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- (71) Applicant: **BOGRAN LTD** [GB/GB]; 6 Bexley Square, Salford, Manchester M3 6BZ (GB).
- (72) Inventors: **MAREŠ, Vladimír**; Máchova 377, 471 27 Stráž pod Ralskem (CZ). **ZÁVESKÝ, Martin**; Chatová 311/9, 46001 Liberec (CZ).
- (74) Agent: **MULCAHY, Martina**; Kamenická 3, 17000 Praha 7 (CZ).

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(54) Title: DEVICE FOR POURING LIQUIDS

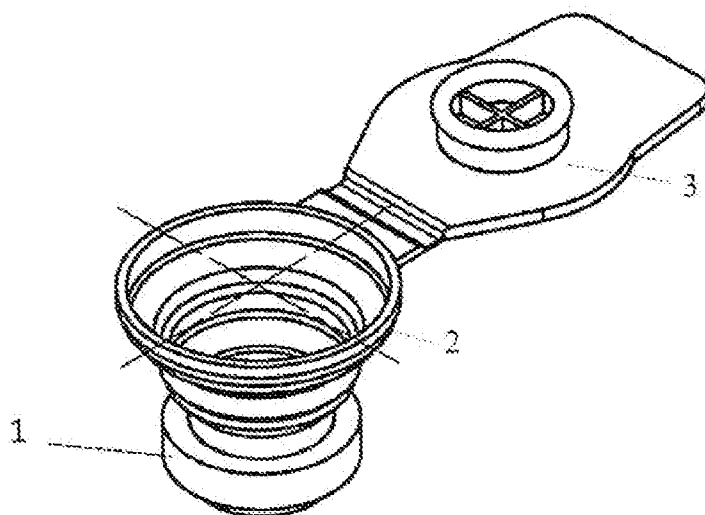


FIG. 2

(57) Abstract: A device for pouring liquids comprising a sleeve (1) permanently connected with a folding funnel (2) provided with a closure (3). The sleeve is formed as a self-locking sleeve or it is formed by an extension of the lower part of the funnel. The sleeve may comprise at least one vent hole (4). The closure (3) is non-detachably or detachably connected with the funnel (2). The device is made from one piece of a flexible material and is adapted to function as a permanent container closure.

Device for pouring liquids

Technical field

The invention concerns an add-on device for attaching onto a filler neck or a filling aperture particularly of containers with a poorly accessible aperture for pouring liquids thereinto,
5 which may function as the container closure.

Background art

Currently, various liquid storage containers are equipped with a filler neck that can be flush with the container, elevated above or lowered below the rim of the container, or where a hose or another device can be fitted to the filler neck for pouring liquids thereinto. It is also
10 possible to pour liquid through a funnel (or other attachments) inserted into the filler neck, or through a filling aperture.

A disadvantage of all of the above solutions is that when a liquid storage container is placed in a poorly accessible position the poured liquid spills onto the actual container which thereby becomes dirty and may also spill on things around the filling aperture as well as on
15 an attendance; moreover, when pouring liquid using a funnel a problem arises where to store the wet funnel after pouring the liquid, especially if the liquid is aggressive to certain surfaces, or when it is an aromatic liquid and the funnel cannot be placed for example in the cabin of an automobile, or other confined space, and when such situation also leads to adhesion of dirt to wet surface, which negatively affects the repeated use of the funnel.

Disclosure of Invention

The above-mentioned disadvantages are substantially solved by the add-on device on a filler neck (aperture) of a liquid storage container according to the invention, which is placed on the filler neck (aperture) of the container by means of a sleeve connected to a folding funnel which has at its upper edge a closure, which also serves as protection against sticking dirt.

25 Device for pouring fluids comprises the sleeve which is permanently joined to the folding funnel, which is provided with the closure. The sleeve may be formed as a self-locking sleeve of flexible material. The closure is non-detachably or detachably connected with the funnel. The sleeve may be formed by an extension of the lower part of the folding funnel.

The sleeve may also comprise at least one vent hole. The vent hole allows air leakage from the container and thereby prevents flooding the funnel, which prevents the possibility of overflowing when pouring a liquid into the container.

Preferably the device is made of a single piece of flexible material. The device is adapted to
5 function as a permanent container closure.

The device operates as follows:

The add-on device is attached using the sleeve on a filler neck (aperture) of a container and stays there even after a liquid refill is completed. Then the funnel remains folded and the container is sealed by the closure at the top of the funnel. To pour, the closure of the funnel
10 is opened and the funnel is folded out by pulling on it. Liquid is then poured into the funnel. Once the filling is completed the funnel is folded by simply pressing on the closure thus closing the container. The entire add-on device remains attached to the filler neck of the container even when it is not used. The advantage of this solution is that the add-on device remains attached to the container whereas it acts as a closure and in folded condition does
15 not take up space. Another advantage is gained during the actual pouring, which becomes easier due to the add-on device. Further advantage is the elevated position of the filling aperture above the level of the original height, which is in many cases "sunk" below the level of other elements around the filling aperture such as, for example, a filling aperture of the washer fluid for automobiles.

20 Brief Description of Drawings

The invention will be explained in more detail using drawings, where:

Fig. 1 shows the cross-section of the add-on device,

Fig. 2 shows the axonometric view of the add-on device,

Fig. 3 shows the plan view of the device,

25 Fig. 4 shows an axonometric view of another embodiment of device, and

Fig. 5 shows a cross-section of another embodiment of device.

Best Modes for Carrying Out the Invention

The device according to the invention comprises a sleeve 1, a foldable funnel 2 and a closure 3. The sleeve 1 and the funnel 2 are made in one piece. The sleeve 1 is formed as a self-

locking sleeve of flexible material. The closure 3 is connected with the funnel 2 by a permanent connection, a detachable connection or are not interconnected.

Such a device is used by slipping a sleeve over the filler neck of the container or the filling hose of the container, which when not in use acts as a closure for the container. In the case of adding liquid, the funnel 2 is pulled open, the cap 3 is opened and liquid may be than be poured. When closing the container, the closure 3 is fitted on the funnel 2, and the funnel 2 is folded by simply pressing on the closure 3, thus closing the container.

Example 2

The device according to the invention comprises a sleeve 1, a foldable funnel 2 and a closure 3. The sleeve 1, the funnel 2 and the closure 3 are made from one piece of flexible material. The sleeve 1 is formed as a self-locking sleeve. The use is the same as in Example 1. The device may be used as a permanent closure of washer fluid containers in automobiles.

Example 3

The device according to the invention, illustrated on Figs. 4 and 5, comprises sleeve 1, a foldable funnel 2 and a closure 3. The device is made from one piece of flexible material. The sleeve 1 is formed by an extension of the lower part of the funnel. 2. The sleeve 1 fits tightly to the inner wall of the container neck and is provided with four vent holes 4. The vent holes enable escaping of air from the container during pouring, and thereby preventing flooding the funnel and s consequent overflowing. The use is the same as in Examples 1 and 2. The device may be used as permanent closure to the washer fluid containers in automobiles.

Industrial applicability

Preferably, this invention is suitable for use in the automotive industry as a complement to liquid storage containers with poor access to the filling aperture or where it is difficult to direct the stream of liquid poured into the filling aperture for other reasons.

PATENT CLAIMS

1. A device for pouring liquids **characterized in that** comprises a sleeve (1) permanently connected with a folding funnel (2), provided with a closure (3).
- 5 2. The device for pouring liquids according to claim 1 **characterized in that** the sleeve (1) is formed as a self-locking sleeve made of flexible material.
3. The device for pouring liquids according to claim 1 **characterized in that** the closure (3) is non-detachably or detachably connected with the funnel (2).
4. The device for pouring liquids according to claim 1 **characterized in that** the sleeve (1) is
10 formed by an extension of the lower part of the funnel (2).
5. The device according to claim 4 **characterized in that** the sleeve (1) comprises at least one vent hole (4).
6. The device according to claim 1 **characterized in that** it is made from one piece of a flexible material.
- 15 7. The device to claim 1 **characterized in that** it is adapted to function as a permanent container closure.

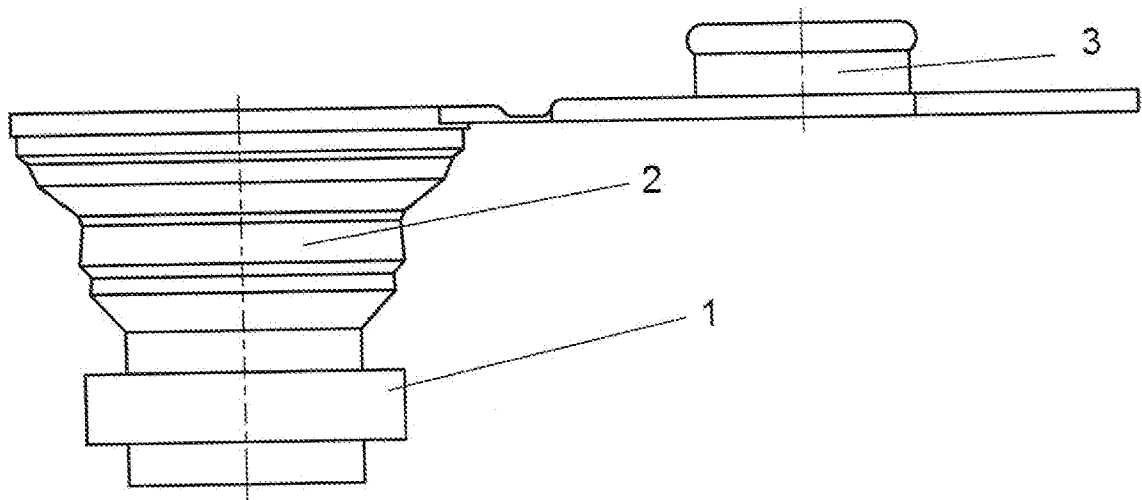


FIG. 1

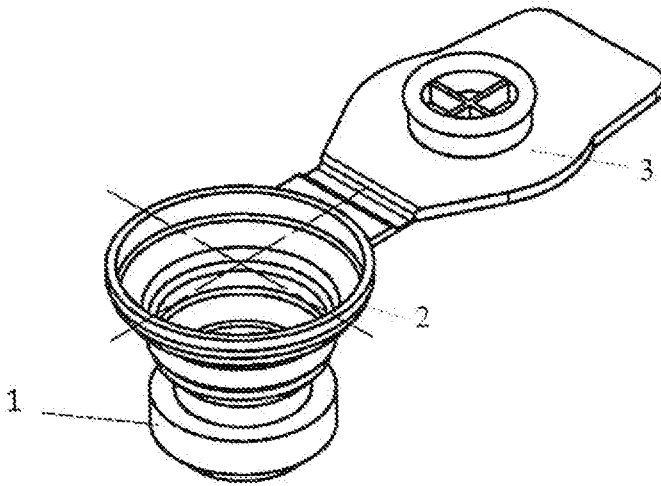


FIG. 2

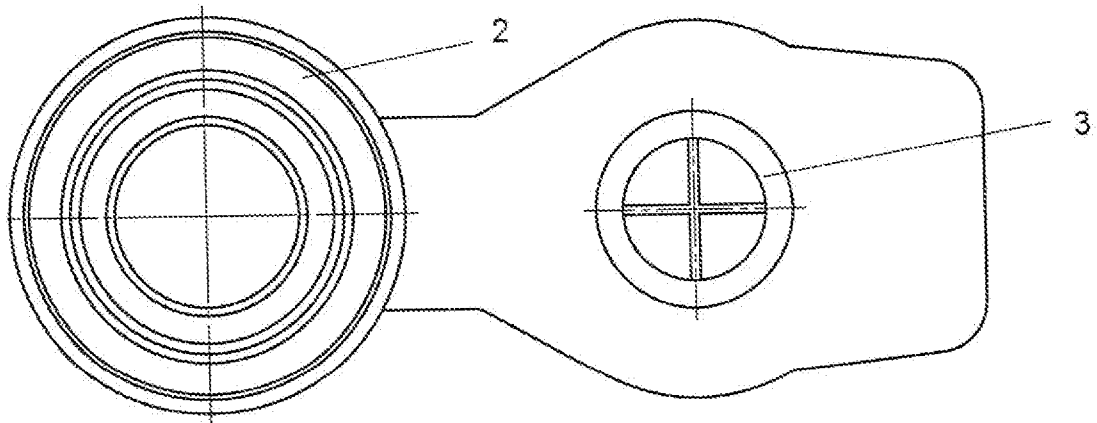


FIG. 3

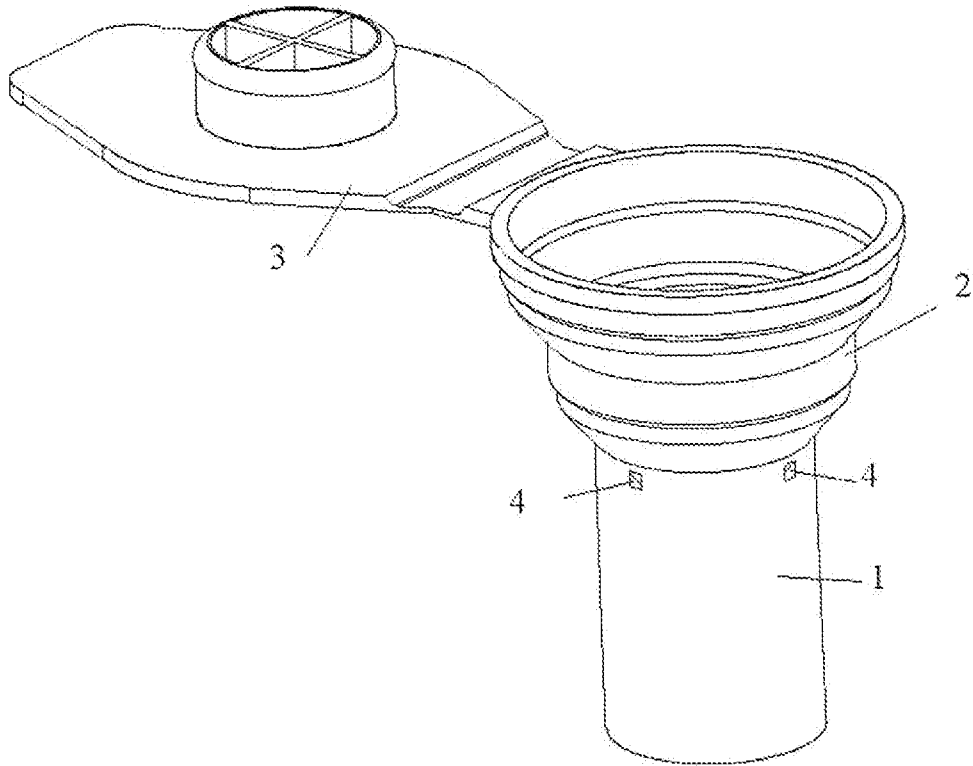


FIG. 4

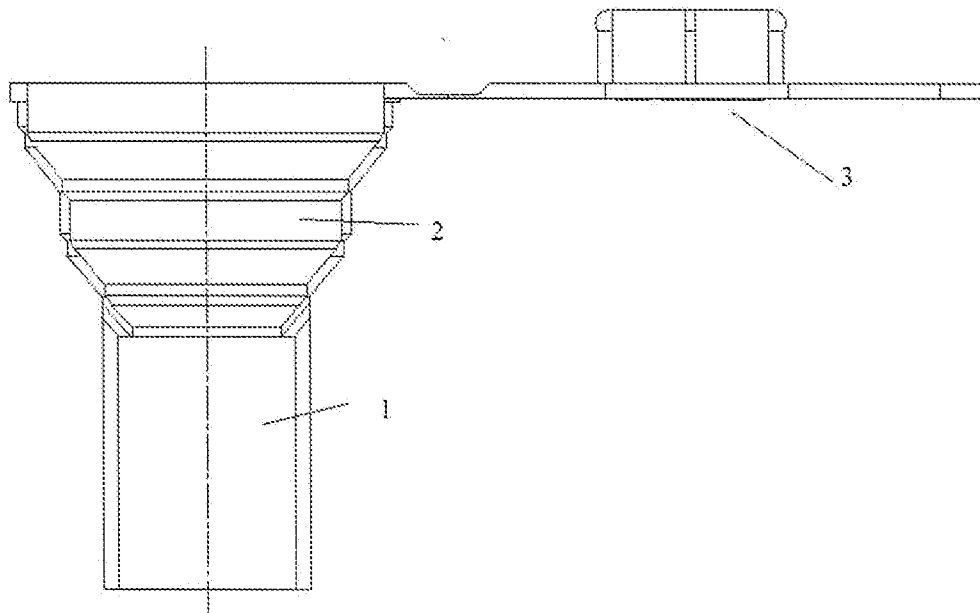


FIG. 5

INTERNATIONAL SEARCH REPORT

International application No PCT/IB2015/002273

A. CLASSIFICATION OF SUBJECT MATTER INV. B65D23/06 B65D25/44 B65D47/06 ADD.				
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) B65D				
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched				
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal, WPI Data				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
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Y	abstract; figures -----	5		
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<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.</td> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> See patent family annex.</td> </tr> </table>			<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> See patent family annex.
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> See patent family annex.			
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer <div style="text-align: center; font-weight: bold;">Gino, Christophe</div>			

INTERNATIONAL SEARCH REPORT

International application No PCT/IB2015/002273

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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X	WO 00/34132 A2 (STURK RON [CA]) 15 June 2000 (2000-06-15) abstract; figures -----	1-4,7
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