

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 1 629 995 A2

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

01.03.2006 Bulletin 2006/09

(51) Int Cl.:

B44D 3/12 (2006.01)

B65D 25/52 (2006.01)

B65D 47/14 (2006.01)

(21) Application number: **05100404.2**

(22) Date of filing: **24.01.2005**

(84) Designated Contracting States:

**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR**

Designated Extension States:

AL BA HR LV MK YU

(72) Inventors:

• **Nossbaum, Frits Daniel**

2271 CA Voorburg (NL)

• **Schouten, Eelco**

3402 XN IJsselstein (NL)

(30) Priority: **26.08.2004 EP 04104095**

(71) Applicant: **Nossbaum, Frederik Daniel**

2271 CA Voorburg (NL)

(74) Representative: **Voncken, Bartholomeus Maria
Ch. et al**

**De Vries & Metman,
Overschiestraat 180**

1062 XK Amsterdam (NL)

(54) **Container for liquid substances and lid therefor**

(57) A container (1) for liquid substances comprises a pouring opening (3) in a top wall (2). The pouring opening is teardrop shaped with its wider part (8) closest to the circumference of the top wall and with its narrower

part (10) closest to the center of the top wall, wherein two side edges (9) of the pouring opening connecting the wider part with the narrower part meet each other at the narrower part while enclosing an acute angle.

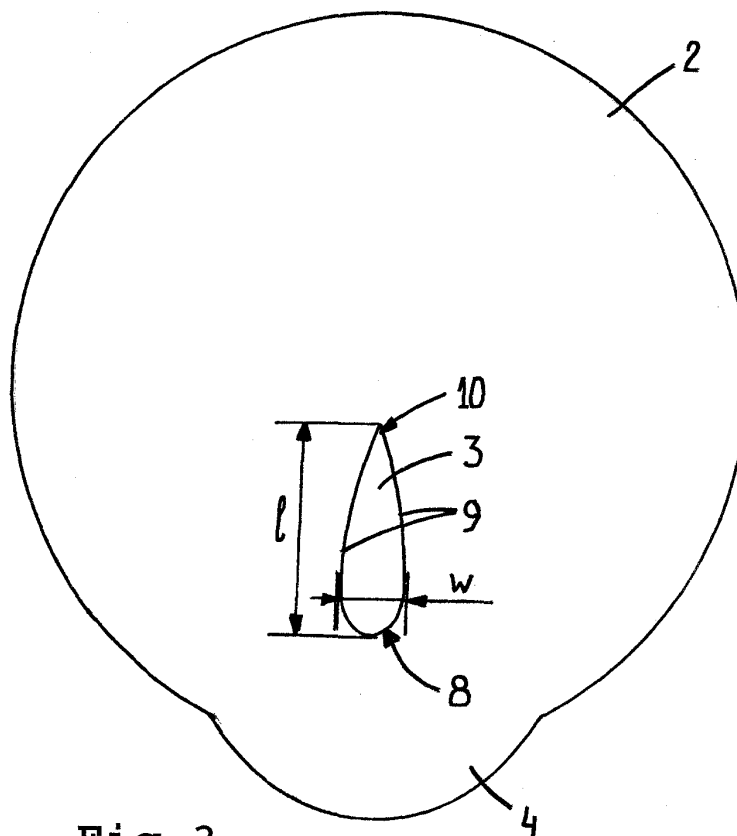


Fig. 3

EP 1 629 995 A2

Description

[0001] The invention firstly relates to a container for liquid substances, such as paint, oil etc, comprising at least a top wall in which a pouring opening is provided.

[0002] The container to which the present invention relates, is primarily intended for viscous substances, such as paint, mineral oil, olive oil etc. When considering) for example, a container for paint (a so-called paint can, problems may arise when pouring paint from the pouring opening. Because of its viscous nature, the paint will drip along a side wall of the container, thus smearing it with paint. Moreover, paint will fill the roundgoing groove at the top of the side wall. In practise, it is very difficult to pour paint from the pouring opening without making a mess.

[0003] The state of the art shows numerous paint pouring arrangements used with containers for liquid substances, striving to eliminate the above problem. However, such paint pouring arrangements suffer from different drawbacks, among which a complicated structure and a complicated use, a bulky appearance and an inadequate operation.

[0004] Thus, in accordance with the present invention, it is an object to provide an improved container of the type referred to above.

[0005] In accordance with the present invention a container for liquid substances, such as paint, oil etc., is provided comprising at least a top wall in which a pouring opening is provided, characterized in that the pouring opening is teardrop shaped with its wider part closest to the circumference of the top wall and with its narrower part closest to the center of the top wall, wherein two side edges of the pouring opening connecting the wider part with the narrower part meet each other at the narrower part while enclosing an acute angle.

[0006] In a surprising manner it has appeared, that using a pouring opening in accordance with the present invention results in a jet of the substance leaving the pouring opening in a well-defined, constrained manner. This jet is small in size and narrow and allows a very precise pouring. No adhering of the substance (especially a viscous substance) will occur to a side wall of the container, such that the container remains free of any smearing parts of the substance. The location where the two side edges meet each other contributes to this effect. It creates a sharp ridge on the substance leaving the pouring opening, which seems to help constrain the substance in an advantageous manner.

[0007] In preferred embodiments of the container in accordance with the present invention the following measures can be taken, alone or in combination: the narrower part is rounded with a radius between 0 and 8 mm, and preferably the radius of the narrower part is 1 mm; the wider part has a width between 8 and 20 mm, and preferably the width of the wider part is 12 mm; the pouring opening has a length (measured between the wider part and the narrower part) between 25 and 50 mm, and

preferably the length of the pouring opening is 36 mm; the ratio between the width of the wider part and the length of the pouring opening ranges from 1:2 to 1:4, and preferably said ratio is 1:3.

[0008] The container can be a container of the type in which the top wall is an integral part of the container. Such a container type can be used as a disposable container for single use.

[0009] However, it is also conceivable that the top wall defines a lid which is removably attached to the remainder of the container. Such a type of container is preferred for repeated use, or for containers which should be refillable.

[0010] Especially when the container is of a reusable type or a refillable type, it is advantageous that it is provided with removable cap means for closing the pouring opening.

[0011] In a still further embodiment of the container in accordance with the present invention the top wall comprises a lip extending radially outward of the pouring opening beyond the outer circumference of the top wall. Such a lip further reduces the chance of a viscous liquid dripping along a side wall of the container.

[0012] Preferably, such a lip extends inclined downwardly.

[0013] Finally, an embodiment of a container with such a lip is mentioned, comprising a tubular container body wherein the top wall is substantially circular and wherein the dimensions of the lip are such that it can be accommodated in a free space occurring between adjacent containers which are closely stacked in a staggered manner.

[0014] Generally, containers of such a type will be stacked in a staggered manner for transport or storage. Because, in such a stacked position of the containers, the lips can be accommodated in said free spaces, the required space for storing or transport will not increase.

[0015] The invention further relates to a lid for application in a container in accordance with the present invention.

[0016] Hereinafter the invention will be elucidated while referring to the drawing, in which embodiments of the container according to the present invention are illustrated. Herein:

Fig. 1 shows, partly and in a schematic perspective view a first embodiment of a container according to the present invention;

Fig. 2 shows, partly in a side elevational view, a second embodiment of a container according to the present invention;

Fig. 3 shows, on a larger scale, a top plan view of an embodiment of a top wall;

Fig. 4 shows, still on a larger scale, details of a pouring opening, and

Fig. 5 shows, on a reduced scale, the stacking of three containers in accordance with the present invention.

[0017] Firstly referring to Fig. 1, a container 1 for liquid substances (preferably viscous substances such as paint, oil etc.) comprises at least a top wall 2 in which a teardrop shaped pouring opening 3 is provided. Radially outward of the pouring opening 3 a lip 4 is provided which extends radially outward of the pouring opening beyond the outer circumference 5 of the top wall 2.

[0018] The particularities of the pouring opening 3 will be elucidated later with respect to Fig. 3.

[0019] In Fig. 2 the top wall 2 is removably attached to the remainder of the container 1 such as to define a removable lid or cover. The pouring opening 3 can cooperate with a removable cap means 6 for opening and closing the pouring opening 3. In a manner not shown in detail this cap means 6 may be attached to the top wall 2 in a flexible manner such as to allow its movements (according to arrow 7).

[0020] In the embodiment illustrated in Fig. 2 the lip 4 extends slightly inclined downwardly.

[0021] It is noted, that the top wall 2 also could be an integral part of the container 1, that means that it cannot be removed therefrom.

[0022] Next reference is made to Fig. 3. A top wall 2 is illustrated as viewed in a pouring position of the container 1, that means that in such a pouring position the lip 4 substantially would point downwardly. In the pouring position considered, the pouring opening 3 comprises a lower wider part 8, an upper narrower part 10 and two side edges 9 connecting the wider part 8 and narrower part 10.

[0023] In the illustrated embodiment the wider part 8 has a width w between 8 and 20 mm, preferably 12 mm.

[0024] Further, the pouring opening 3 has a length 1 (measured between the wider part 8 and the narrower part 10) between 25 and 50 mm, preferably 36 mm.

[0025] The ratio between the width w of the wider part 8 and the length 1 of the pouring opening 3 ranges from 1:2 to 1:4, and preferably is 1:3.

[0026] In the embodiment illustrated in Fig. 3 the top wall 2 has a circular shape such as to fit in a tubular container body (for example as illustrated in Fig. 1).

[0027] In Fig. 4 part of the pouring opening 3 is shown on a larger scale, representing the narrower part 10 where the left and right side edges 9 meet. As represented these side edges 9 enclose an acute angle. Further the connection between both side edges 9 is rounded, with a radius of curvature r of between 0 and 8 mm, preferably 1 mm.

[0028] Finally reference is made to Fig. 5. In a top plan view three containers 11, 21 and 31 are illustrated which in a staggered manner are stacked closely (as would be the case for storage or transport). Between adjacent containers 11, 21, 31 a free space 12 is defined. Now, the dimensions of the lip 4 are such, that it can be accommodated in such a free space 12, thus not having any influence on the storage or transport positions of the containers. It is noted, that the remaining containers 21 and 31 also could be provided with a lip 4 which then would

be accommodated in corresponding free spaces.

[0029] The invention is not limited to the embodiments described before, which may be varied widely within the scope of the invention as defined by the appending claims.

Claims

1. Container for liquid substances, such as paint, oil etc, comprising at least a top wall in which a pouring opening is provided, **characterized in that** the pouring opening is teardrop shaped with its wider part closest to the circumference of the top wall and with its narrower part closest to the center of the top wall, wherein two side edges of the pouring opening connecting the wider part with the narrower part meet each other at the narrower part while enclosing an acute angle.
2. Container according to claim 1, wherein the narrower part is rounded with a radius between 0 and 8 mm.
3. Container according to claim 2, wherein the radius of the narrower part is 1 mm.
4. Container according to one of the previous claims, wherein the wider part has a width between 8 and 20 mm.
5. Container according to claim 4, wherein the width of the wider part is 12 mm.
6. Container according to any of the previous claims, wherein the pouring opening has a length (measured between the wider part and the narrower part) between 25 and 50 mm.
7. Container according to claim 6, wherein the length of the pouring opening is 36 mm.
8. Container according to any of the previous claims, wherein the ratio between the width of the wider part and the length of the pouring opening ranges from 1:2 to 1:4.
9. Container according to claim 8, wherein the ratio between the width of the wider part and the length of the pouring opening is 1:3.
10. Container according any of the previous claims, wherein the top wall defines a lid which is removably attached to the remainder of the container.
11. Container according to any of the previous claims, further being provided with removable cap means for closing the pouring opening.

12. Container according to any of the previous claims, wherein the top wall comprises a lip extending radially outward of the pouring opening beyond the outer circumference of the top wall.

5

13. Container according to claim 12, wherein the lip extends inclined downwardly.

14. Container according to claim 12 or 13 and comprising a tubular container body, wherein the top wall is substantially circular and wherein the dimensions of the lip are such that it can be accommodated in a free space occurring between adjacent containers which are closely stacked in a staggered manner.

10

15

15. Lid for application in a container according to claim 10.

20

25

30

35

40

45

50

55

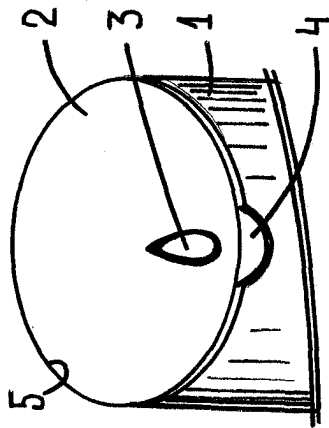


Fig. 1

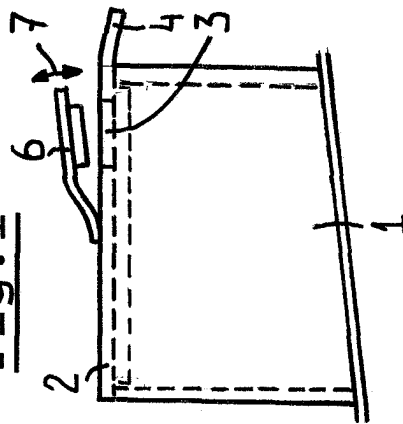


Fig. 2

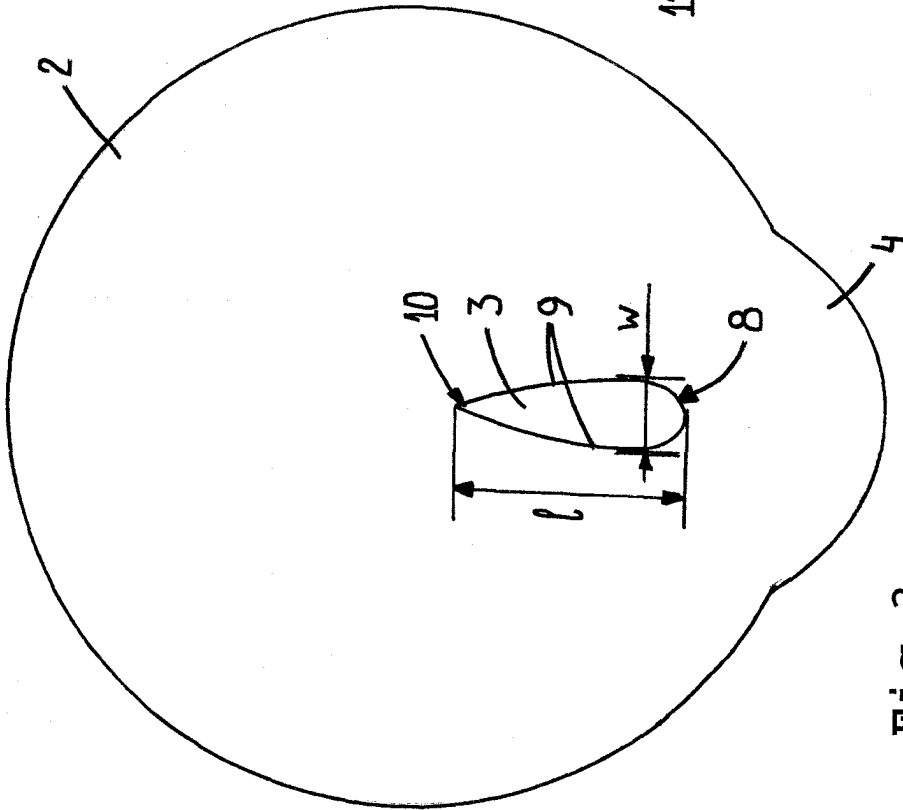


Fig. 3

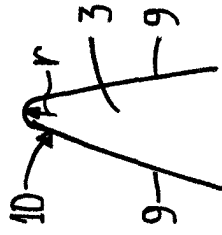


Fig. 4

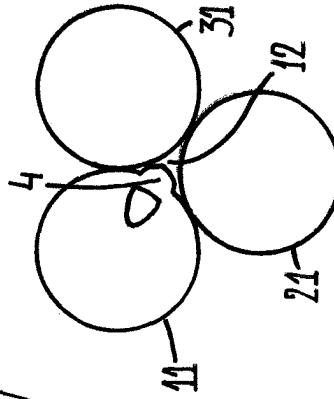


Fig. 5