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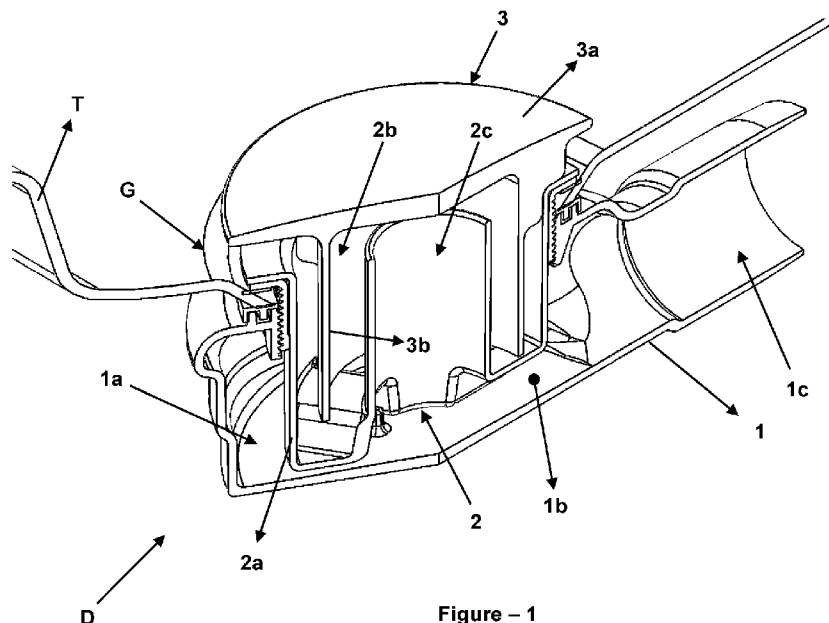


Figure - 1

(57) Abstract: The discharge system (D) developed is suitable for being positioned in the drain (G) in the cleaning basin (T) comprising such drain (G) connected to the wastewater line and it comprises the main body (1), which is suitable for being located in the drain (G), the main body comprising at least one chamber (1a) with the bottom (1b) for the accumulation of the water coming from the drain (G) and the outlet channel (1c) with one side opening into the chamber (1a) and with one other side opening into said wastewater line; the guide member (2), comprising the body (2a) with a hollow structure positioned in the chamber (1a), the separation member (2d), which separates the interior of the body (2a) into two channels, namely the first channel (2b) and the second channel (2c), and has a hollow structure to enclose the second channel (2c), the guide base (2e), which joins the body (2a) and the separation member (2d), and the flow channel (2f), which is located in the guide base (2e) in such a way that an opening will form between the guide base (2e) and the

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bottom (1b), wherein the water passes through the guide member to be delivered to the wastewater line; and the cover (3), which closes the guide member (2) in such a way that there will be a space between the same for the passage of the water, the cover comprising the closure piece (3a) and the separator piece (3b) with a hollow structure, which extends from the closure piece (3a) towards the interior of the first channel (2b), divides the first channel (2b) into two and is positioned such that it surrounds the separation member (2d).

## A DISCHARGE SYSTEM

### Relevant Technical Field

The present invention relates to the discharge systems used in the cleaning basins.

5

### Prior Art

In the areas such as the toilet room and bathroom where the personal cleaning is realized, there are usually present a cleaning basin (e.g. bathtub, washbasin, shower tray, etc.) and a faucet, which are intended for use in personal cleaning. The water obtained from a source  
10 such as a municipal water distribution network is delivered by means of said faucet to a user and the water flowing from the faucet or the wastewater generated during the cleaning is transferred to the wastewater line via a drain located in said cleaning basin.

The water is required to be delivered to the wastewater line at a certain flow rate in order to  
15 prevent the accumulation of water in said cleaning basin during the intake of water from the faucet (e.g. during the personal cleaning). Moreover, the malodor may develop in the drain due in particular to the delivery of the wastewater to the drain and the malodor developed may find its way to the area of personal cleaning. As shown in Figure 6, there are various discharge systems (e.g. flush) intended to provide a solution for said problems. In such  
20 discharge systems, the water received from the water inlet (B) passes through a delivery line (H) to be collected in a collection chamber (S), the part of the wastewater line (A) that is opened into the collection chamber (S) is positioned at a certain height from the bottom of the collection chamber (S) and said delivery line (H) extends to the collection chamber (S) in such a way that it closes the part of the wastewater line that is opened into the collection  
25 chamber (S). In this way, the water remaining within the collection chamber (S) is enabled to mask the malodor. Another representative embodiment is described in the patent document no. EP2083125A. In the system disclosed in said document, there are present an opening and the discharge sockets for the passage of the water, and the system comprises an immersion nozzle that constitutes a malodor trap for the prevention of the malodor. Said  
30 system closes a portion of the inlet of the wastewater line and accordingly, the odor is prevented from reaching outside. However, due in particular to the application of certain standards (e.g. EN-274) (for example, such odor trap is required to have a height of at least

50 mm), the inadequacy of space may come into question in the area of cleaning where the cleaning basin is to be mounted in such structures, in which case the mounting region is required to be brought into an appropriate state (for example said region is required to be broken). This in turn leads to both extra costs and loss of time and complicates the mounting.

### **Brief Description of the Invention**

The discharge system developed according to the present invention is suitable for being positioned in a drain in a cleaning basin, such as a bathtub comprising at least one such drain connected to a wastewater line, and it comprises at least one main body, which is suitable for being located in said drain, comprising at least one chamber with at least one bottom for the accumulation of the water coming from the drain and at least one outlet channel enabling the water accumulated in the chamber to be delivered to the wastewater line, said outlet channel having at least one side opening into said chamber and at least one other side opening into said wastewater line; at least one guide member comprising at least one body with a hollow structure positioned in said chamber, at least one separation member, which separates the interior of the body into at least two channels, namely at least one first channel and at least one second channel, is positioned inside said body such that the second channel will be located within the first channel, and has a hollow structure to enclose the second channel, at least one guide base, which joins said body and the separation member and which is positioned in said bottom, and at least one flow channel, which is located in the side of the guide base that faces towards the bottom in such a way that an opening will form between the guide base and said bottom and which enables the water accumulated in the chamber to move towards the outlet channel, wherein a portion of said guide member is positioned in said chamber in a way to extend outwards from the main body and the water passes through said guide member to be delivered via the outlet channel to the wastewater line; and at least one cover, which closes the side of the guide member that is not located inside the chamber in such a way that there will be a space between the same for the passage of the water, said cover comprising at least one closure piece for closing said side of the guide member and at least one separator piece with a hollow structure, which is positioned in the side of said closure piece that faces towards the guide member, extends from here towards the interior of the first channel in such a way that there will be a space

between the same and at least the part of said guide base that does not contain the flow channel, divides said first channel into two in such a way that the water coming to the drain will flow by approaching the guide base on one side thereof and by moving away from the guide base on the other side thereof to thereby enable the water to pass from the first  
5 channel into the second channel and from there into the chamber, and is positioned such that it surrounds the separation member.

Owing to the discharge system developed according to the present invention, the water that is guided towards the drain included in a cleaning basin is enabled to be discharged in a  
10 rapid manner. Moreover, owing to the structure of the main body, the guide member and the cover, the outward pervasion of the malodor from the drain is prevented without any alteration being needed in the drain and at the same time, the values stipulated in the standards are satisfied, thereby achieving a reliable discharge system that is easy to use and assemble.

15

### **Object of the Invention**

An object of the present invention is to develop a discharge system, which is suitable for use in the cleaning basins present in the areas of personal cleaning.

20 Another object of the present invention is to develop a discharge system, which enables to prevent the accumulation of water in the cleaning basin.

Another object of the present invention is to develop a discharge system that prevents the pervasion of the malodor from the wastewater line to which the cleaning basin is connected.

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Another object of the present invention is to develop a discharge system, in which the standards may be satisfied with minimum height.

30 Still another object of the present invention is to develop a discharge system, which reduces the extent of alteration needed during the mounting.

Still another object of the present invention is to develop an inexpensive and reliable discharge system, which is easy to use and assemble.

**Description of the Figures**

- 5 The representative embodiments of the discharge system developed according to the present invention are shown in the accompanying drawings in which:  
 Figure 1 is a sectional perspective view of the discharge system developed.  
 Figure 2 is a sectional perspective view of a main body contained by the discharge system developed.
- 10 Figure 3 is a sectional perspective view of a guide member contained by the discharge system developed.  
 Figure 4 is a side sectional view of the discharge system developed.  
 Figure 5 is a perspective view of a representative embodiment of the discharge system developed in a cleaning basin.
- 15 Figure 6 is a side sectional view of a representative embodiment of the discharge system according to the state of the art.

The parts in the figures are individually assigned with reference numerals and the designations for the reference numerals are provided below:

	Discharge system	(D)
20	Wastewater line	(A)
	Water inlet	(B)
	Delivery line	(H)
	Collection chamber	(S)
	Cleaning basin	(T)
25	Drain	(G)
	Main body	(1)
	Chamber	(1a)
	Bottom	(1b)
	Outlet channel	(1c)
30	Connection region	(1d)
	Holder piece	(1e)
	Guide	(1f)

	Guide member	(2)
	Body	(2a)
	First channel	(2b)
	Second channel	(2c)
5	Separation member	(2d)
	Guide base	(2e)
	Flow channel	(2f)
	Extension	(2g)
	Cover	(3)
10	Closure piece	(3a)
	Separator piece	(3b)
	Fixing region	(3c)

### **Description of the Invention**

15 In the areas of personal cleaning such as toilet room and bathroom, there are present a cleaning basin such as a washbasin and bathtub intended for cleaning and a faucet via which the water received from a source is delivered to a user for the purpose of cleaning. When the user wishes to meet his/her need for cleaning, he/she uses the faucet to gain access to the water and the water flowing from the faucet and/or the wastewater generated after the

20 cleaning is/are delivered to a wastewater line via a drain located in said cleaning basin. There are present various discharge systems positioned in said drain in order to prevent the water received from the faucet during the cleaning and/or the wastewater generated after the cleaning from accumulating in the cleaning basin and also in order to prevent the malodor likely to develop in the wastewater line from finding its way to the area of cleaning.

25 However, especially when it is required that such discharge systems satisfy certain standards, numerous problems may arise during the mounting of the basin, in which the discharge system is present, due to the small size of the cleaning area, and in this case, numerous alterations may be needed in the cleaning area. For this reason, a discharge system is developed according to the present invention with a view to provide a solution to

30 said problems.

The discharge system (D) developed according to the present invention, the exemplary views of which are provided in Figure 1 and Figure 4, is suitable for being positioned in a drain (G) in a cleaning basin (T), such as a bathtub comprising at least one such drain (G) connected to a wastewater line, and it comprises at least one main body (1), an exemplary view of which is provided in Figure 2 and which is suitable for being located in said drain (G), comprising at least one chamber (1a) with at least one bottom (1b) for the accumulation of the water coming from the drain (G) and at least one outlet channel (1c) enabling the water accumulated in the chamber (1a) to be delivered to the wastewater line, said outlet channel having at least one side opening into said chamber (1a) and at least one other side opening into said wastewater line (preferably extending into the wastewater line). The discharge system (D) developed further comprises at least one guide member (2), an exemplary view of which is provided in Figure 3, comprising at least one body (2a) with a hollow structure and preferably with a cylindrical form positioned in said chamber (1a), at least one separation member (2d), which separates the interior of the body (2a) into at least two channels, namely at least one first channel (2b) and at least one second channel (2c), is positioned inside said body (2a) such that the second channel (2c) will be located within the first channel (2b), has preferably a cylindrical form and has a hollow structure to enclose the second channel (2c), at least one guide base (2e), which joins said body (2a) and the separation member (2d) preferably by their sides that are close to said bottom (1b) and which is positioned in said bottom (1b), and at least one flow channel (2f), which is located in the side of the guide base (2e) that faces towards the bottom (1b) in such a way that an opening will form between the guide base (2e) and said bottom (1b) and which enables the water accumulated in the chamber (1a) to move towards the outlet channel (1c), wherein a portion of said guide member is positioned in said chamber (1a) in a way to extend outwards from the main body (1) (for example, to extend into the cleaning basin (T)) and the water passes through said guide member to be delivered via the outlet channel (1c) to the wastewater line; and at least one cover (3), which closes the side of the guide member (2) that is not located inside the chamber (1a) in such a way that there will be a space between the same for the passage of the water, said cover comprising at least one closure piece (3a) for closing said side of the guide member (2) and at least one separator piece (3b) preferably with a hollow cylindrical structure, which is positioned in the side of said closure piece (3a) that faces towards the guide member (2), extends from here towards the interior of the first

channel (2b) in such a way that there will be a space between the same and at least the part of said guide base (2e) that does not contain the flow channel (2f), divides said first channel (2b) into two in such a way that the water coming to the drain (G) will flow by approaching the guide base (2e) on one side thereof and by moving away from the guide base (2e) on the other side thereof to thereby enable the water to pass from the first channel (2b) into the second channel (2c) and from there into the chamber (1a), and is positioned such that it surrounds the separation member (2d).

According to an exemplary manner of operation of the invention shown in the figures, said cover (3) is positioned in the body (2a) in such a way that the separator piece (3b) will locate into the first channel (2b) to separate the first channel (2b) into two regions and that a space will be present for the passage of water between the closure piece (3a) and the body (2a) and the body (2a) is in turn positioned inside the chamber (1a) located in the main body (1). When the flow of water is present from the cleaning basin (T) towards the drain (G), said water passes through the space between the closure piece (3a) and the body (2a) and flows within the first channel (2b), in the region that remains between the separator piece (3b) and the body (2a), towards the guide base (2e). Then, the water passes through the space between the guide base (2e) and the separator piece (3b), advances within the first channel (2b) in a way to move away from the guide base (2e) (in other words, in a way to approach the closure piece (3a)) and passes through the space between the separation member (2d) and the closure piece (3a) to reach the second channel (2c) that remains inside the separation member (2d). Due to the hollow structure of the separation member (2d), the water flowing within the second channel (2c) from the closure piece (3a) towards the bottom (1b) fills into said chamber (1a) and passes through the flow channel (2f) present in the guide base (2e) to reach the outlet channel (1c) (said flow channel (2f) is preferably present in a quantity of more than one and enables the water filling into the chamber (1a) to rapidly move towards the outlet channel (1c) and from there towards the wastewater line). According to the present invention, the space between the part of the guide base (2e) that contains the flow channel (2f) and the end of the body (2a) that is close to the closure piece (3a) is located at a height that would prevent the outward pervasion of the malodor in the wastewater line from the drain (G) (e.g. at a height of 50 mm as stipulated in the standard EN-274) and is arranged such that it closes only a portion of the outlet channel (1c). When

the flow of water from the drain (G) stops, the water remains within the first channel (2b) and this water prevents the malodor from finding its way to the outside. Consequently, the need to close the entirety of the water inlet section of the wastewater line in order to prevent the malodor from finding its way to the outside is eliminated, and as the magnitude  
5 of height that is required for positioning the discharge system (D) is also reduced parallel to the elimination of such need, an inexpensive and reliable discharge system (D) is obtained, which is easy to use and assemble.

According to a preferred embodiment of the invention, the discharge system (D) developed  
10 comprises at least one connection region (1d) located in the main body (1), wherein said connection region (1d) enables the body (2a) and accordingly the guide member (2) to be secured within the chamber (1a). Said connection region (1d) preferably has a threaded structure and couples with another corresponding threaded connection region in the body (2a) to limit the motion of the guide member (2) within the chamber (1a) while at the same  
15 time enabling the guide member (2) to be easily mounted in the chamber (1a).

According to another alternative embodiment of the invention, the discharge system (D) developed preferably comprises at least one holder piece (1e), which is positioned in said  
20 bottom (1b), is disposed within the flow channel (2f) in a way not hindering the passage of water, is smaller than the width of the flow channel (2f) and has the structure of a protrusion. In this way, it becomes possible to prevent any undesired motion of the guide member (2) within the chamber (1a) during the use.

According to another embodiment of the invention illustrated in Figure 2, the discharge  
25 system (D) developed preferably comprises at least one guide (1f) (preferably at least two guides (1f) arranged one on top of the other), which is disposed in the main body (1) with a stepped channel structure towards the interior of the main body (1) and which preferably extends along a curved line with height thereof from the bottom (1b) decreasing towards the outlet channel (1c). In this way, it becomes possible to enable the water filling into the  
30 chamber (1a) to move towards the outlet channel (1c) in a rapid manner, thereby realizing the discharge of the water from the drain (G) before it reaches the cleaning basin (T).

According to another embodiment of the invention illustrated in Figure 3, the discharge system (D) developed preferably comprises at least one extension (2g), which extends preferably along the horizontal plane from said drain (G) towards the cleaning basin (T) and which is positioned in the side of the body (2a) that is far from the guide base (2e). Said extension (2g) provides the connection of the body (2a) in a watertight manner, and thus, a reliable discharge system is obtained.

According to the embodiment of the invention illustrated in Figure 4, the discharge system (D) developed preferably comprises at least one fixing region (3c), which is positioned in said cover (3) in the section facing towards the body (2a) between the closure piece (3a) and the separator piece (3b). Said fixing region (3c) preferably has a stepped structure and comprises a seat, wherein said body (2a) fits in said seat. In this way, it becomes possible to easily prevent any undesired motion of the cover (3) within the guide member (2).

Owing to the discharge system (D) developed according to the present invention, the water that is guided towards the drain (G) included in a cleaning basin (T) is enabled to be discharged in a rapid manner. Moreover, owing to the structure of the main body (1), the guide member (2) and the cover (3), the outward pervasion of the malodor from the drain (G) is prevented without any alteration being needed in the drain (G) and at the same time, the values stipulated in the standards are satisfied, thereby achieving a reliable discharge system (D) that is easy to use and assemble.

**CLAIMS**

1. A discharge system (D), which is suitable for being positioned in a drain (G) in a cleaning basin (T), such as a bathtub comprising at least one such drain (G) connected to a wastewater line, comprising

5 at least one main body (1), which is suitable for being located in said drain (G), said main body comprising

- at least one chamber (1a) with at least one bottom (1b) for the accumulation of the water coming from the drain (G) and
- at least one outlet channel (1c) enabling the water accumulated in the chamber (1a) to be delivered to the wastewater line, said outlet channel having at least one side opening into said chamber (1a) and at least one other side opening into said wastewater line,

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characterized in that said discharge system further comprises

at least one guide member (2), comprising

15

- at least one body (2a) with a hollow structure positioned in said chamber (1a),
- at least one separation member (2d), which separates the interior of the body (2a) into at least two channels, namely at least one first channel (2b) and at least one second channel (2c), is positioned inside said body (2a) such that the second channel (2c) will be located within the first channel (2b), and has a hollow structure to enclose the second channel (2c),
- at least one guide base (2e), which joins said body (2a) and the separation member (2d) and which is positioned in said bottom (1b), and

20

- at least one flow channel (2f), which is located in the side of the guide base (2e) that faces towards the bottom (1b) in such a way that an opening will form between the guide base (2e) and said bottom (1b) and which enables the water accumulated in the chamber (1a) to move towards the outlet channel (1c),

25

wherein a portion of said guide member is positioned in said chamber (1a) in a way to extend outwards from the main body (1) and the water passes through said guide member to be delivered via the outlet channel (1c) to the wastewater line; and

30

at least one cover (3), which closes the side of the guide member (2) that is not located inside the chamber (1a) in such a way that there will be a space between the same for the passage of the water, said cover comprising

- at least one closure piece (3a) for closing said side of the guide member (2) and  
- at least one separator piece (3b) with a hollow structure, which is positioned in the side of said closure piece (3a) that faces towards the guide member (2), extends from here towards the interior of the first channel (2b) in such a way that there will be a space between the same and at least the part of said guide base (2e) that does not contain the flow channel (2f), divides said first channel (2b) into two in such a way that the water coming to the drain (G) will flow by approaching the guide base (2e) on one side thereof and by moving away from the guide base (2e) on the other side thereof to thereby enable the water to pass from the first channel (2b) into the second channel (2c) and from there into the chamber (1a), and is positioned such that it surrounds the separation member (2d).

2. A discharge system (D) according to Claim 1 characterized in that said body (2a) has a cylindrical form.

3. A discharge system (D) according to Claim 1 characterized in that said separation member (2d) has a cylindrical form.

4. A discharge system (D) according to Claim 1 characterized in that said guide base (2e) is a base, which joins the body and the separation member (2d) by their sides that are close to said bottom (1b).

5. A discharge system (D) according to Claim 1 characterized in that said separator piece (3b) has a hollow cylindrical form.

6. A discharge system (D) according to Claim 1 characterized in that it comprises more than one flow channels (2f).

7. A discharge system (D) according to Claim 1 characterized in that the guide member (2) is positioned in the chamber (1a) in such a way that the section between the part of the guide

base (2e) that contains the flow channel (2f) and the end of the body (2a) that is close to the closure piece (3a) closes only a portion of the outlet channel (1c).

5 **8.** A discharge system (D) according to Claim 1 characterized in that it comprises at least one connection region (1d), which is located in the main body (1) and which enables the body (2a) and accordingly the guide member (2) to be secured within the chamber (1a).

**9.** A discharge system (D) according to Claim 8 characterized in that said connection region (1d) has a threaded structure.

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**10.** A discharge system (D) according to Claim 9 characterized in that it comprises another threaded connection region that couples with the connection region (1d), wherein said connection region (1d) corresponds to said another connection region in the body (2a).

15 **11.** A discharge system (D) according to Claim 1 characterized in that it comprises at least one holder piece (1e), which is positioned in said bottom (1b), is disposed within the flow channel (2f) in a way not hindering the passage of water, is smaller than the width of the flow channel (2f) and has the structure of a protrusion.

20 **12.** A discharge system (D) according to Claim 1 characterized in that it comprises at least one guide (1f), which is disposed in the main body (1) with a stepped channel structure towards the interior of the main body (1).

25 **13.** A discharge system (D) according to Claim 12 characterized in that said guide (1f) extends along a curved line with height thereof from the bottom (1b) decreasing towards the outlet channel (1c).

30 **14.** A discharge system (D) according to Claim 1 characterized in that it comprises at least one extension (2g), which extends from said drain (G) towards the cleaning basin (T) and which is positioned in the side of the body (2a) that is far from the guide base (2e).

**15.** A discharge system (D) according to Claim 14 characterized in that said extension (2g) extends along the horizontal plane.

**16.** A discharge system (D) according to Claim 1 characterized in that it comprises at least one fixing region (3c), which is positioned in said cover (3) in the section facing towards the body (2a) between the closure piece (3a) and the separator piece (3b).

**17.** A discharge system (D) according to Claim 16 characterized in that said fixing region (3c) has a stepped structure and comprises a seat in which a portion of said body (2a) fits.

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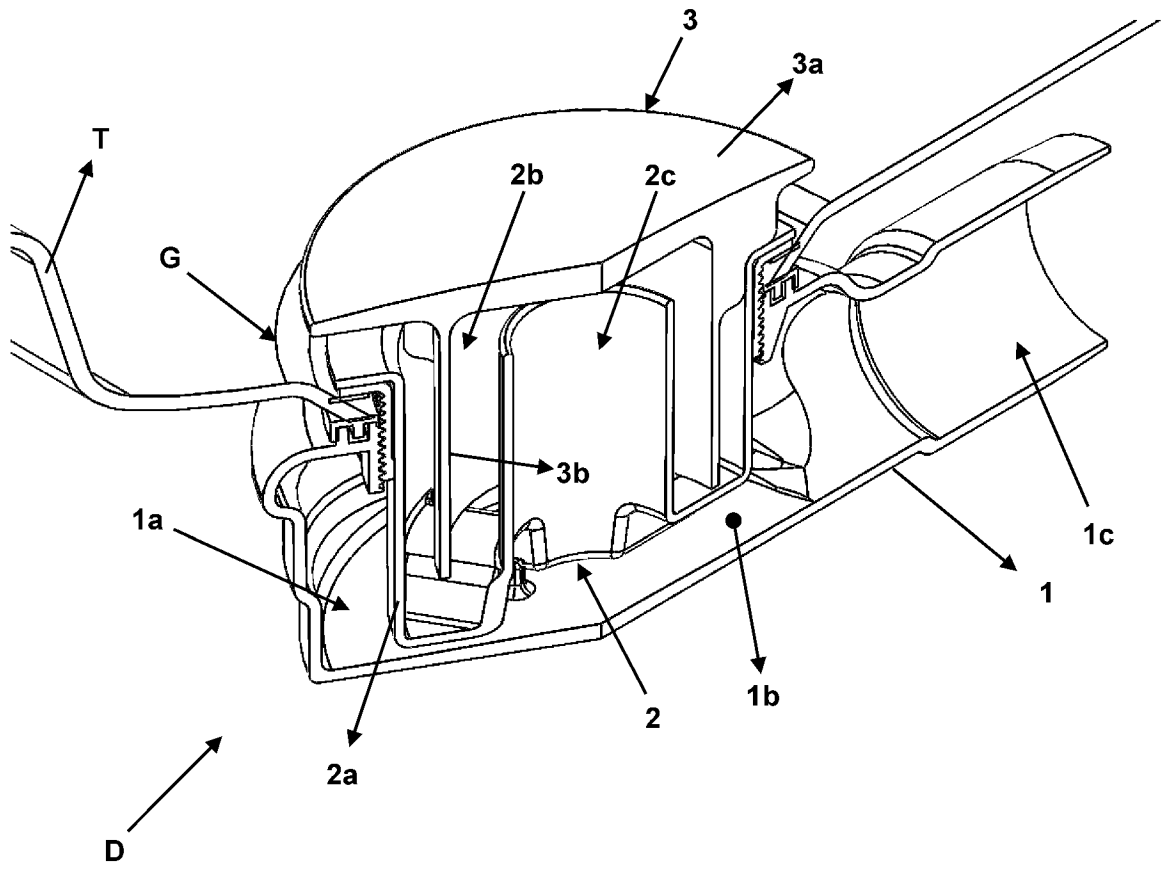


Figure - 1

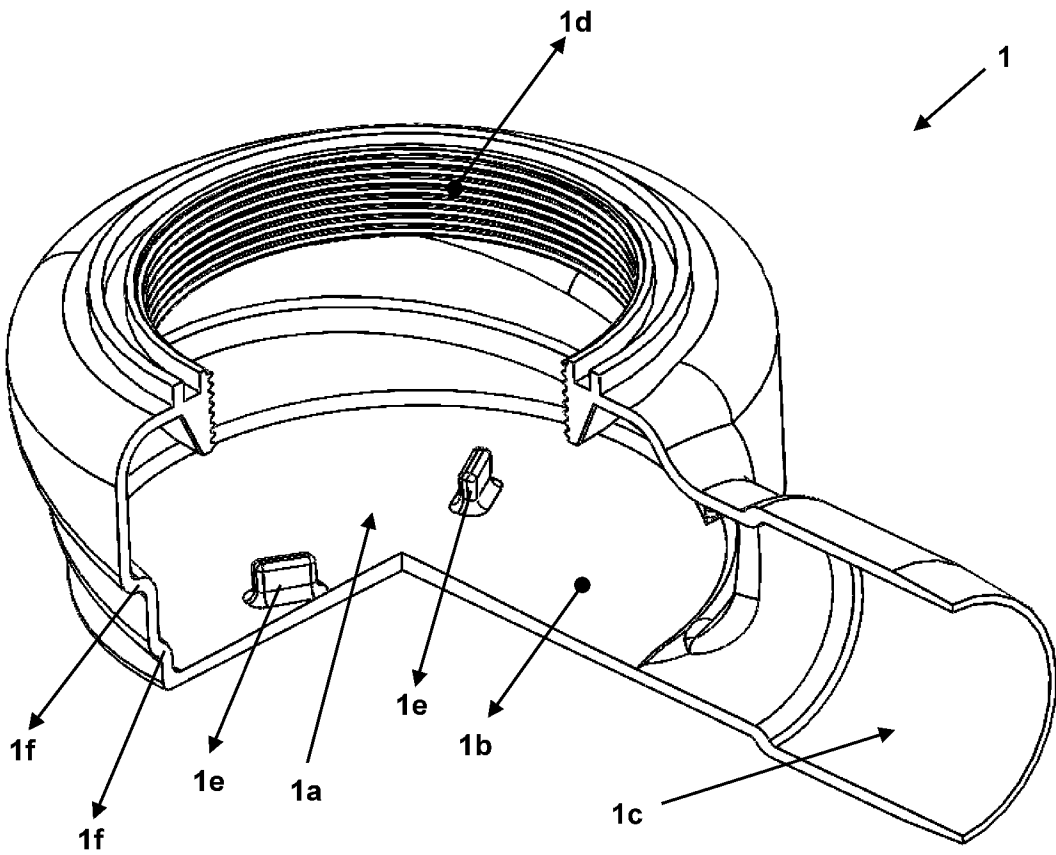


Figure - 2

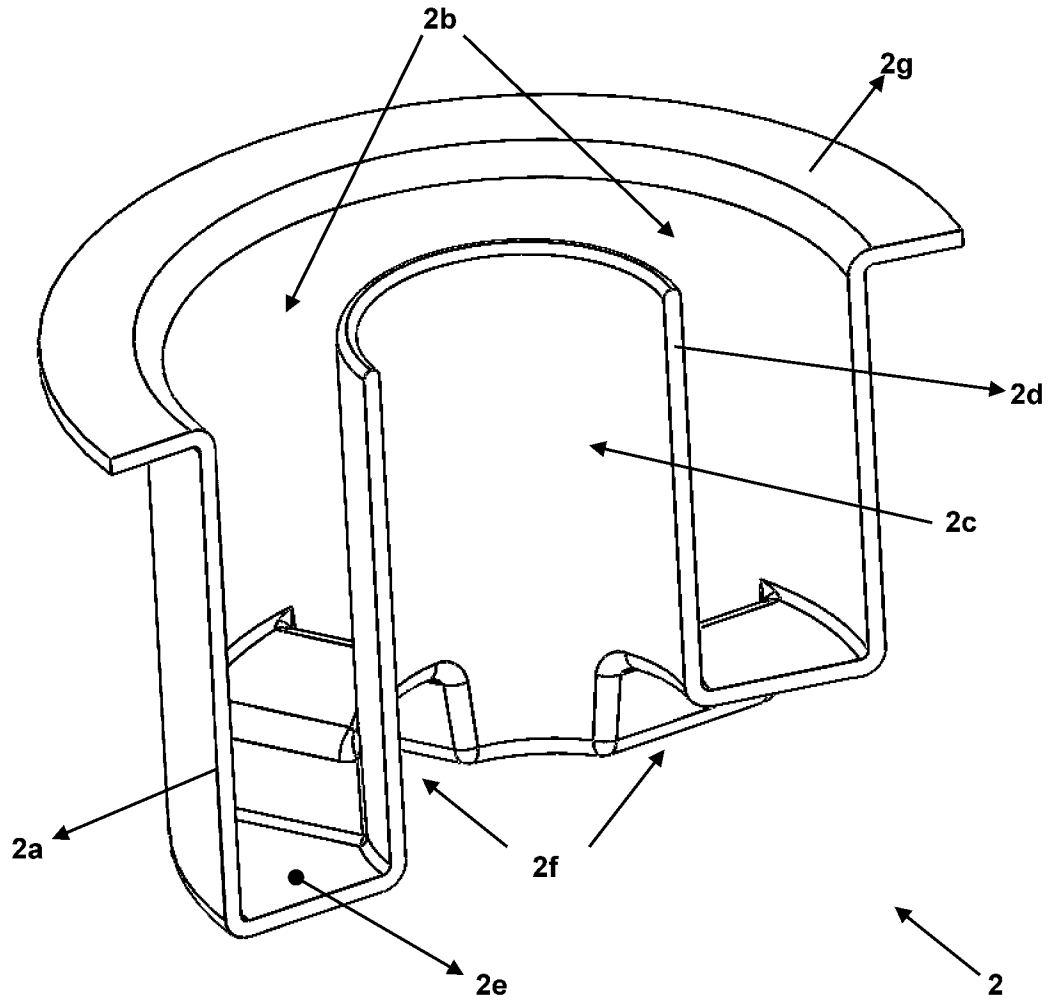


Figure - 3

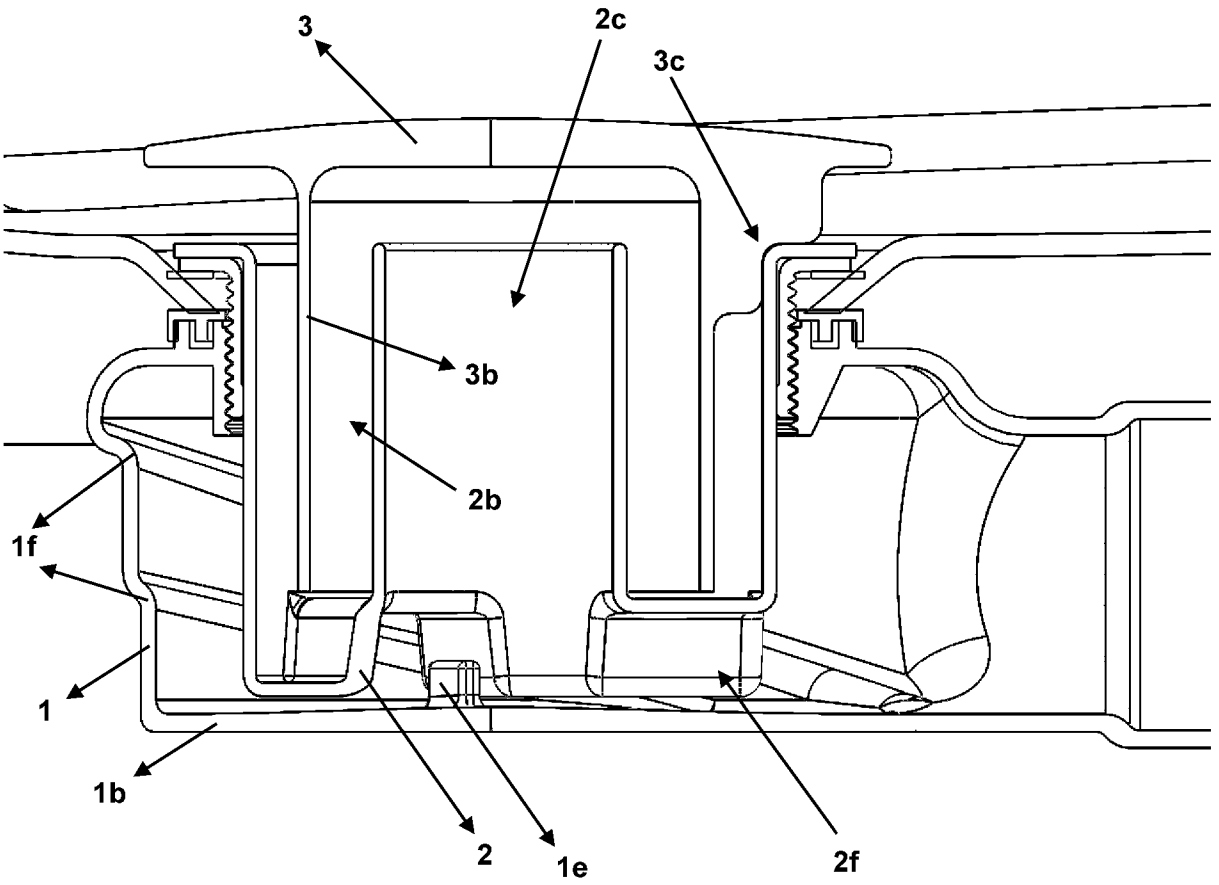


Figure - 4

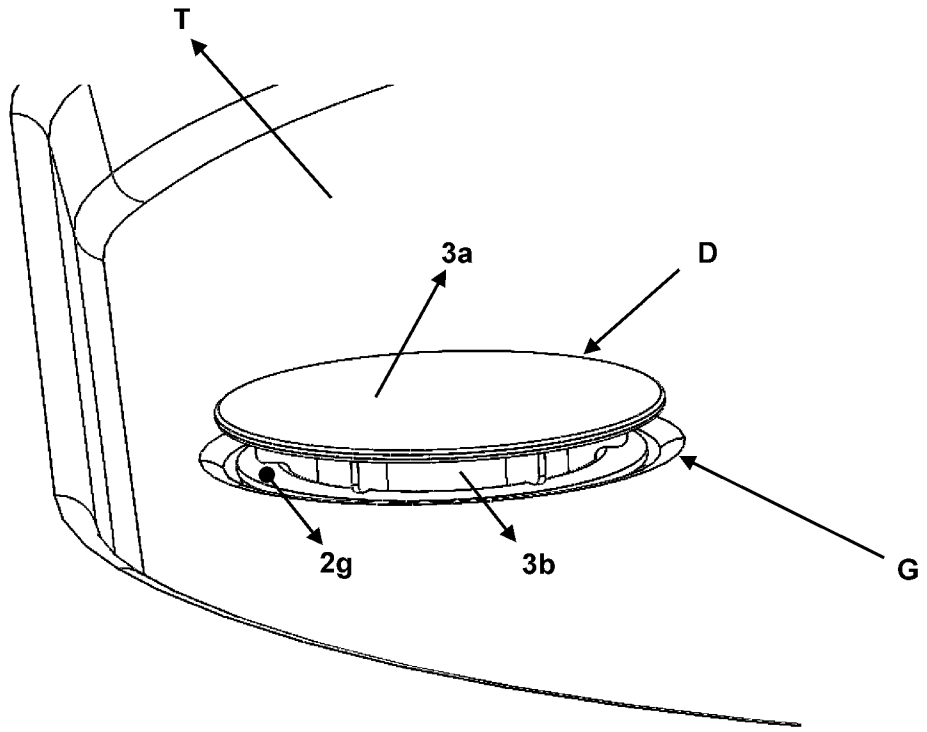


Figure - 5

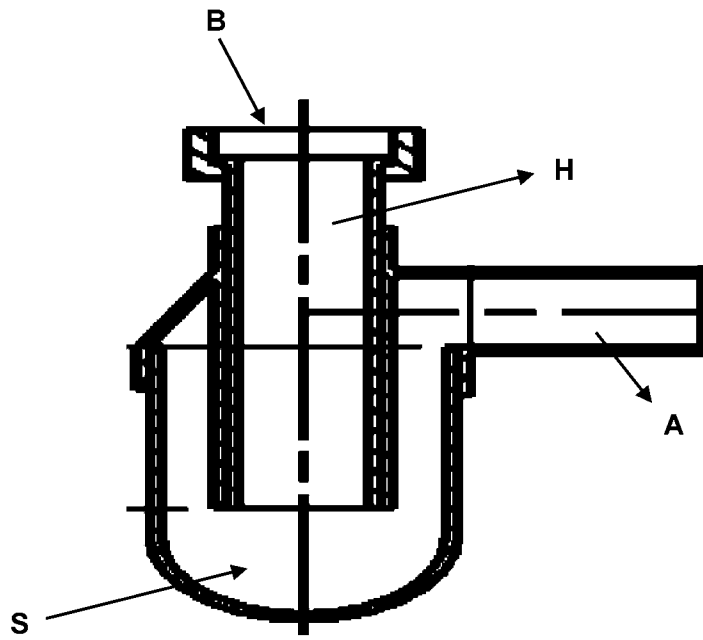


Figure - 6