

**Internal distribution code:**

- (A)  Publication in OJ  
(B)  To Chairmen and Members  
(C)  To Chairmen  
(D)  No distribution

**D E C I S I O N**  
**of 4 October 2005**

**Case Number:** T 0348/04 - 3.2.07

**Application Number:** 98903530.8

**Publication Number:** 1070009

**IPC:** B65D 41/06

**Language of the proceedings:** EN

**Title of invention:**  
QUICK-ON FILLER NECK CAP

**Applicant:**  
STANT MANUFACTURING INC.

**Opponent:**

-

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 123(2), 54, 56

**Keyword:**

"Extension beyond the content of the application as filed  
(no) "

"Novelty (yes) "

"Inventive step (yes) "

**Decisions cited:**

-

**Catchword:**

-



Case Number: T 0348/04 - 3.2.07

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.07  
of 4 October 2005

**Appellant:** STANT MANUFACTURING INC.  
1620 Columbia Avenue  
Connersville, IN 47331-1696 (US)

**Representative:** Gray, James  
Withers & Rogers LLP Goldings House  
2 Hays Lane  
London SE1 2HW (GB)

**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 30 October 2003  
refusing European application No. 98903530.8  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** H. Meinders  
**Members:** K. Poalas  
C. Holtz

## Summary of Facts and Submissions

- I. The appellant (applicant) lodged an appeal against the decision of the Examining Division refusing European patent application No. 98 903 530.8.

The Examining Division held that the application did not meet the requirements of Articles 54 EPC (novelty) and 56 EPC (inventive step), taking into consideration the following documents

D1 = US 5 529 201 A, and

D2 = US 5 732 841 A.

- II. Oral proceedings before the Board of Appeal were held on 4 October 2005.

The appellant requested that the decision under appeal be set aside and a patent be granted on the basis of the following documents:

claims: 1 to 14 as filed on 4 October 2005 in the oral proceedings;

description: pages 1 to 13 as filed on 4 October 2005 in the oral proceedings;

drawing sheets: 1/6 to 6/6 as originally filed.

- III. Amended claim 1 reads as follows:

"A cap (12) for a filler neck (14) having an open mouth (22) and a pair of internal mounting flanges (38,40) adjacent to the open mouth (22), the cap (12) comprising

a handle (18),  
a body (16) having a cylindrical exterior surface (81)  
and being coupled to the handle (18) for rotation  
therewith,  
an annular seal (34) around the body (16),  
two external position-locator lugs (78, 80) appended to  
the body (16) and arranged to lie in spaced-apart  
relation to the annular seal (34), and  
two spiral-shaped cap mounting members (86, 88)  
appended to the cylindrical exterior surface of the  
body (16) to lie in a position between the annular seal  
(34) and a respective external position-locator lug (78,  
80) and adapted to engage against the internal mounting  
flanges (38, 40) of the filler neck (14) upon  
installation of the body (16) in the filler neck (14)  
to retain the cap (12) in the filler neck (14), the two  
spiral-shaped cap mounting members (86, 88) being  
helically wound around the body (16) such that each of  
their first ends (96, 114) is positioned to lie one of  
adjacent to and in contact with the respective external  
position-locator lug (78, 80), characterised in that  
each spiral-shaped cap mounting member (86, 88) is  
formed to include a second end spaced apart from the  
respective first end and the respective lug (78, 80)  
and to have an arc length along the cylindrical  
exterior surface (81) having a central angle of more  
than sixty degrees."

Amended independent claim 10 (original claim 18) is  
directed to a closure assembly comprising a filler neck  
and the cap of present claim 1.

Amended independent claim 14 (original claim 30) is directed to a method including inter alia the step of providing the cap of present claim 1.

IV. The Appellant argued essentially as follows:

Document D1 does not disclose any spiral-shaped cap mounting members helically wound around the body of the cap.

Therefore, the subject-matter of claim 1 is new over the teaching of document D1.

The feature of claim 1 that each spiral-shaped cap mounting member includes a "second end spaced apart from the respective first end and the respective lug" and has "an arc length along the cylindrical exterior surface having a central angle of more than sixty degrees" is missing also in document D2, said document representing the most relevant prior art.

Therefore, the subject-matter of claim 1 is new over the prior art in the file.

The characterizing part of claim 1 defining a cap mounting member which provides an extended engagement surface between the cap mounting members and the internal mounting flanges, while at the same time keeping the lug reasonable in size, establishes a cap for a filler neck which is neither anticipated nor suggested by any of the prior art documents in the file.

Therefore, the subject-matter of claim 1 also involves an inventive step.

For the same reasons, the subject-matter of independent claims 10 and 14 incorporating the cap of claim 1 also involves novelty and inventive step.

## Reasons for the Decision

### 1. *Amendments (Article 123(2) EPC)*

Amended claim 1 is a combination of the originally filed claims 1, 2, 5 and 7 together with the further features that the cap has a pair of internal mounting flanges, a body having a cylindrical exterior surface, two external position-locator lugs, two spiral shaped cap mounting members being helically wound around the body and a second end of the spiral-shaped cap mounting member being also spaced apart from the lug, said information being derivable from page 7, lines 11, 12 and page 9, line 9 to page 10, line 16 of the originally filed description and from the originally filed figures.

Independent claim 10 is based on claim 18 as filed having the word "internal" added into the feature "first and second filler neck internal mounting flanges (38, 40)" and disclosing also the additional identification of the cap as being "the cap of claim 1". Independent claim 14 is based on claim 30 as filed having the word "internal" added into the feature "first and second filler neck internal mounting flanges" and disclosing also the additional identification of the cap as being "the cap of claim 1".

Dependent claims 2 to 9 and 11 to 13 correspond to originally filed claims 3, 4, 6, 9, 10, 11, 12, 14, 19, 28 and 29.

In the amended pages 1, 2, 9 and 13 of the description the prior art document D2 has been identified and the description has been brought into conformity with the present claims.

Therefore, the application as amended fulfils the requirements of Articles 123(2), 84 and Rule 27(1) b) EPC.

2. *Claim 1 - Novelty (Article 54 EPC)*

2.1 Document D1 discloses a cap having two upper retaining members 88, 92 engageable with two upper flanges 58, 62 of a filler neck and two lower retaining members 86, 90 disclosing anti-drift lugs 118 and being engageable with two lower flanges 56, 60 of the same filler neck. All four retaining members extend either in a direction parallel to or in a plane perpendicular to the axis of rotation 50. None of the upper or lower retaining members is spiral-shaped or helically wound around the body as claimed in claim 1 of the present application.

2.2 Document D2 is directed to a cap disclosing a pair of diametrically opposed lug elements 28, the top surface of each of these elements extending slightly spiral shaped at an angle with respect to the axis of the cap and functioning as a cap mounting member 30.

However, both first and second ends of cap mounting member 30 are connected to, thus in contact with the

respective upper ends of the V-shaped lug element 28. The extension of each cap mounting member 30 in the circumferential direction is limited by the upper ends of the V-shaped part of the respective lug element 28. A circumferential extension of the corresponding member 30 outside of the circumferential limits of the respective lug element 28 is not foreseen in document D2. Also no information about the arc length of the cap mounting member 30 can be found in document D2.

Therefore, the characterising features of claim 1 of the present application defining that each spiral-shaped cap mounting member includes a second end spaced apart from the respective first end and the respective lug and also has an arc length along the cylindrical exterior surface having a central angle of more than sixty degrees is not anticipated by the disclosure of document D2.

None of the other documents in the file discloses a cap having spiral-shaped cap mounting members as defined in claim 1 of the present application.

Therefore, the subject-matter of claim 1 is new and fulfils the requirements of Article 54 EPC.

3. *Claim 1 - Inventive step (Article 56 EPC)*

3.1 Closest prior art

The Board agrees with the appellant that document D2 disclosing a cap according to the preamble of claim 1 of the present application represents the closest prior art.

### 3.2 Problem

The problem to be solved in the present case in respect of the cap known from document D2 is to provide a cap enabling a better sealing.

### 3.3 Solution

In accordance with claim 1 the above-mentioned problem is solved in that each spiral-shaped cap mounting member includes a second end spaced apart from the respective first end and the respective lug and has an arc length along the cylindrical exterior surface having a central angle of more than sixty degrees.

Such cap mounting members provide a more extended engagement surface between the cap and the filler neck, allowing thereby the development of higher frictional forces. In addition to that such an extension of the cap mounting members does not influence the size of the lug which can remain within a reasonable range.

### 3.4 The above mentioned solution is not rendered obvious by the documents available in the file for the following reasons:

Document D2 does not give any indications as to such cap mounting members having a second end spaced apart from the respective lug or having an arc length corresponding to a central angle of more than sixty degrees.

Document D1 teaches in a cap for a filler neck the use of two pairs of retaining members 88, 92 and 86, 90 having cap mounting surfaces 96 and 122 extending around the outer surface of the cap's body in a plane perpendicular to the axis of rotation 50. Neither the retaining members themselves nor their corresponding cap mounting surfaces are spiral-shaped or helically wound around the cap's body. Since document D1 does not disclose any spiral-shaped and helically cap mounting members wound around the cap's body it also does not disclose first and second ends of such cap mounting members as defined in claim 1 of the present application.

Therefore and since spiral-shaped cap mounting members as described in the characterising part of claim 1 of the present application enabling a better sealing are neither anticipated nor suggested by the other prior art documents, the person skilled in the art is not led to incorporate such spiral-shaped cap mounting members into a cap as known from document D2.

- 3.5 Starting, as the Examining Division did, from D1 as the closest prior art, the cap of claim 1 of the present application is distinguished therefrom in that the cap mounting members are spiral-shaped and helically wound around the body. They also have first and second ends as defined in claim 1.

The problem solved by these features is the adjustability of the sealing and the enabling of a better sealing by the cap.

None of the documents available in the file provides an indication to include such features in a cap such as the one disclosed in document D1. Also his general knowledge cannot give the skilled person any hint about spiral-shaped and helically wound cap mounting members having an arc length corresponding to a central angle of more than sixty degrees, about the positioning of the first and second ends of said cap mounting members or about the second ends being spaced apart from their respective lugs.

Thus it is not obvious to the skilled person to incorporate such features into a cap as known from document D1.

3.6 For the above-mentioned reasons, the subject-matter of claim 1 of the present application involves an inventive step within the meaning of Article 56 EPC.

4. *Claims 2 to 14 - Novelty and inventive step*

Dependent claims 2 to 9 define further preferred embodiments of the cap of claim 1.

The closure assembly according to claim 10 concerns a filler neck combined with the cap of claim 1.

Dependent claims 11 to 13 define further preferred embodiments of the closure assembly of claim 10.

The method according to claim 14 discloses inter alia the step of providing the cap of claim 1 in a method for closing a filler neck.

Therefore, the subject-matter of claims 2 to 14 is also new and inventive.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to grant a patent on the basis of the following documents:

claims: 1 to 14 as filed on 4 October 2005 in the oral proceedings;

description: pages 1 to 13 as filed on 4 October 2005 in the oral proceedings;

drawing sheets: 1/6 to 6/6 as originally filed.

The Registrar:

The Chairman:

G. Nachtigall

H. Meinders