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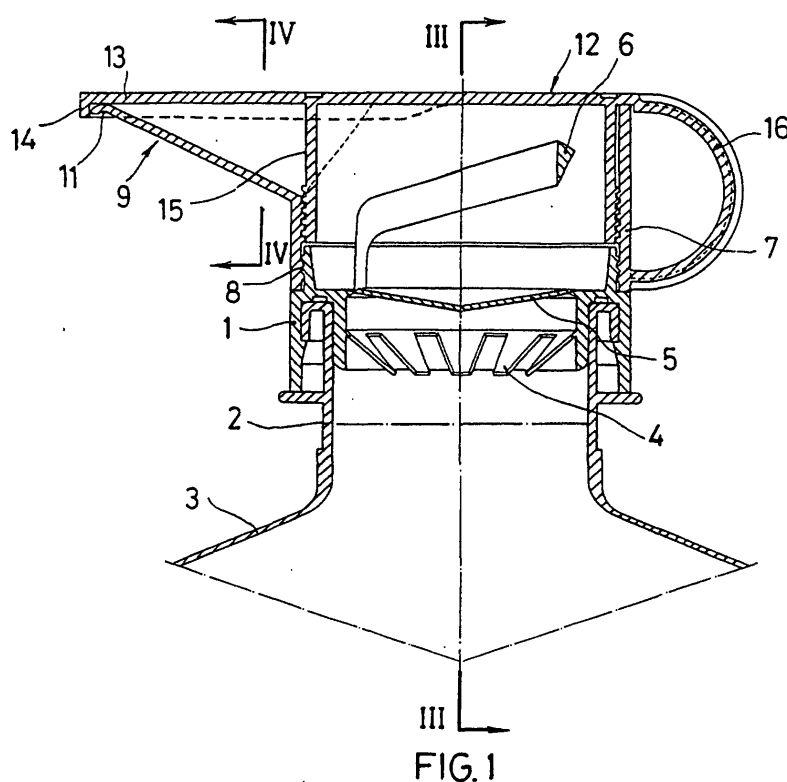
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(54) **POURING STOPPER FOR VISCOUS LIQUIDS**

(57) The cap has a body which can be coupled in a fixed manner to the neck of the bottle for containing the liquid, and which optionally has means for regularising the discharge of the stream of liquid and a seal which can be torn off, and also an upper lid having a closing

cover, being characterised by the formation in the cap of a pouring spout having an end outlet of small cross-section for permitting the use of the cap both for pouring the liquid contained in the receptacle directly by way of the main opening thereof or for fine metered pouring by means of the pouring spout.



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Description

[0001] The present invention relates to a pouring cap for viscous liquids, which has substantial features of novelty and inventive step over currently known pouring caps.

[0002] The pouring cap to which the present invention relates is especially applicable to receptacles containing viscous liquids, such as vegetable oils, although this does not constitute a specific limitation.

[0003] At present, receptacles containing vegetable oils and the like, which are manufactured from various types of plastics materials, are despatched to the public provided with caps which enable them to be opened and closed repeatedly for the metered pouring of the oil or other liquid into oil containers or other receptacles used manually. The caps generally have an inner member which guides and regularises the flow of liquid during discharge or pouring, an inner seal which has to be broken before using the liquid contained in the receptacle and an outer closing lid or cover which may be threaded or of another type. Therefore, the use of these receptacles involves the initial removal of the closing lid, breakage of the seal and subsequent use, of the receptacle, this latter being closed again by the closing lid until it is next used. However, repeated use of the receptacle in various pouring operations after removing the closing lid represents a substantial disadvantage owing to the resultant spillage, with the consequent losses of liquid and the soiling which occurs.

[0004] The pouring cap to which the present invention relates is intended to eliminate the above-mentioned disadvantages, preventing the losses of liquid and the soiling which usually occur with the currently known pouring caps.

[0005] The present invention is fundamentally based on the provision of a pouring spout in the unit or assembly formed by the closing cap and its lid, with a small outlet for the liquid contained in the receptacle, the cap having closing means which close both the main opening of the cap and the pouring spout. Owing to this arrangement, it is possible to use the receptacle in such a manner that it is necessary to open the upper cover for access to the seal only once in order to break the seal, while, for subsequent uses, it is not necessary to remove the cap again but only to lift the cover of the pouring means in order to enable the liquid to escape, the cover then being closed again after the liquid has been poured. At all events, a basic feature consists in the fact that, because the closing cap has a pouring spout with a fine outlet or an outlet having a small pouring capacity, it is possible to use the receptacle containing the viscous liquid directly in domestic applications, for example, in order to pour oil into various receptacles or dishes in the course of being prepared, which enables the use of intermediate receptacles, such as traditional oil cruets, to be eliminated.

[0006] The precise execution of the cap can be varied

widely while conforming to the above-mentioned features. Thus, for example, the cap could have a body which can be coupled to the neck of the bottle and which is provided with a pointed lateral pouring region or a pouring spout which is open at the top, being closed by a cover which is associated with the body of the cap and which simultaneously closes the main passage of communication with the receptacle. In other variants, the cover may comprise an articulated region for closing the pouring spout, direct communication existing between the upper portion of the cap and the receptacle containing the liquid, and therefore it is not necessary to open the cover of the cap for each individual pouring operation by way of the pouring spout, or for each fine pouring operation, that is to say, in the case of domestic application, it is not necessary to remove the cover each time the liquid is to be poured out.

[0007] One construction variant of the present invention provides for the structural formation of the fine pouring region with a stepped widened region before the lip for the discharge of liquid, so that the pouring spout comprises, as a whole, a pouring region which corresponds to the present invention but which is optionally of a shorter relative length with respect to the dimensions of the cap and which is characterised in that it has, near the liquid-discharge region, a stepped portion which preferably defines, at the end, a straight region which is capable of bringing about the abrupt and reliable interruption of the pouring stream, thus avoiding any dripping.

[0008] For a better understanding of the invention, some drawings corresponding to the pouring cap to which the present invention relates are appended by way of non-limiting example.

Figure 1 is a complete section through a pouring cap produced in accordance with the present invention.

Figure 2 is a partially sectioned plan view of the pouring cap of Figure 1.

Figures 3 and 4 are sectional views taken on respective section planes indicated in Figure 1.

Figure 5 is a sectioned view of the cap of Figure 1, with the cover raised.

Figure 6 is a section through a cap having a pouring means according to the present invention in a preferred variant.

Figure 7 is a plan view corresponding to the cap of Figure 6.

Figure 8 is a sectional view through the cap of Figure 6 taken on the section plane shown.

Figure 9 is a section similar to Figure 6 in the pouring position.

Figure 10 is a complete section through a second embodiment of the cap to which the present invention relates.

Figure 11 is a plan view corresponding to the cap of Figure 10.

Figure 12 is a section through the cap of Figure 10

with the cover raised.

Figure 13 is a plan view of the cap which incorporates the present improvements.

Figure 14 is a section through the cap of Figure 1.

Figure 15 is a longitudinal section through the cap of Figure 14, with the upper cover open.

Figure 16 corresponds to a plan view of the position in which the cover has been opened outwardly from the cap.

Figures 17, 18 and 19 each show details in section.

[0009] As will be appreciated from the drawings, the pouring cap to which the present invention relates comprises, in the usual manner, a body 1 coupled in a fixed manner to the upper end of the neck 2 of the bottle or receptacle 3, and having an intermediate region 4 which is to regularise the discharge flow of the liquid, and an intermediate sealing cover 5 provided with an upper handle 6 making it easier to tear it off. An upper lid 7 is removably coupled to the body 1 of the cap, for example, by means of a threaded region 8, enabling the lid 7 to be removed for the purpose of pouring the liquid in a conventional manner. In accordance with the invention, the lid 7 has a lateral pouring spout 9 with a width decreasing from its start as far as the pouring end, which has an outlet of small cross-section 10 provided with a lower anti-drip lip 11. This embodiment enables the cap to be used both for normal pouring of a conventional type and for fine pouring similar to that of a cooking oil container. The fine pouring operation can be carried out without having to decant the liquid from the receptacle 3 to an oil container, or other intermediate receptacle, as is currently normal.

[0010] In the version shown, the upper cover 12, which closes the lid, has a radial extension 13 coinciding at the top with the pointed region 9, thus closing it, and preferably having a front flange 14 which can be fitted against the end of the pouring spout 9, thus closing it. In this case, the upper cover 12 has an inner cylindrical body or bushing 15 which fits against the inner walls of the cylindrical portion of the lid 7 in such a manner that, when the cover 12 is closed, the passage of the receptacle 3 towards the outside and the upper portion of the pouring spout 9 are closed at the same time. Thus, when the cover 12 is opened, for example by swinging on the rear hinge 16, the cap will permit both conventional pouring and fine pouring by way of the pouring spout, as shown in Figure 5 where the pouring flow has been indicated by the numeral 17.

[0011] In a preferred embodiment shown in Figures 6 to 9, the body 18 of the closing lid has, coupled by a thread or another similar means, a cover provided with a cylindrical body 19 and with a front pouring spout 20 having features similar to the version explained above, with the variation that the cover 21 has, in the front region 22 for covering the pouring spout, a short end region 23 which is connected to the region 22 by means of a hinge 24 or fold of the same material which enables

a small front region to be opened individually, thus permitting fine pouring of the liquid, as shown in Figure 9 in which the discharged liquid has been represented by the numeral 25 and the opening of the end region 23 articulated by means of the hinge 24 may be noted. In this version, the inner body 40 associated with the cover 21 has a communicating means 26 in the form of a recess, openings, or any other form of communicating means, in order to enable the liquid to pass from the inside of the receptacle 27 towards the outlet constituted by the end of the pouring spout 20 and closed by the end cover member 23.

[0012] In another variant represented in Figures 10 to 12, the cap has a single structure which is formed from two coaxial cylindrical members 28 and 29 coupled fixedly to the neck 30 of the bottle or receptacle, preferably by means of an inner rib 31 of the cylindrical body 28 and the flange 32 directed radially outwards from the upper end of the neck, and which has an upper cover 33 which may comply with the versions represented above, that is to say, it may be provided with a single upper cover for closing the pouring spout 34 or it could be formed with a small front member intended specifically for closing the end of the pouring spout 34. In the version shown, the cover 33 has a cylindrical inner closing bushing 35 and a rear hinge 36 for articulation to the body 28. Some small outer stops on the body 28, which are indicated by the numerals 37 and 38, Figure 11, enable the cover 33 to reach a stop position after it has been rotated, as represented in Figure 12. In the version shown, the cylindrical body 28 fits on a projection of the peripheral flange 39 which the neck 30 has below the rib 32. In that position, the cylindrical body 28 is trapped in a fixed manner between the lower flange 39 and the rib 32.

[0013] In accordance with the variant represented in Figures 13 to 19, the variant provided for in the present invention comprises a cylindrical body 101 which is to be fitted to the neck of the bottle or receptacle for which it is intended. Said cylindrical body has an inner seal 102, which can be torn off by means of a strip 103, and is provided with an upper cover 104 hinged at rear hinges or articulations 105. The cover 104 has over its entire periphery a downwardly directed flange 106 which can coincide with the upper flange of the cap body 101.

[0014] In order to permit fine pouring of the liquid, the cap has an extension 107 which assumes a structure which is substantially that of an angular spout and which matches the shape of the cover 104, thus producing a rounded vertex for fine pouring. In accordance with the present improvements, the angular spout 107 has a widened portion in the form of a step 108 which is straight, curved or optionally slightly angular and which is arranged just before the lip 109 of the angular extension 107, which is the lip determining the discharge of the fine stream of liquid. The arrangement of the step 108, preferably with a straight intermediate region 110 between the base of the step and the lip 109, enables the

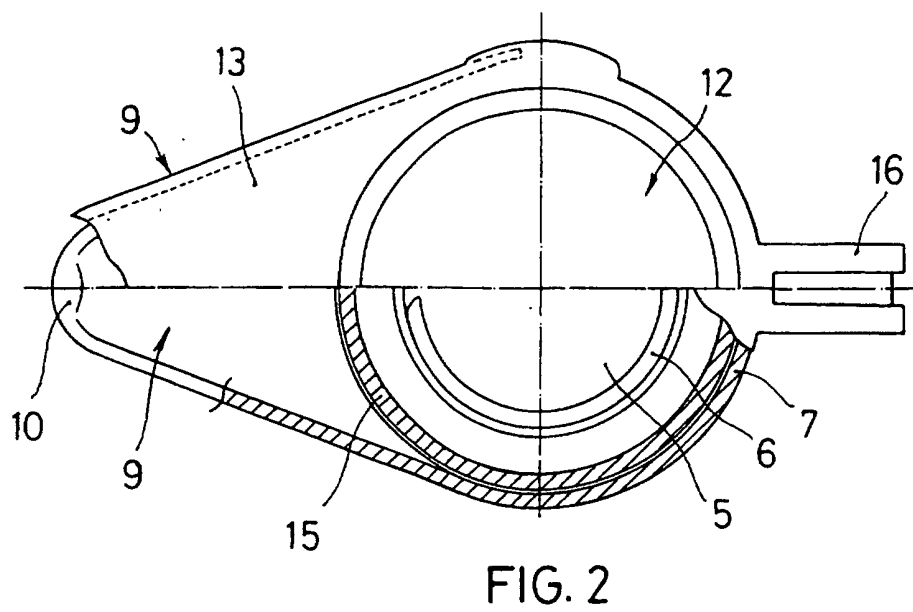
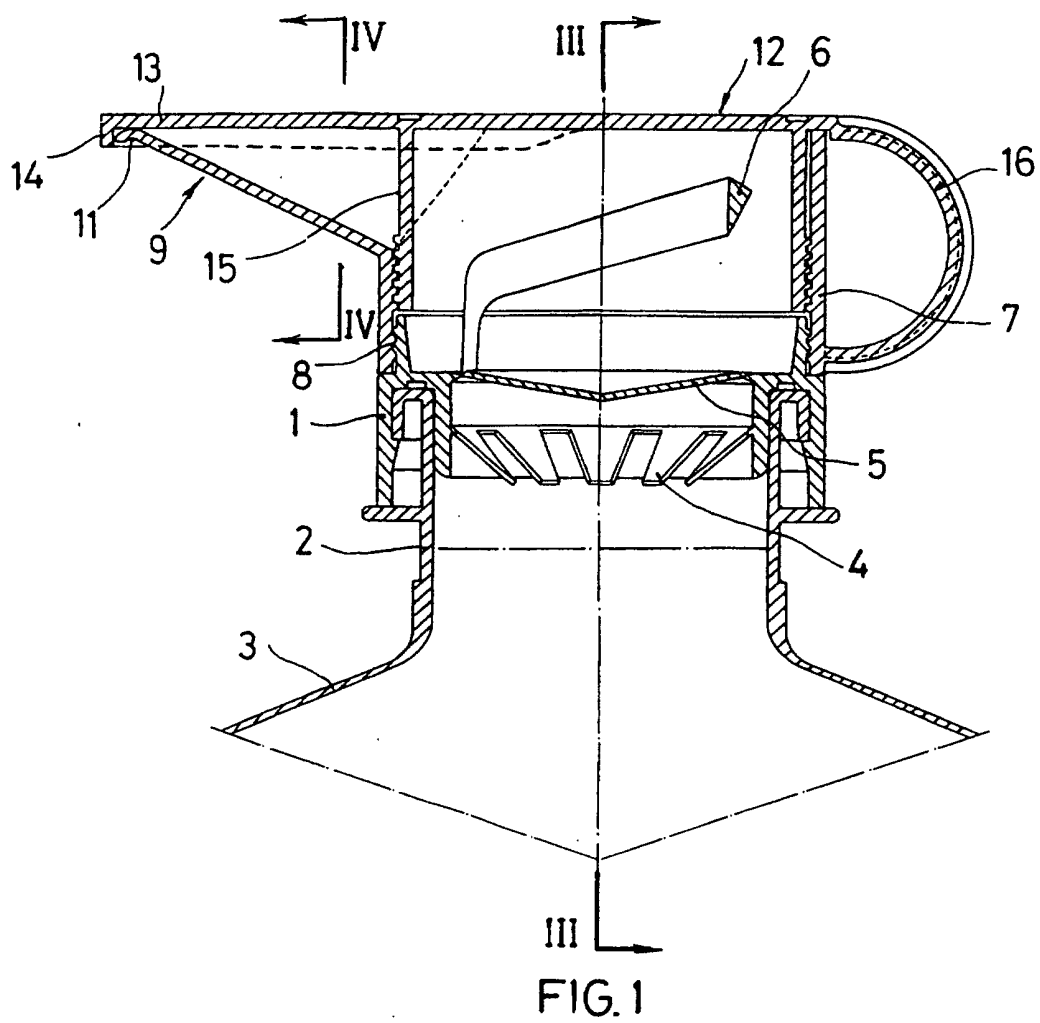
fine stream of liquid to be interrupted abruptly at the end of the pouring procedure by means of the cap, which completely eliminates dripping from the cap during the pouring operation.

Claims

1. Pouring cap for viscous liquids, of the type which has a body which can be coupled in a fixed manner to the neck of the bottle for containing the liquid, and which optionally has means for regularising the discharge of the stream of liquid and a seal which can be torn off, and also an upper lid having a closing cover, **characterised by** the formation in the cap of a pouring spout having an end outlet of small cross-section for permitting the use of the cap both for pouring the liquid contained in the receptacle directly by way of the main opening thereof or for fine metered pouring by means of the pouring spout. 5 10 15 20
2. Pouring cap for viscous liquids according to claim 1, **characterised in that** the pouring spout is in the form of a radial projection on the cap. 25
3. Pouring cap for viscous liquids according to claim 2, **characterised in that** the radial pouring spout is formed on the body of the removable lid of the cap.
4. Pouring cap for viscous liquids according to claim 1, **characterised in that** the pouring spout has a width decreasing from the start in the cap as far as its pouring end. 30
5. Pouring cap for viscous liquids according to claim 1, **characterised in that** the pouring spout is closed by an articulated closing cover of the cap. 35
6. Pouring cap for viscous liquids according to claim 5, **characterised in that** the articulated closing cover has an inner cylindrical skirt which can be fitted in a leak-tight manner inside the body of the cap. 40
7. Pouring cap for viscous liquids according to claim 6, **characterised in that** the cylindrical skirt has an opening for communication between the inside of the cap and the pouring spout. 45
8. Pouring cap for viscous liquids according to claims 6 and 7, **characterised in that** the upper articulated cover has a hinged end which closes exclusively the end pouring region of the pouring spout. 50
9. Pouring cap for viscous liquids according to claim 1, **characterised in that** the pouring spout has an anti-drip shape. 55
10. Pouring cap for viscous liquids according to the pre-

ceding claims, **characterised by** the arrangement of a widened portion in the form of a step in the pouring spout of angular structure, which widened portion is arranged adjacent to the lip for the discharge of the liquid in order to permit the abrupt interruption of the fine stream of liquid, thus preventing dripping.

11. Pouring cap for viscous liquids according to claim 10, **characterised in that** the widened portion in the form of a step has a straight region between the base of the pouring spout and the upper lip for the discharge of liquid, which straight region is to enhance the abrupt interruption of the pouring stream.



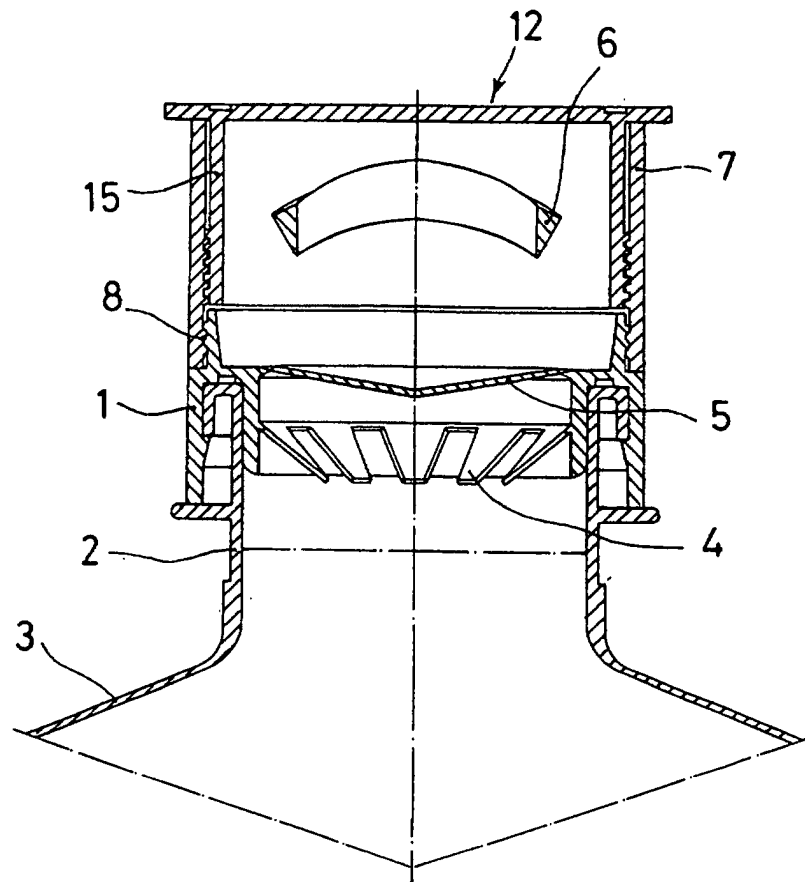


FIG. 3

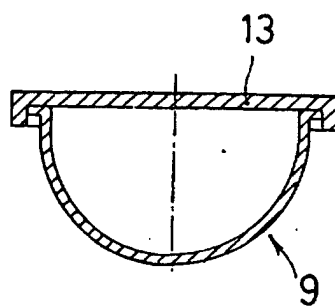


FIG. 4

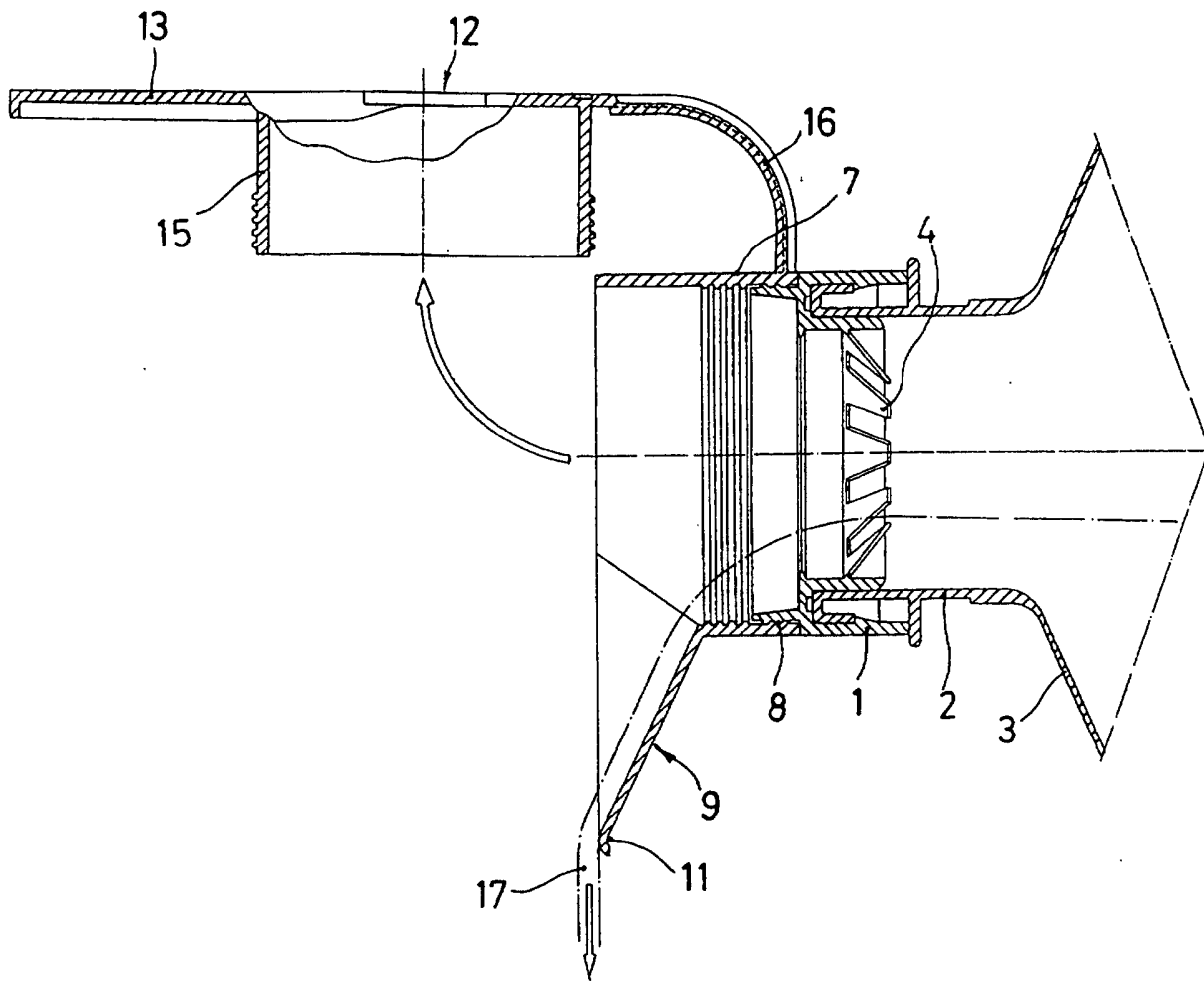
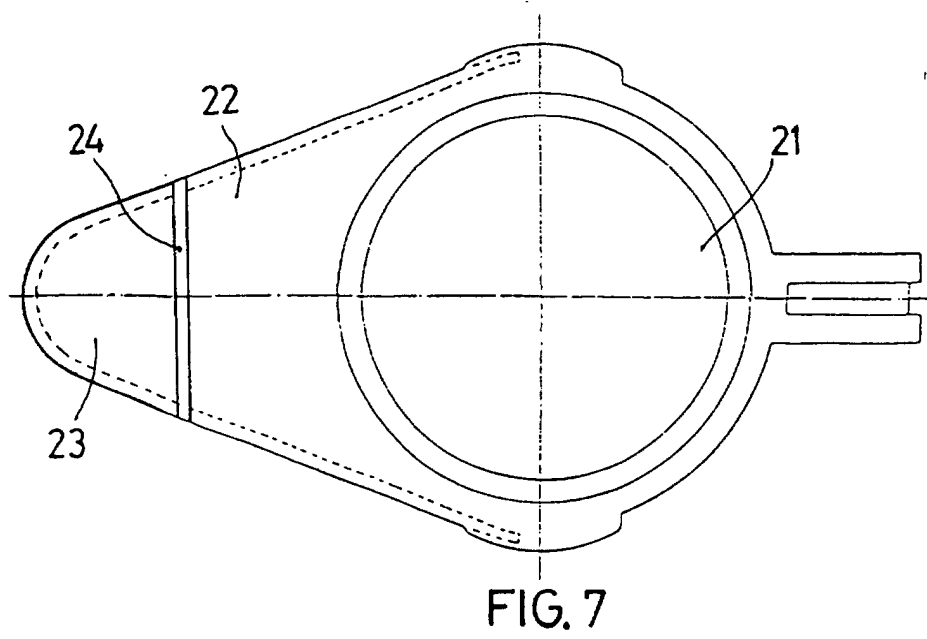
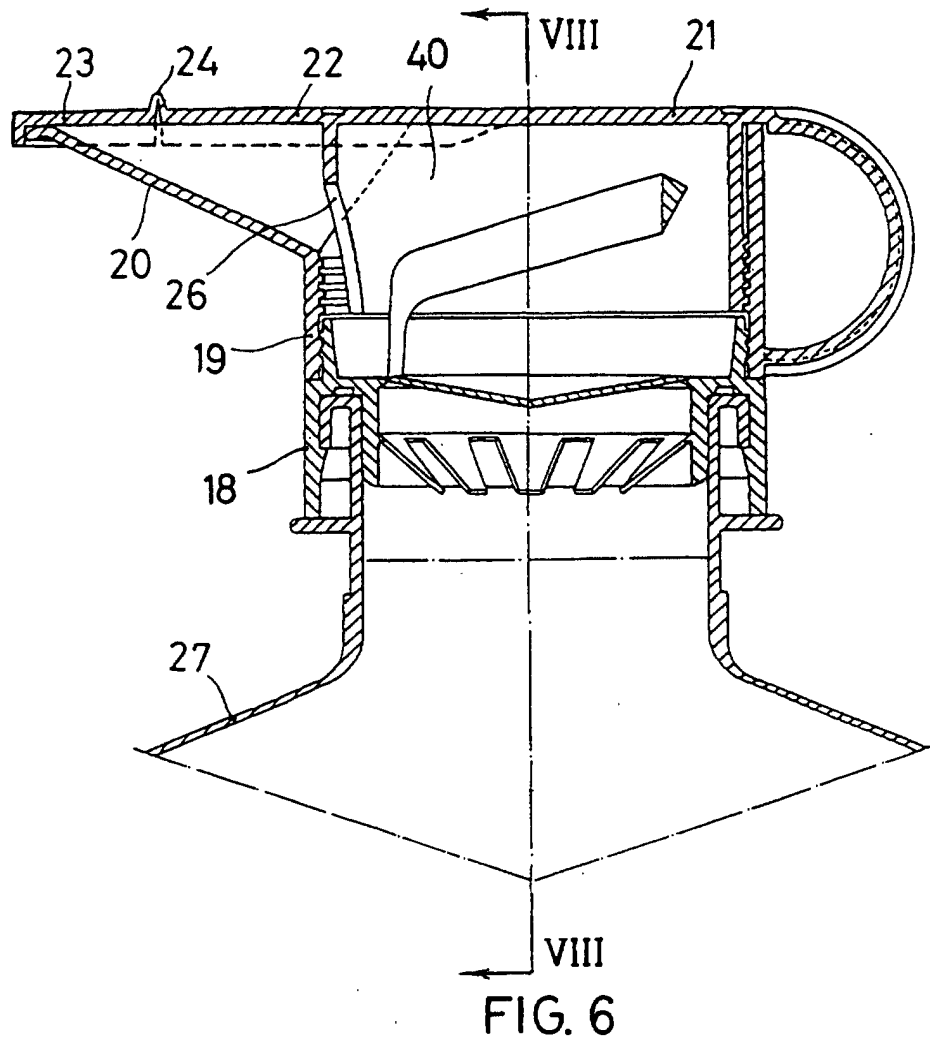


FIG. 5



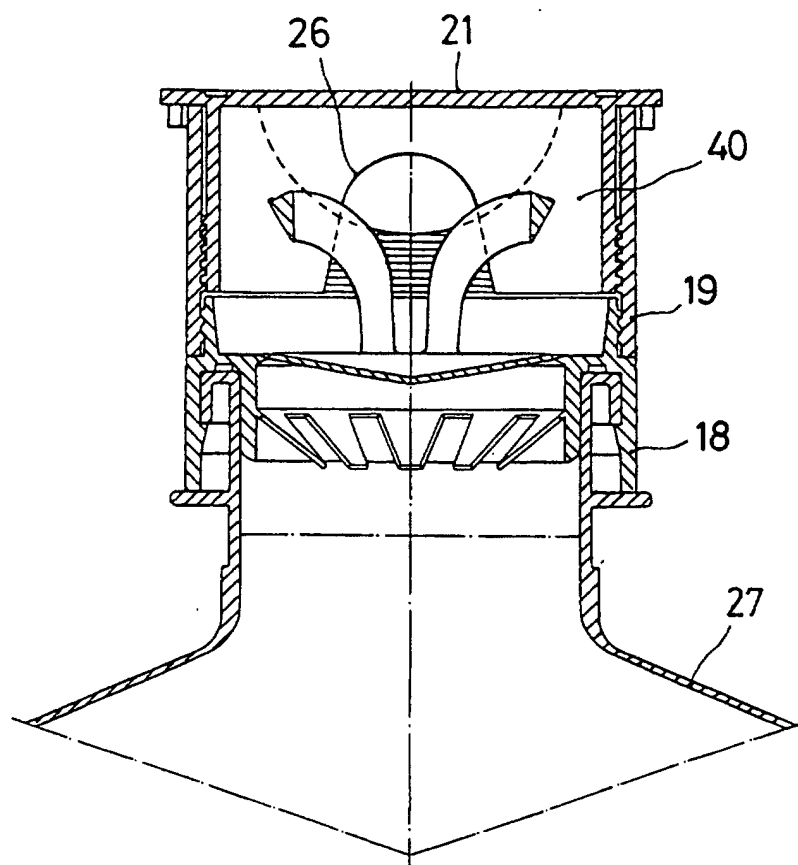
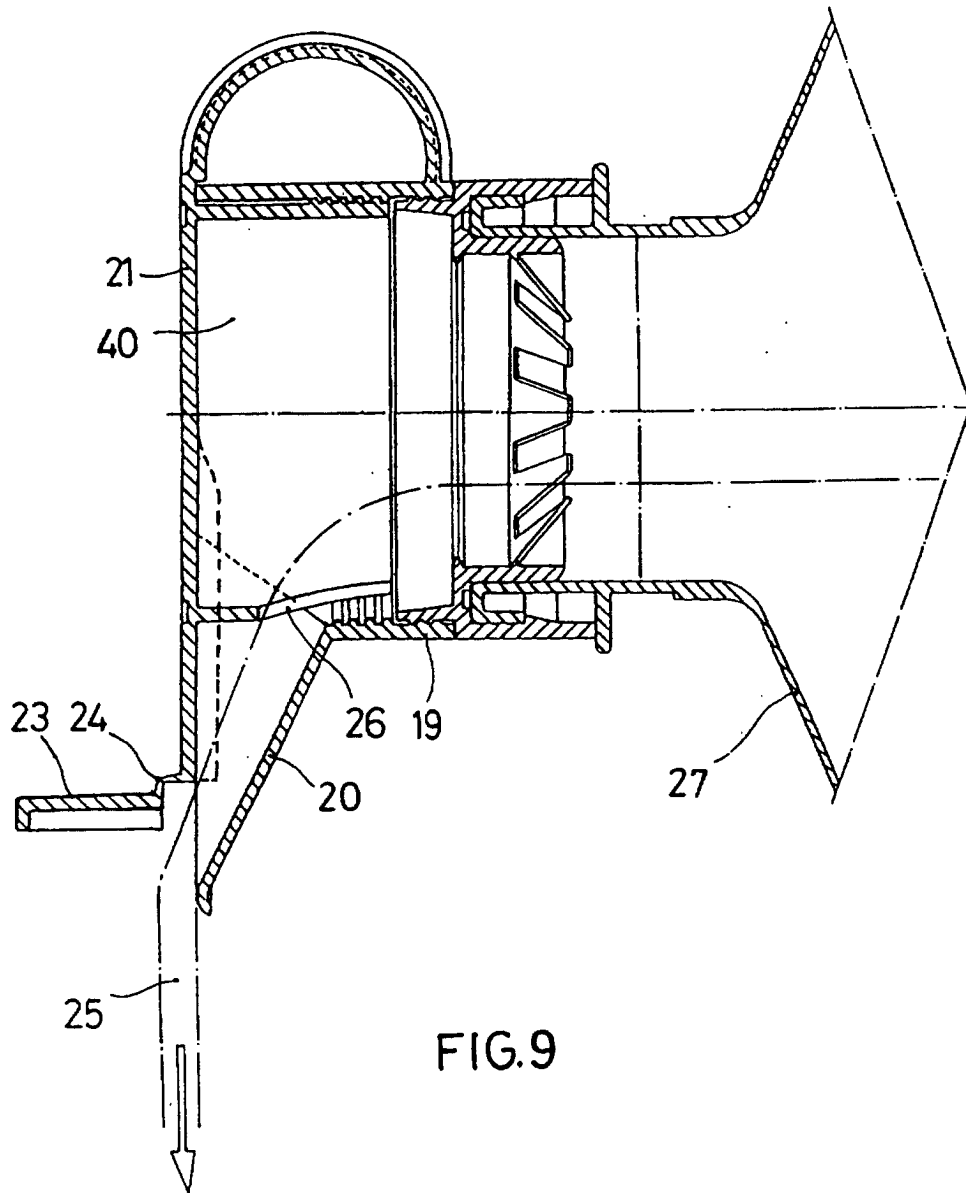


FIG. 8



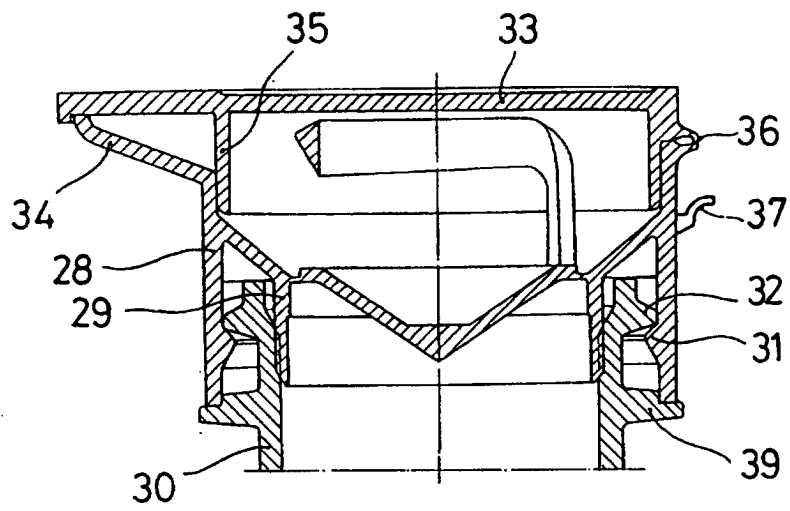


FIG. 10

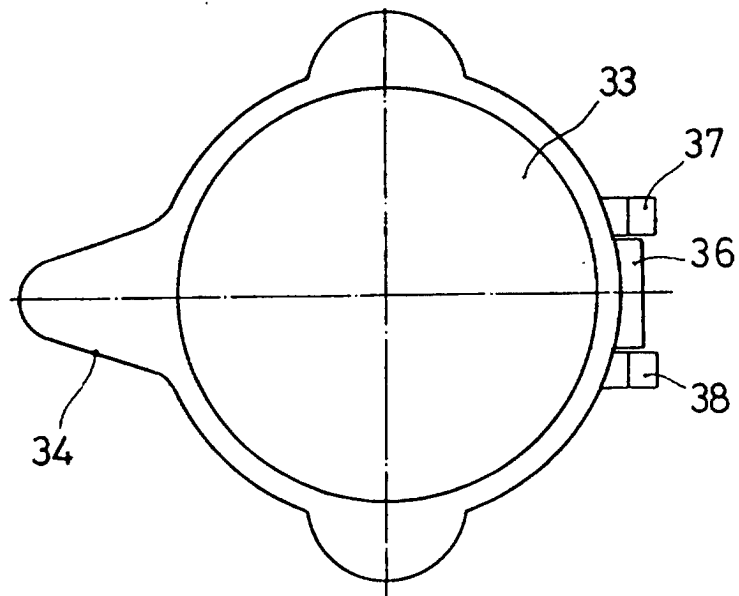


FIG. 11

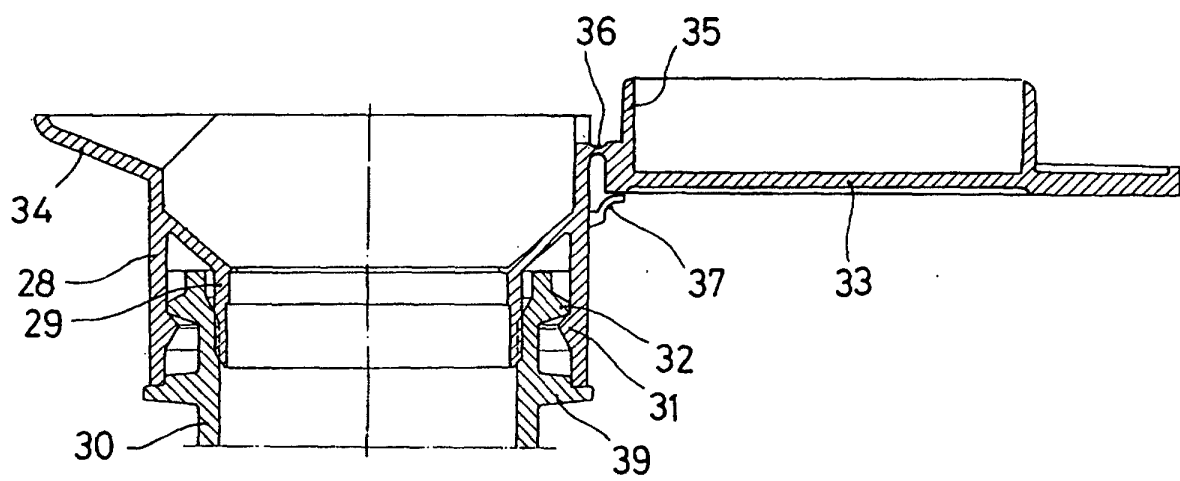


FIG. 12

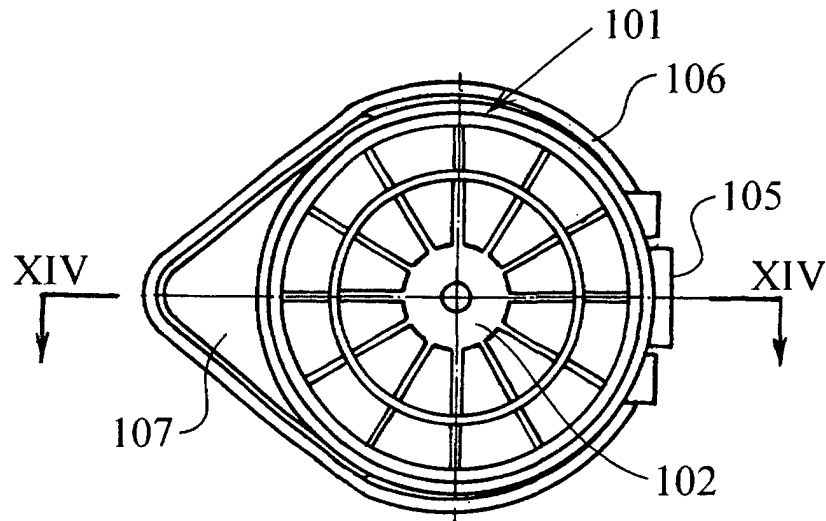


FIG. 13

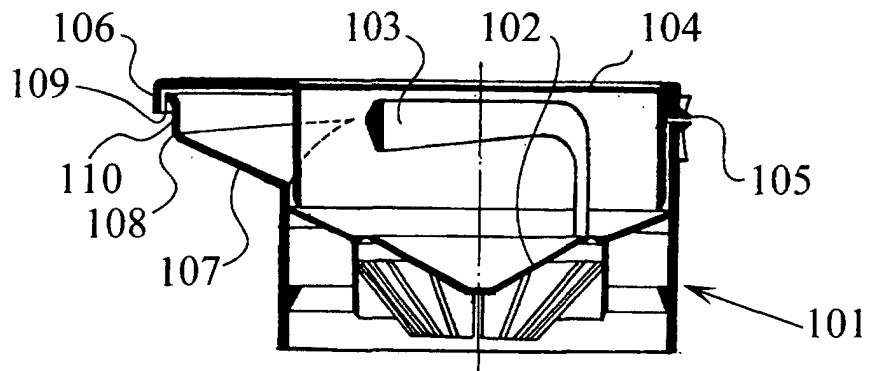


FIG. 14

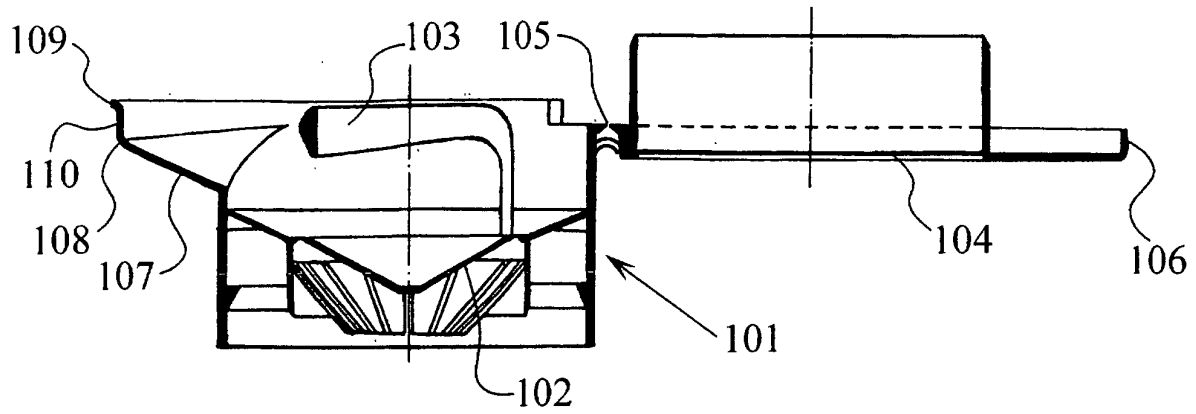


FIG. 15

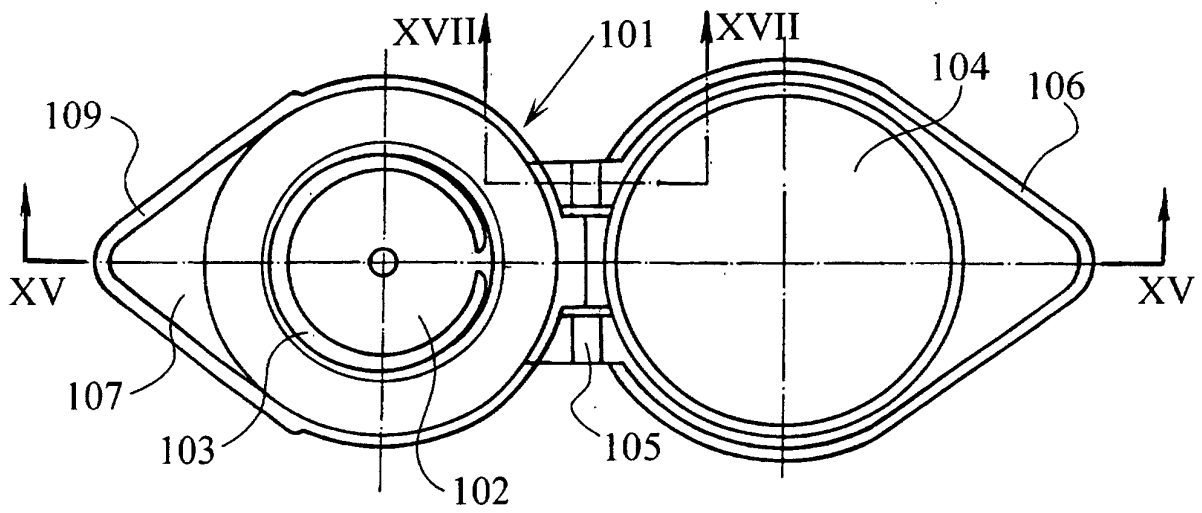


FIG. 16

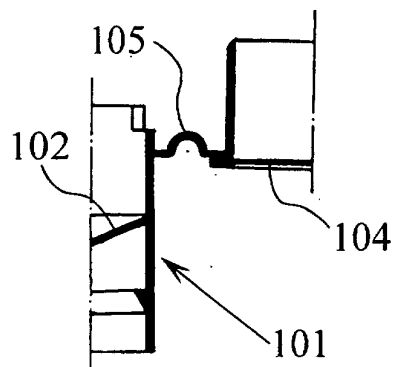
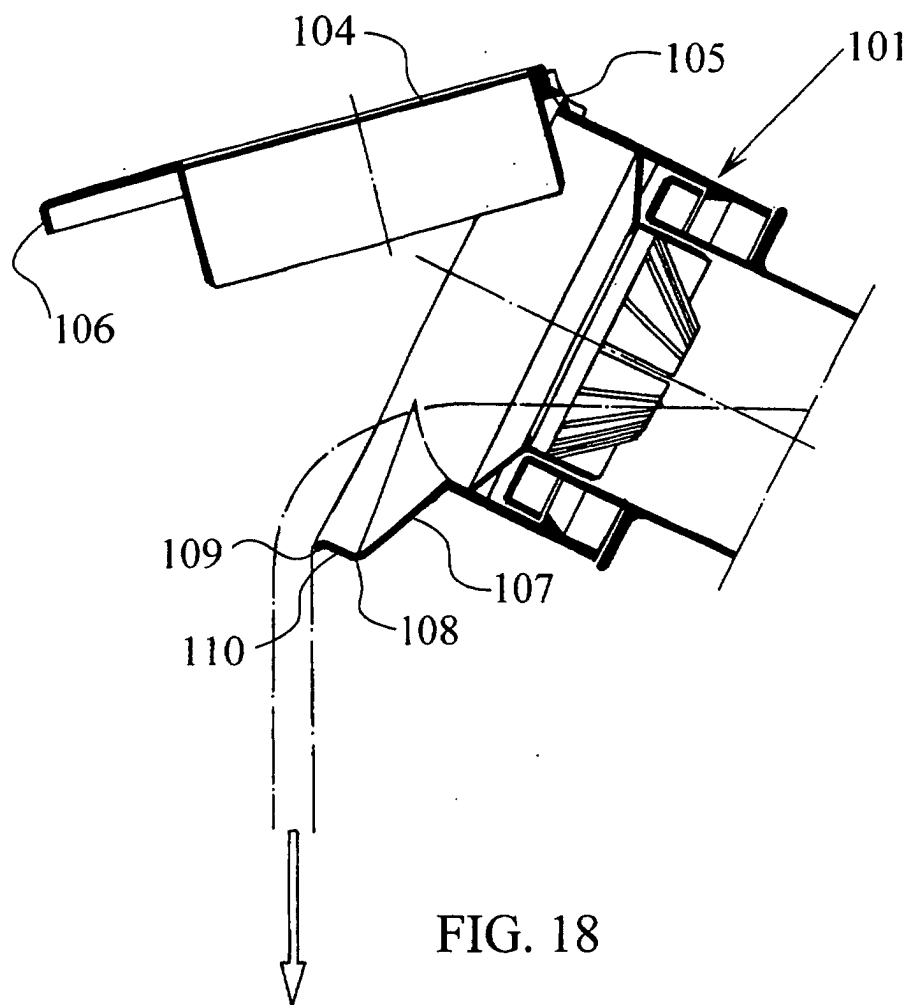


FIG. 17



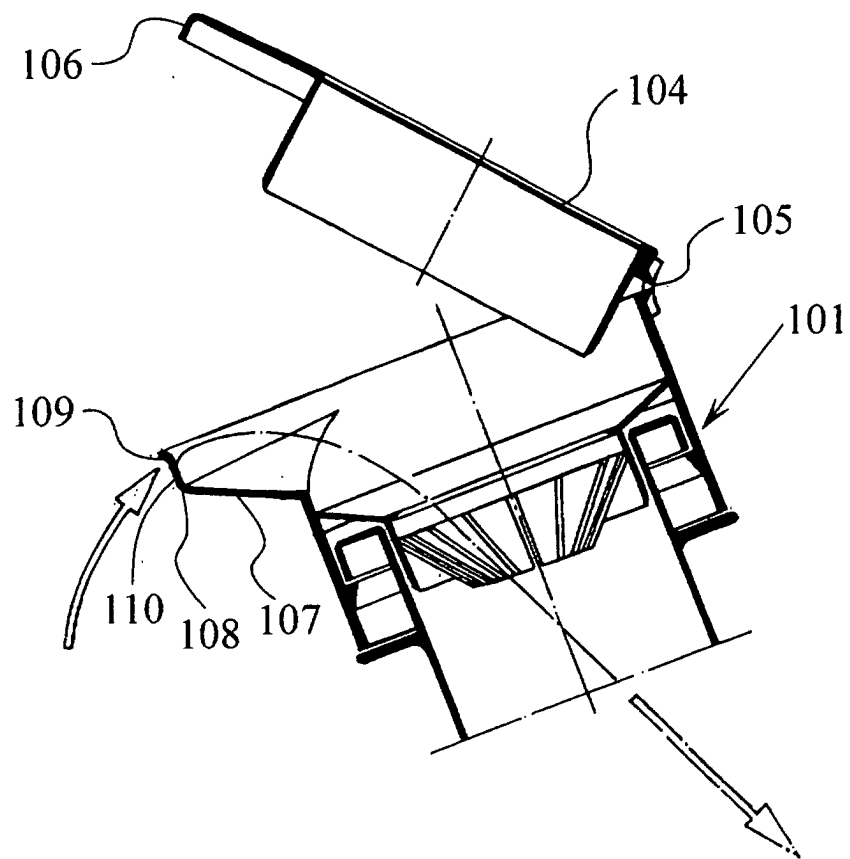


FIG. 19

INTERNATIONAL SEARCH REPORT

International application No
PCT/ES 00/00275A. CLASSIFICATION OF SUBJECT MATTER :
IPC7 B65D 47/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC7 B65D 47/08Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
ESElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)
CIBEPAT, EPODOC, WPI, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP- 832593-A1 (NIPON SANSON CORPORATION) 1 April 1998 (01.04.98) the whole document.	1-5, 7,8
A	EP-515032-A1 (IMPERIAL CHEMICAL INDUSTRIES) 25 November 1992 (25.11.92) column 3, line 30 - column 5, line 30; figures.	1-7
A	US- 5845807 - A (DE VILLIERS) 8 December 1998 (08.12.98); column 3, line 3 - column 4, line 45; figures.	1,2,4,9
A	US- 5950848- A (BAUDIN) 14 September 1999 (14.09.99); the whole document.	1,6
A	US- 4605225- A (ZIMMERMANN) 12 August 1986 (12.08.86) the whole document.	1,2
A	DE- 3139112 - A (HELIOS KG BULLE & Co.) 14 April 1983 (14.04.83) abstract, figures.	1,5



Further documents are listed in the continuation of Box C



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Date of the actual completion of the international search report
6 October 2000 (06.10.00)Date of mailing of the international search report
19 October 2000 (19.10.00)Name and mailing address of the ISA/
S.P.T.O

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Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT
 Information on patent family members

International Application No

PCT/ES00 /00275

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