized in that** at least one groove (11) is arranged on the dispenser (5) and enables the cleaning agents filled into the divisions (6) more than required to flow into the housing (4).

3. A washer (1) as in any one of the above claims, **characterized in that** the dispenser (5) is produced as a single piece with the upper casing (8).

4. A washer (1) as in Claim 1 and 2, **characterized in that** the upper casing (8) is fixed on the dispenser (5) by plastic welding method.

5. A washer (1) as in Claim 1 and 2, **characterized in that** the dispenser (5) has a detachable upper casing (8).

6. A washer (1) as in any one of the above claims, **characterized in that** the upper casing (8) has at least one filling lid (10) that allows the cleaning agent to be filled into the dispenser (5).

7. A washer (1) as in any one of the above claims, **characterized in that** a barrier (12) is disposed on the upper casing (8), extends from the upper casing (8) to the interior of the powder cleaning agent division (106) and retains the powder cleaning agents. 5
8. A washer (1) as in any one of the above claims, which is a washing machine.
9. A washer (1) as in any one of the Claims 1 to 7, which is a laundry washing and drying machine. 10
10. A washer (1) as in any one of the Claims 1 to 7, which is a dishwasher. 15

Patentansprüche

1. Ein Wäscher (1) bestehend aus

- einem Körper (2),
- einer Wanne (3), die im Körper (2) angeordnet ist und wobei das Waschen-/Trockenvorgänge ausgeführt werden,
- ein Gehäuse (4), das sich von der Außenfläche des Körpers (2) zum Innen des Körpers (2) erstreckt,
- einem Spenderbox (5), der in das Gehäuse (4) angeordnet ist und mehr als eine Spaltungen (6, 106) hat, wobei die Reinigungsmittel gelagert werden,
- einer Dosier ein heißt (7), die in das Gehäuse (4) angeordnet ist und flüssige Reinigungsmittel, die in den Spenderbox (5) hingelegt werden, mit Waschwasser einzumischen, um in die Wanne (3) abzugeben,
- einer oberen Umhüllung (8), die den Spenderbox (5) bedeckt durch Sitzung auf die Seitenwände des Spenderbox (5) es und die Wände, die die Spaltungen (6) umgeben, 40

dadurch gekennzeichnet, daß die obere Umhüllung (8) mehr als eine Verlängerung (9) hat, die auf die Oberseiten des Spenderbox (5) wände und der Spaltungen (6, 106) wände von beiden Seiten hin- 45
gesetzt ist.

2. Ein Wäscher (1) nach dem Anspruch 1, **dadurch gekennzeichnet, daß** mindestens eine Rinne (11) auf dem Spenderbox (5) eingeordnet ist und ermöglicht, daß die Reinigungsmitteln in die Spaltungen (6) einfüllen mehr als benötigt, um in das Gehäuse (4) zu fließen. 50
3. Ein Wäscher (1) nach den vorhergehenden Ansprüchen, **dadurch gekennzeichnet, daß** der Spenderbox (5) hergestellt ist als ein Einzelteil mit der oberen Umhüllung (8). 55

4. Ein Wäscher (1) nach den Ansprüchen 1 und 2, **dadurch gekennzeichnet, daß** die obere Umhüllung (8) auf dem Spenderbox (5) befestigt ist durch plastische Schweißmethode.
5. Ein Wäscher(1) nach den Ansprüchen 1 und 2, **dadurch gekennzeichnet, daß** der Spenderbox (5) eine abnehmbare obere Umhüllung (8) hat.
6. Ein Wäscher(1) nach den vorhergehenden Ansprüchen, **dadurch gekennzeichnet, daß** die obere Umhüllung (8) mindestens einen Füllungsdeckel (10) hat, um zu ermöglichen, daß die Reinigungsmittel in den Spenderbox (5) eingefüllt wird. 15
7. Ein Wäscher (1) nach den vorhergehenden Ansprüchen, **dadurch gekennzeichnet, daß** eine Barriere (12) eingeordnet ist auf die obere Umhüllung (8), erstreckt sich von der oberen Umhüllung (8) zum Innern der Pulverputzmittel-spaltung (106) und hält die Pulverputzmittel zurück. 20
8. Ein Wäscher (1) nach den vorhergehenden Ansprüchen, die eine Waschmaschine ist. 25
9. Ein Wäscher (1) nach den vorhergehenden Ansprüchen 1 bis 7, die eine Wäscherei und Trockenmaschine ist.
10. Ein Wäscher (1) nach den vorhergehenden Ansprüchen 1 bis 7, die eine Geschirrspülmaschine ist. 30

Revendications

1. Un laveur (1) comprenant

- un corps (2)
- une cuve (3) qui est disposée à l'intérieur du corps (2) et dans lequel les processus de lavage/séchage sont réalisés,
- un boîtier (4) qui s'étend de la surface extérieure du corps (2) à l'intérieur du corps (2),
- un distributeur (5) qui est disposé à l'intérieur du boîtier (4) et qui a plus d'une division (6, 106) dans lequel les agents de nettoyage sont stockés,
- une unité de dosage (7) qui est disposée dans le boîtier (4) et qui mélange les agents de nettoyage liquides placés dans le distributeur (5) avec de l'eau de lavage à délivrer à la cuve (3),
- un boîtier supérieur (8) qui recouvre le distributeur (5) en étant situé sur les parois latérales du distributeur (5) et les parois entourant les divisions (6), 40

caractérisé en ce que le boîtier supérieur (8) comporte plus d'un prolongement (9) situé sur les côtés

supérieurs des parois de distribution (5) et les parois de division (6, 106) des deux côtés.

2. Un laveur (1) selon la revendication 1, **caractérisé en ce qu'**au moins une rainure (11) est agencée sur le distributeur (5) et permet aux agents de nettoyage remplis dans les divisions (6) plus que nécessaire de s'écouler dans le boîtier (4). 5
3. Un laveur (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** le distributeur (5) est réalisé en une seule pièce avec le boîtier supérieur (8). 10
4. Un laveur (1) selon les revendications 1 et 2, **caractérisé en ce que** le boîtier supérieur (8) est fixé sur le distributeur (5) par un procédé de soudage en plastique. 15
5. Un laveur (1) selon les revendications 1 et 2, **caractérisé en ce que** le distributeur (5) comporte un boîtier supérieur amovible (8). 20
6. Un laveur (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** le boîtier supérieur (8) comporte au moins un couvercle de remplissage (10) qui permet de remplacer l'agent de nettoyage dans le distributeur (5). 25
7. Un laveur(1) selon l'une quelconque des revendications précédentes, **caractérisé en ce qu'**une barrière (12) est disposée sur le boîtier supérieur (8), s'étend du boîtier supérieur (8) à l'intérieur de la division de l'agent de nettoyage en poudre (106) et conserve les agents de nettoyage en poudre. 30
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8. Un laveur (1) selon l'une quelconque des revendications précédentes, qui est une machine à laver.
9. Un laveur (1) selon l'une quelconque des revendications 1 à 7, qui est une machine à laver et sécher le linge. 40
10. Un laveur (1) selon l'une quelconque des revendications 1 à 7, qui est un lave-vaisselle. 45

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Figure 1

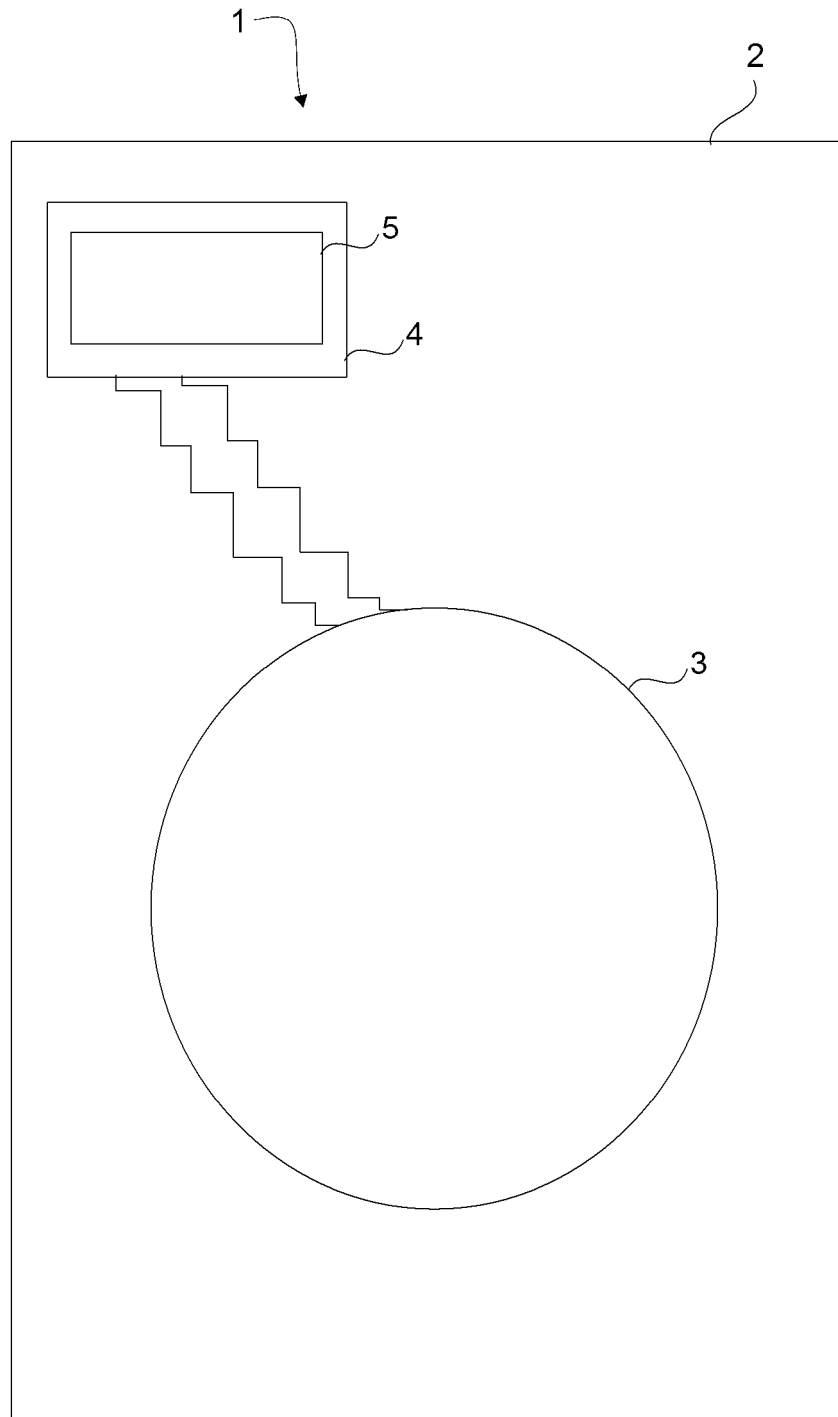


Figure 2

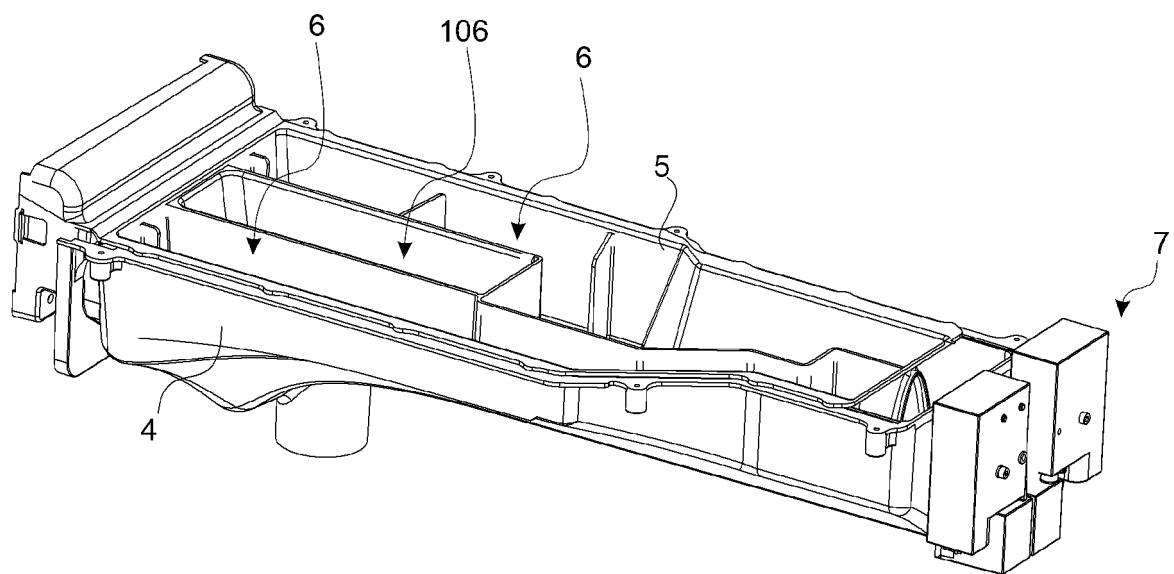


Figure 3

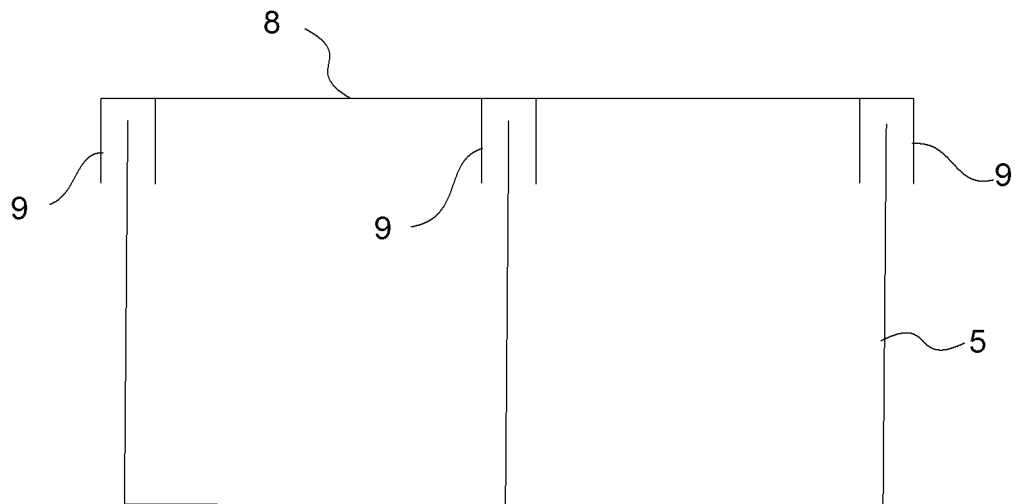


Figure 4

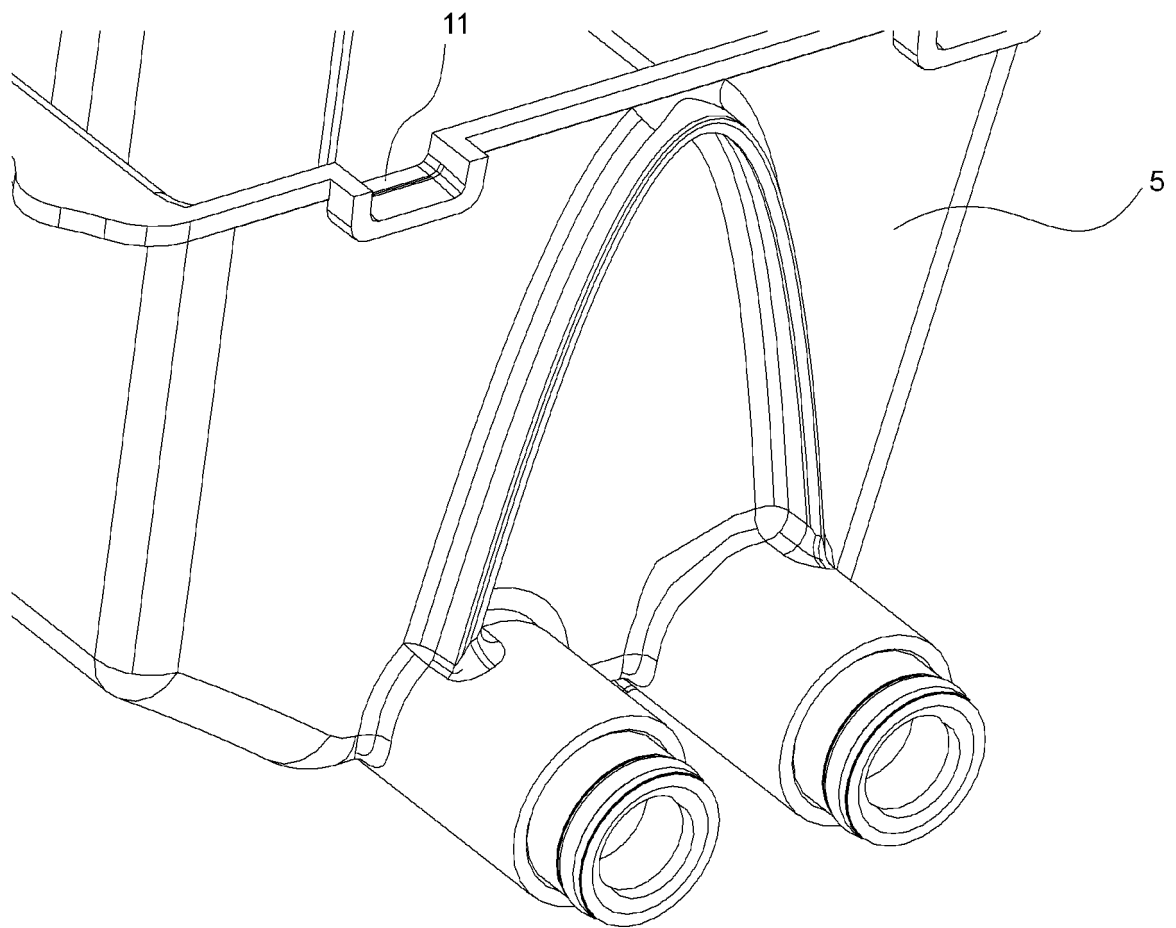


Figure 5

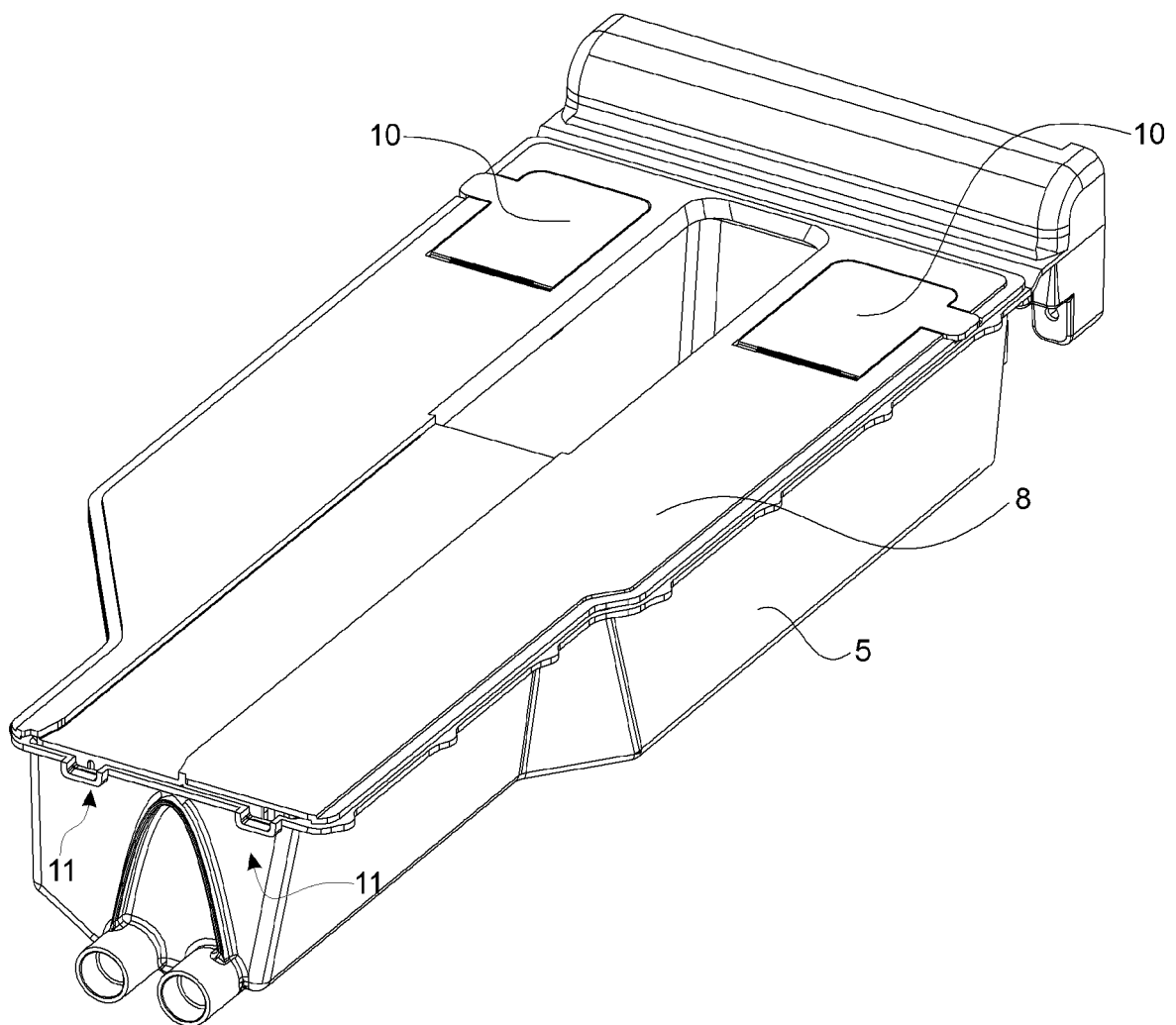
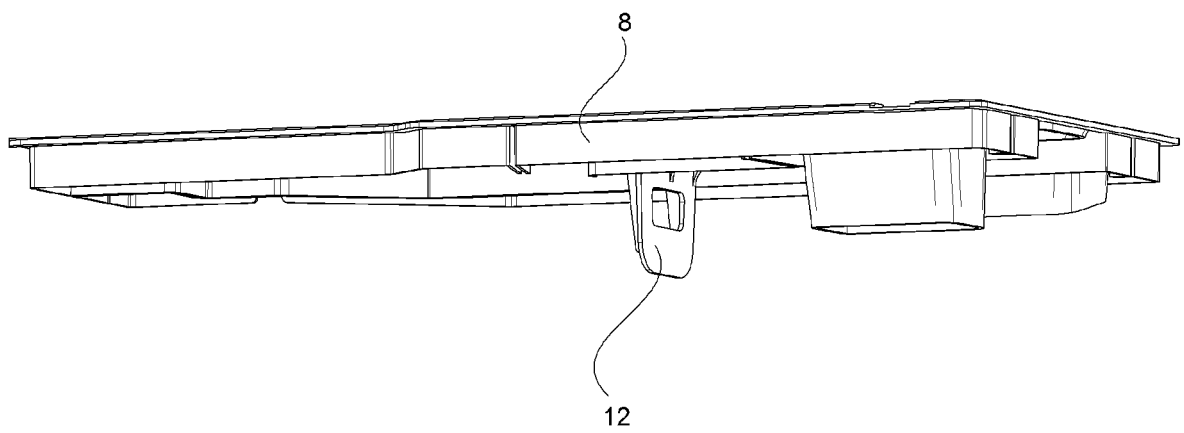


Figure 6



REFERENCES CITED IN THE DESCRIPTION

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