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Señor

SUPERINTENDENTE DE INDUSTRIA Y COMERCIO
DIVISION DE NUEVAS CREACIONES

E. _____ S. _____ D. _____

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 06-074258-00003-0000

Fecha: 2008-02-12 17:25:54 Dep: 2020 NULCRACION:
Pat: 11 - FA - UNILEXII Lve: 379 - FASE NACIONAL II
Act: 379 - FASE NACIONAL II Folios: 2

Re: **P1.-BERRY PLASTICS CORPORATION.-Solicitud de Patente de**
Invencción en Fase Nacional PCT para "CIERRE QUE INDICA
MANIPULACION CON LENGÜETA PLEGABLE".-Clase B65D
41/34-Expediente número 06-074.258.-

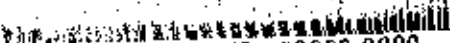
1. Me refiero a mi memorial de 4 de Octubre de 2006.
2. De conformidad con lo dispuesto en el Artículo 5.2.12 de la Circular Externa No. 03 de 28 de Abril de 2003, y estando dentro del plazo de seis meses contados desde la fecha de la publicación de la solicitud en la Gaceta de la Propiedad Industrial número **582** de 30 de Noviembre de 2007, solicito a ese Despacho proceder a realizar el examen de patentabilidad de la presente invención.
3. Me permito recordar a usted, que tal como se informó en el Petitorio de la invención, la presente solicitud corresponde a Capítulo II.
4. Anexo me permito acompañar recibo número 08-10.991, expedido por la Superintendencia de Industria y Comercio, que acredita el pago de la tasa que dicho examen causa.

Señor Superintendente,

ALICIA LLORED RICAURTE

T.P. 53.215

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 No. 08-074258-00003-0000
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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

CIBO OFICIAL DE CAJA : 08 - 10,991
 FECHA : FEBRERO 11 DE 2008

**** CONSIGNACION ****

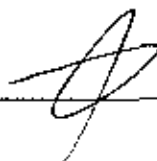
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LLOREDA Y CIA S. A	CONSIGNACION	BANCO DE BOGOTA	062754387	2660849	11/02/2008	4,643,000.00

**** CONCEPTO ****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01	SOLICITUDES	
		114 PTC CAP-II EXAMEN DE PATENTIBILID	210,000.00
		TOTAL :	\$ 210,000.00

SON: DOSCIENTOS DIEZ MIL PESOS

RESPONSABLE :



DIVISIÓN DE NUEVAS CREACIONES

RADICACIÓN EXPEDIENTE No. 06-74258

EL EXTRACTO DE LA PRESENTE SOLICITUD DE **PATENTE DE INVENCION**

FUE PUBLICADO EN LA GACETA DE PROPIEDAD INDUSTRIAL No **582** DE

FECHA **30 DE NOVIEMBRE DE 2007** EL TÉRMINO HÁBIL SEÑALADO POR LA

LEY EXPIRA EL **27 DE FEBRERO DE 2008**

NOTA: Dentro del plazo de los seis (6) meses siguientes a partir de la fecha de publicación en la gaceta de Propiedad Industrial, deberá solicitar y cancelar el examen de patentabilidad so pena de que la solicitud caiga en abandono, de acuerdo con lo establecido en el Artículo 44 de la Decisión 486/2000.

SE PRESENTARON OPOSICIONES POR PARTE DE TERCEROS.

SI _____

NO X



US006371317B1

(12) **United States Patent**
Krueger

(10) **Patent No.:** **US 6,371,317 B1**
(45) **Date of Patent:** ***Apr. 16, 2002**

(54) **TAMPER INDICATING CLOSURE WITH FOLDABLE TAB**

(75) **Inventor:** David E. Krueger, Lancaster, PA (US)

(73) **Assignee:** Kerr Group, Inc., Lancaster, PA (US)

(*) **Notice:** This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) **Appl. No.:** 09/131,371

(22) **Filed:** Aug. 7, 1998

(51) **Int. Cl.:** B65D 41/32

(52) **U.S. Cl.:** 215/252

(58) **Field of Search:** 215/252, 258, 215/317, 253, 220/784, 785, 786, 787, 788, 284, 285, 280, 326

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,032,521 A * 3/1936 Barton 215/253
2,148,468 A * 2/1939 Huthersull 220/309.2
2,206,685 A * 6/1940 Conner 220/309.2
3,902,630 A * 9/1975 Knize 220/309.2 X
4,458,821 A 7/1984 Ostrowsky
4,470,513 A 9/1984 Ostrowsky
4,478,343 A 10/1984 Ostrowsky

4,506,795 A 3/1985 Herr
4,511,054 A 4/1985 Shank
4,546,892 A 10/1985 Caupul
4,550,844 A 11/1985 Lininger
4,572,388 A 2/1986 Luker et al.
4,576,299 A 3/1986 Lecinski, Jr.
4,595,110 A 6/1986 Herr
4,595,547 A 6/1986 Herr
4,598,833 A 7/1986 Herr

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

AU 647048 3/1991
AU 648537 10/1991
AU 650056 3/1992
DE 41 08 453 A1 10/1991
EP 0390 412 A1 10/1990
WO WO 91/03405 3/1991

Primary Examiner: Stephen P. Garbe

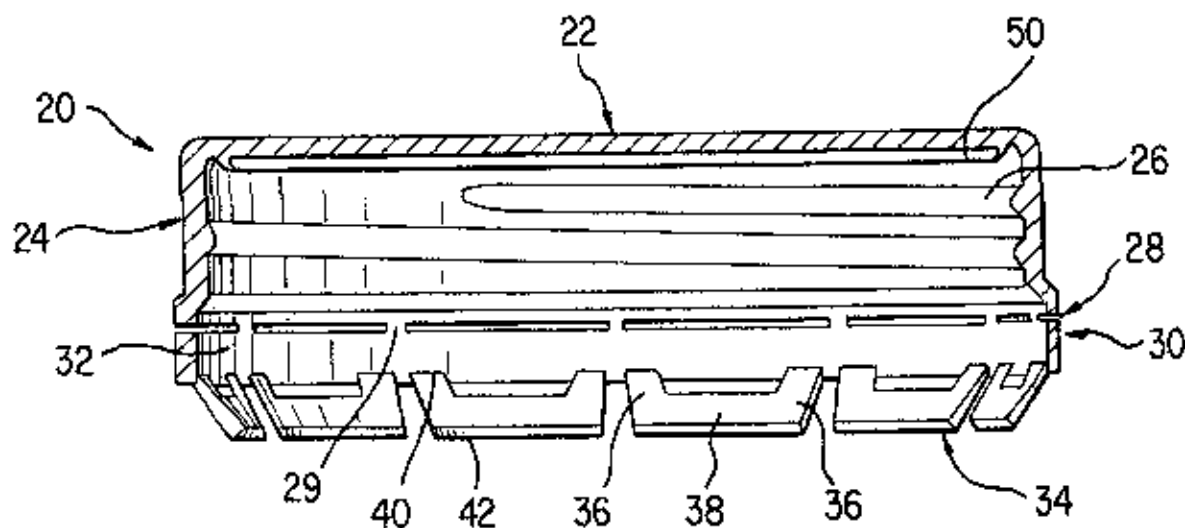
Assistant Examiner: Joseph C. Merck

(74) *Attorney, Agent, or Firm:* Kenyon & Kenyon

(57) **ABSTRACT**

A tamper indicating closure according to the present invention includes a top wall and a skirt depending from the top wall. A tamper indicating band is connected to the skirt along a frangible line. The tamper indicating band includes a ring and at least one tab, the at least one tab having a bi-stable geometric shape. In particular, the tab includes a pair of extending members angled toward one another and connected by a transverse member. The shape of the tab allows it to be molded in a downward orientation and later folded to a stable, upward orientation without reheating or otherwise resetting the tab.

17 Claims, 6 Drawing Sheets



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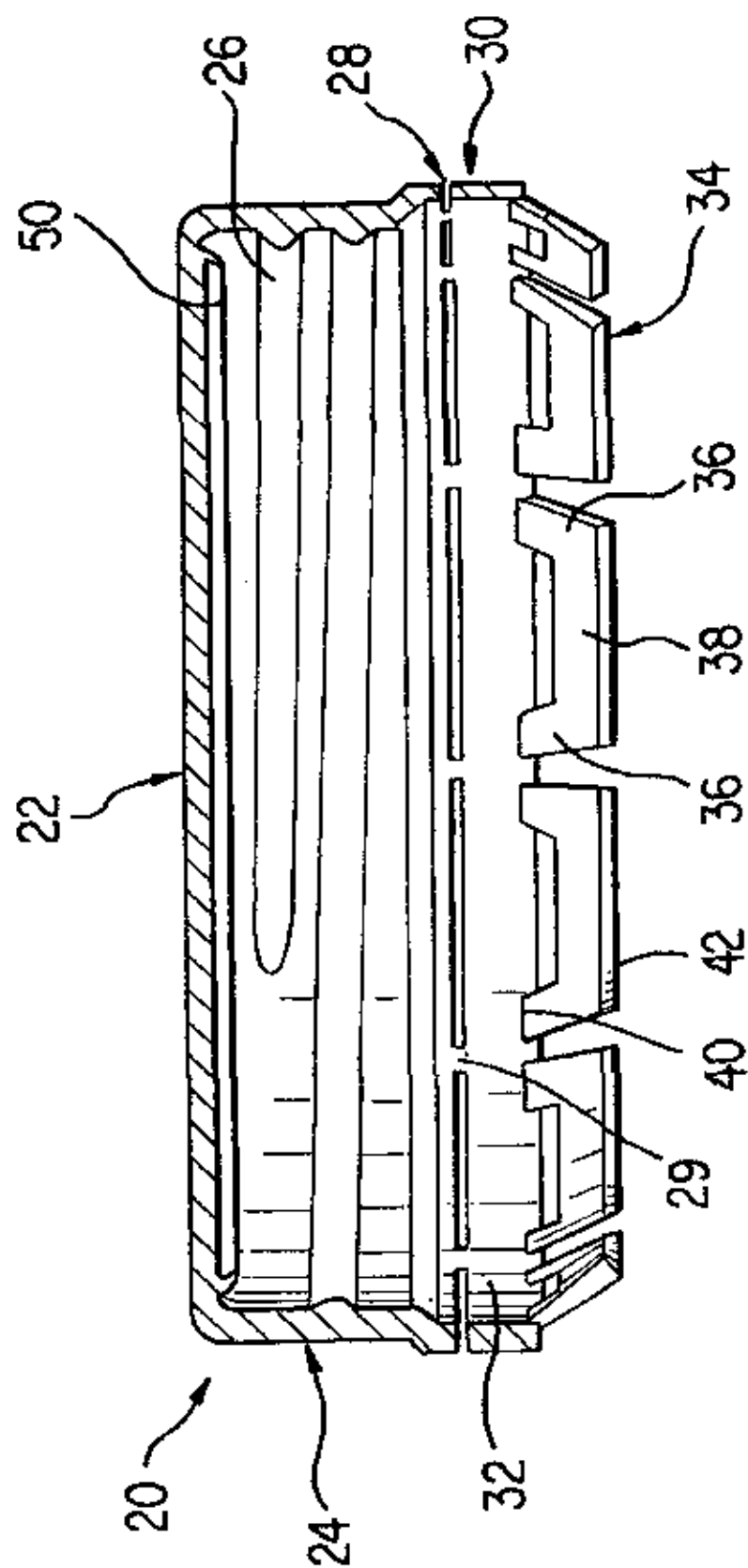


FIG. 1

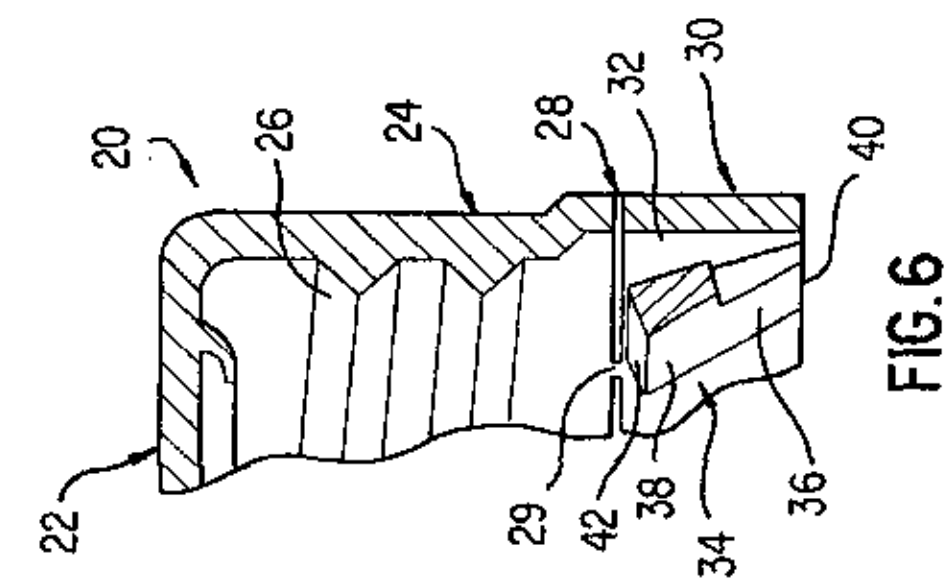


FIG. 5

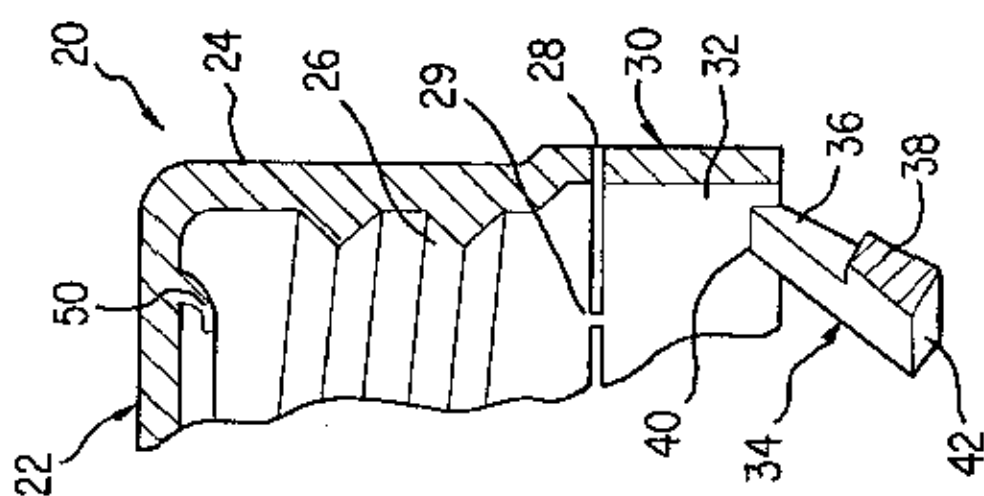


FIG. 6

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TAMPER INDICATING CLOSURE WITH FOLDABLE TAB

FIELD OF THE INVENTION

The present invention relates to container closures, and in particular to closures including tamper indication such as a tamper indicating band.

BACKGROUND INFORMATION

Tamper indicating closures for bottles and other containers are designed to indicate to the consumer when the container has been opened or otherwise tampered with. Known tamper indicating closures typically include a flat, circular closure top and an annular skirt depending downwardly from the outer rim of the closure top. The inner surface of the skirt portion includes threads which interact with a threaded portion of the container neck to retain the closure on the container.

Tamper indicating closures also typically include a tamper indicating band connected to the bottom of the skirt along a frangible line or joint. The tamper indicating band is generally an annular member which may have a plurality of inwardly and upwardly extending tabs that are retained beneath an annular shoulder on the neck of the container. When the closure is removed from the container for the first time, the tabs contact the shoulder and cause the tamper indication band to separate from the skirt along the frangible line.

With many known tamper indicating closures, the closure top, skirt, and tamper indicating band are formed integrally. However, due to the complexity and shape of the tamper indication closure, the tabs must often be formed facing downwardly, and later folded upwards. In some cases, this method of manufacturing may require reheating of the closure to set the tabs in an upward and inward position, adding to manufacturing time and costs.

In an effort to avoid this problem, some closures are formed with foldable arrangements. Known foldable arrangements, however, are often formed as unitary, foldable bands spanning the circumference of the closure, rather than individual tabs (see, for example, U.S. Pat. No. 4,546,892 to Couput). These foldable bands, and similar arrangements in which the foldable bands are broken up into large segments, can be difficult to fold. To the extent folding is achieved, the folding process can bend and deform the relatively large bands and segments, decreasing the structural integrity and hence the reliability of the tamper indicating mechanism. Other foldable closures group a plurality of tabs with bridging elements (see, for example, U.S. Pat. No. 4,981,230 to Marshall et al.). These groups may suffer the same drawbacks as the foldable bands described above. Alternatively, the groups may require relatively weak bridges which can rupture, again decreasing the structural integrity and reliability of the mechanism.

SUMMARY OF THE INVENTION

The present invention provides a tamper indicating closure, which includes a top wall, a skirt depending from the top wall, and a tamper indicating band. The tamper indicating band is connected to the skirt along a frangible line. The tamper indicating band includes a ring and a plurality of tabs having a bi-stable geometric shape. Each tab includes a pair of extending members angled toward one another and connected by a transverse member, forming a generally trapezoidal shape. The shape of the tab allows it to

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be molded in a downward orientation and later folded to a stable, upward orientation, without requiring reheating or other remolding of the closure or tab.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side cross-sectional view of an exemplary closure according to the present invention having tabs in a downward orientation.

FIG. 2 is a bottom view of the closure of FIG. 1.

FIG. 3 is a side cross-sectional view of an exemplary closure according to the present invention having tabs in an upward orientation.

FIG. 4 is a bottom view of the closure of FIG. 3.

FIG. 5 is a cross-sectional view of an exemplary closure and tab according to the present invention.

FIG. 6 is another cross-sectional view of the closure of FIG. 5, with the tab in the upward orientation.

FIG. 7 is a side view of an exemplary container according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 illustrates a closure 20 according to the present invention, which includes a plurality of tabs 34 whose geometric shape allows each tab 34 to be folded upward to a stable position without requiring reheating, remolding or otherwise resetting the tab 34. In general, closure 20 includes a top wall 22, a skirt 24, and a tamper indicating band 30. Top wall 22 is preferably circular in shape, although any suitable shape may be used. Closure 20 also includes a skirt 24, for example an annular skirt 24, depending from the top wall 22. In the illustrated embodiment, skirt 24 depends from the outer edge of top wall 22, but top wall 22 may extend beyond skirt 24 if desired. Skirt 22 includes, for example, at least one internal thread 26 that cooperates with an external thread 14 on container 10 (shown in FIG. 7) to retain closure 20 on container 10. While the illustrated embodiment includes internal and external threads 26 and 14, any suitable retention formation, such as locking lugs, may be provided. The terms "internal thread" and "external thread" should be read to include these alternative formations.

Tamper indicating band 30 is connected to skirt 24 along a frangible line 28. Preferably tamper indicating band 30 is connected to skirt 24 at the bottom of skirt 24, as illustrated in FIG. 1. Frangible line 28 may include any type of frangible formation, for example a score line along the entire circumference or a series of score lines each encompassing a segment of the circumference. In the illustrated embodiment, frangible line 28 includes a plurality of bridges 29. Bridges 29 may be formed during the original molding of closure 20, but preferably frangible line 28 is molded as a solid line. The areas between bridges 29 are then created by scoring, as described, for example, in U.S. Pat. No. 4,595,547, whose disclosure is incorporated herein by reference.

Tamper indicating band 30 includes ring 32, which is preferably annular in shape. Tamper indicating band 30 also includes at least one tab 34, preferably a plurality of tabs 34 arranged circumferentially around ring 32. Preferably tabs 34 are spaced slightly apart, as illustrated in FIG. 1. Each tab 34 generally includes a pair of extending members 36 connected by a transverse member 38, with the extending members 36 of each tab 34 being angled inwardly toward each other. Extending members 36 each are connected to ring 32 at a base 40 of the extending member.

Each tab 34 is a generally trapezoidal member having a generally trapezoidal hole therethrough. Preferably the trapezoidal hole is located at the base of tab 34, rather than, for example, in the center of tab 34. The resulting structure comprises the two extending members 36 and transverse member 38. In a preferred embodiment, each tab 34 is relatively thin at its base 40 and gradually thickens moving toward tip 42, as illustrated in FIGS. 5 and 6.

The geometric shape of tab 34 creates a bi-stable configuration that has equilibrium positions in both a downward orientation and an upward orientation. In particular, tamper indicating band 30 may be molded with tabs 34 in the downward and inward orientation, for example at approximately 60° from the horizontal. This configuration is illustrated in FIGS. 1, 2 and 5. As noted above, molding tabs 34 in the downward orientation provides manufacturing advantages compared to molding tabs 34 in an upward orientation.

After molding, tabs 34 may be folded to an upward orientation. Because transverse member 38 is relatively thick compared to the base of each extending member 36, it does not tend to compress or flex significantly during folding. Rather, the folding action biases extending members 36 outwardly away from one another as tab 34 approaches the horizontal. At a point near the horizontal, extending members 36 are at a maximum outward angle. Once past the horizontal, continued upward motion tends to return extending members 36 to their original, inwardly-directed angle. Accordingly, as tab 34 is first moved upward, the tendency of extending members 36 to return to their original angle biases tab 34 toward the downward orientation. If tab 34 were released prior to reaching the horizontal, it would return to the downward orientation. However, once tab 34 passes a point approximately at the horizontal, then it will become biased toward the upward orientation. When tab 34 is released after passing this point, it will move toward the stable upward orientation, for example approximately 60° above the horizontal. This position is illustrated in FIGS. 3, 4 and 6.

With tabs 34 in the upward orientation, closure 20 can be applied to container 10, and tabs 34 may be biased further upward to pass over shoulder 16 of the container. Once past shoulder 16, tabs 34 may return to the normal upward orientation and lock under shoulder 16. In this position, tabs 34 may contact neck 12, shoulder 16, or both. Alternatively, tabs 34 may rest just under shoulder 16 without contacting shoulder 16 or neck 12. When closure 20 is removed, tabs 34 will contact shoulder 16 to prevent tamper indicating band 30 from removal from container 10 with the remainder of closure 20. Tamper indicating band 30 will therefore separate from skirt 24 along frangible line 28, providing tamper indication.

Closure 20 and container 10 may be formed from any suitable materials and may be constructed using any suitable processes. Preferably closure 20 is a unitary member (including tamper indicating band 30) and is made of plastic. Preferred plastics include polypropylene and polyethylene. Closure 20 is preferably formed by compression or injection molding. Container 10 is also preferably a unitary member formed of either glass or plastic, preferred plastics including polyethylene terephthalate ("PET"), polypropylene, and polyethylene. Container 10 is preferably formed using a blow molding process, and in particular if PET is employed then container 10 is preferably stretch blow molded. Tabs 34 may be folded using any suitable process. Preferably, however, tabs 34 are folded by punch pressing tabs 34 upwardly.

The device according to the present invention has been described with respect to several exemplary embodiments. It

can be understood, however, that there are many other variations of the above-described embodiments which will be apparent to those skilled in the art, even where elements have not explicitly been designated as exemplary. For example, closure 20 may include an annular sealing ring 50 to help seal the contents of the container 10 from contamination or spoiling. Similarly, closure 20 may include a plurality of ridges on the outer surface of skirt 24 to provide a frictional gripping surface for the consumer. It is understood that these and other modifications are within the teaching of the present invention, which is to be limited only by the claims appended hereto.

What is claimed is:

1. A tamper indicating band for a closure, comprising:
a plastic ring; and

a plurality of plastic trapezoidal tabs disposed on the ring, each having a transverse member and extending members, a maximum thickness of the transverse member being substantially equal to a maximum thickness of a tip of each extending member when said thickness are measured in the same direction, and each of the tabs having a trapezoidal hole therethrough, each of the tabs being formed in a downward direction and constructed to fold to a stable inward and upward orientation.

2. The tamper indicating band according to claim 1, wherein the trapezoidal hole is located at a base of the trapezoidal tab.

3. The tamper indicating band according to claim 2, wherein the plurality of tabs are arranged circumferentially around the ring.

4. The tamper indicating band according to claim 3, wherein each of the tabs gradually thickens in a direction toward a tip of the extending members.

5. The tamper indicating band according to claim 3, wherein the plurality of tabs are spaced apart from one another along the ring.

6. A tamper indicating closure for a container, comprising:
a top wall;

an annular skirt depending from the top wall, the annular skirt including an internal thread; and

a tamper indicating band connected to the skirt along frangible line, the tamper indicating band connected to the skirt along a frangible line, the tamper indicating band including:

a plastic ring; and

a plurality of plastic tabs each connected to the ring at a base, each of the tabs comprising a pair of extending members angled toward each other and joined by a transverse member having a maximum thickness substantially equal to a maximum thickness of a tip of each extending member when said thickness are measured in the same direction, each of the tabs being formed in a downward orientation and constructed to fold to a stable inward and upward orientation.

7. The tamper indicating closure according to claim 6, wherein the plurality of tabs are arranged circumferentially around the ring.

8. The tamper indicating closure according to claim 7, wherein each of the tabs gradually thickens in a direction toward a tip of the extending members.

9. The tamper indicating closure according to claim 7, wherein the plurality of tabs are spaced apart from one another along the ring.

10. A tamper indicating closure and container, comprising:
a container having a cylindrical neck, the neck including an external thread and a shoulder below the external thread; and



US005096079A

United States Patent [19]
Odet[11] **Patent Number:** 5,096,079
[45] **Date of Patent:** Mar. 17, 1992**[54] SCREW-ON STOPPER CAP, HAVING A TAMPER-PROOF BAND**[75] **Inventor:** Philippe Odet, Chasselay, France[73] **Assignee:** Astra Plastique, France[21] **Appl. No.:** 619,095[22] **Filed:** Nov. 28, 1990**[30] Foreign Application Priority Data**

Dec. 8, 1989 [FR] France 89 16517

[51] **Int. Cl.³** B65D 41/34[52] **U.S. Cl.** 215/252; 215/258[58] **Field of Search** 215/252, 258, 320, 230**[56] References Cited****U.S. PATENT DOCUMENTS**

3,460,703	8/1969	Leftault, Jr.	215/252
3,484,012	12/1969	White et al.	215/252
4,157,144	6/1979	Weiler et al.	215/252
4,402,418	9/1983	Ostrowsky	
4,432,461	2/1984	Mumford et al.	215/252
4,506,795	3/1985	Herr	
4,526,282	7/1985	Dutt et al.	215/252
4,572,387	2/1986	Luker et al.	215/252
4,595,110	6/1986	Herr	
4,657,153	4/1987	Hayes	215/252
4,709,824	12/1987	Thompson	215/252
4,753,360	6/1988	Baxter	215/252
4,801,030	12/1989	Barriac	215/252

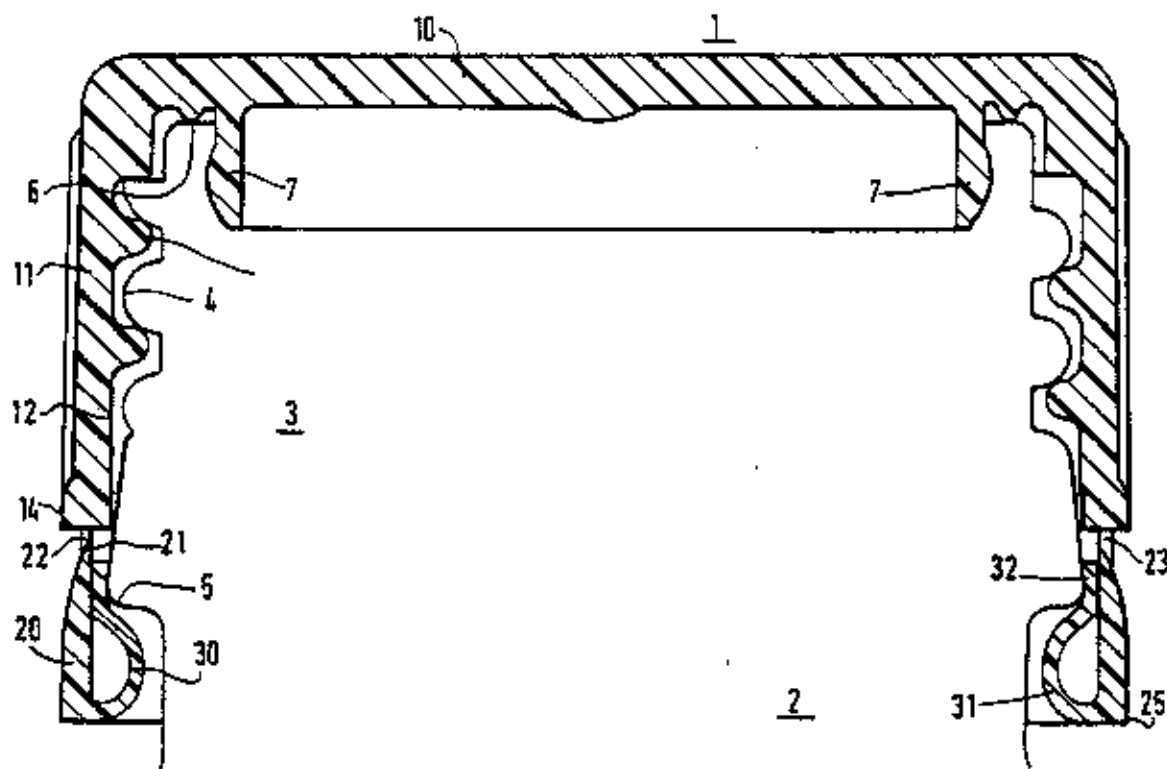
4,936,474 6/1990 Szczesniac et al. 215/252

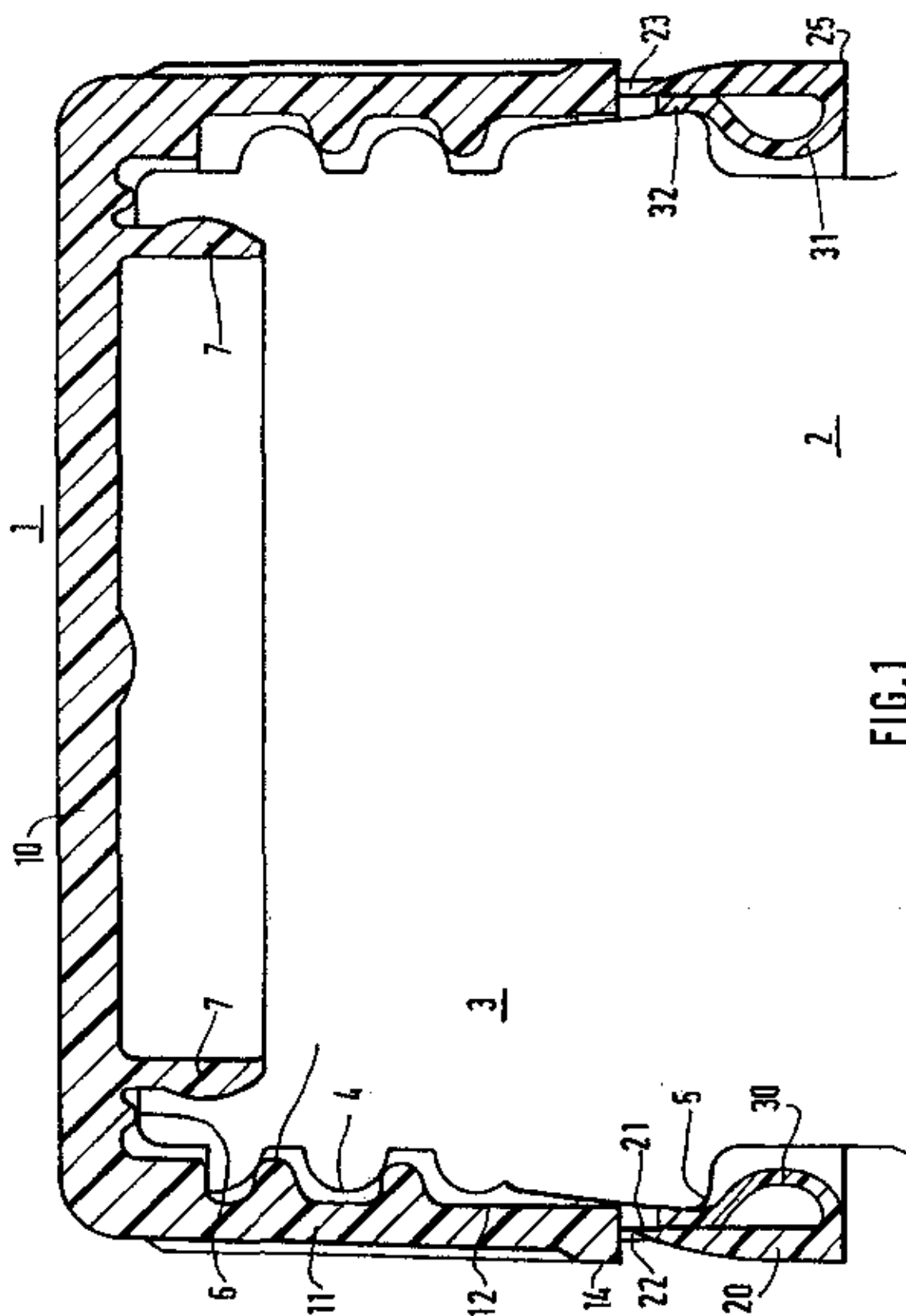
FOREIGN PATENT DOCUMENTS

0049876	4/1982	European Pat. Off.
0107680	4/1983	European Pat. Off.
1213931	11/1958	France
2290364	11/1974	France
2525565	10/1983	France
2033350	5/1980	United Kingdom

Primary Examiner—Stephen Marcus**Assistant Examiner**—Vanessa Caretto**Attorney, Agent, or Firm**—Parkhurst, Wendel & Rossi**[57] ABSTRACT**

A screw-on stopper cap, having a tamper-proof band, for a bottle with a counter-ring, of the type including a skirt, and of an annular anti-tamper collar connected to the skirt by breakable bridges and having on its bottom a plurality of articulated tabs which are folded back against the inside face of the collar, wherein the tabs are of constant section and include two parts, namely a first curved part, connected to the bottom of the collar and continued by a second rectilinear part, the joining portion between these two parts being intended to bear against the counter-ring, while the free rectilinear portion is intended to bear against the inside face of the collar.

2 Claims, 2 Drawing Sheets



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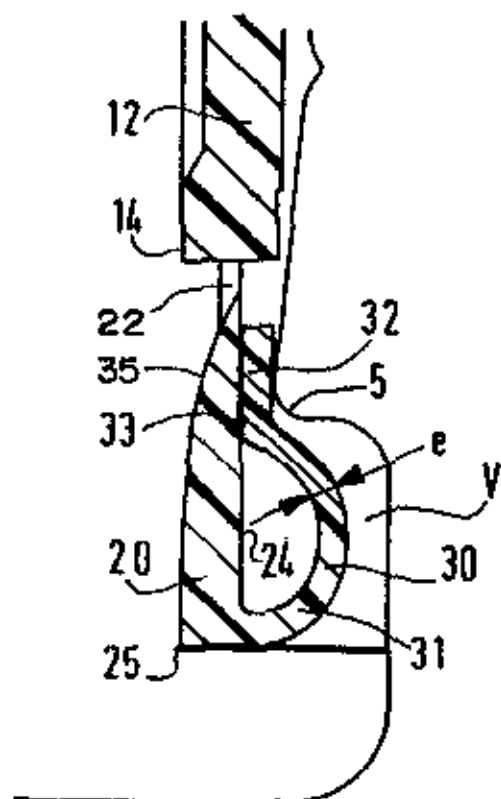


FIG. 2

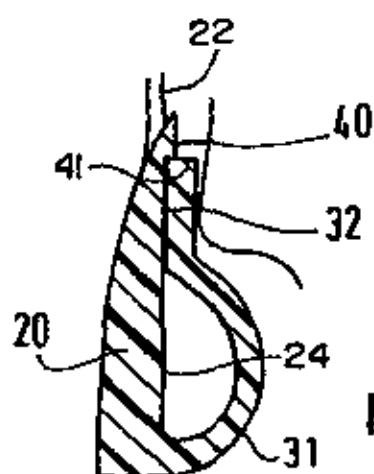


FIG. 4

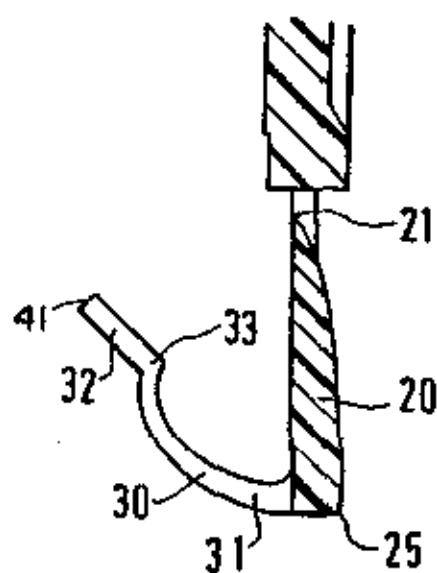


FIG. 3

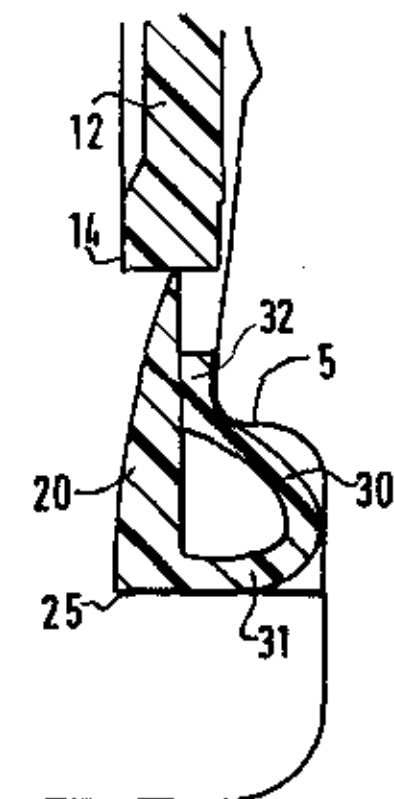


FIG. 5

SCREW-ON STOPPER CAP, HAVING A TAMPER-PROOF BAND

The invention relates to a new type of screw-on stopper cap, having a tamper-proof band.

Single-piece screw-on stopper caps having a tamper-proof band and made of plastic material are well known. Basically, these devices essentially comprise a screw-on cap proper and an annular safety collar which is connected to the skirt of the cap by a succession of bridges, produced in the molding, which can be broken by unscrewing.

Stopper caps of the type in question are known in which the annular safety collar has, on its inside face, tabs articulated to the base of the collar which are intended to be folded back against the inside so as to abut against a projection of the neck, in particular the counter-ring of the neck (see for example documents FR-A-1,213,931, 2,290,364, EP-A-0,049,876, GB-A-2,033,350 and U.S. Pat. Nos. 4,506,795 and 4,595,110).

It has been suggested in document EP-A-0,107,680 that thinner areas be made on the tabs and that they be continued by a thinner portion intended to jam between the inside face of the annular collar and the counter-ring after screwing on. Although successful on the market, this device nevertheless still has the disadvantage that, owing to the successive thinner portions, it is difficult to install on the neck, especially in an automatic way, precisely because of those portions of the tabs which are thinner in section and hence of variable rigidity, which sometimes create resistance to the proper screwing of the cap over a neck.

The invention overcomes these disadvantages. Its object is an improved stopper cap of the type in question which is easier to install.

This screw-on stopper cap, having a tamper-proof band, for a bottle with a neck which has a thread and a counter-ring, of the type consisting of a cap proper, the skirt of which is provided with an internal thread interacting with the thread of the neck, and of an annular anti-tamper collar connected at the top to the bottom of the skirt by a plurality of breakable bridges and having on its bottom a plurality of articulated tabs which are folded back against the inside face of the collar so as to abut against the counter-ring of the neck and pass over the edge of this counter-ring, wherein the tabs are of constant section and comprise two parts, namely a first curved part, connected to the bottom of the collar and continued by a second, free rectilinear part, a joining portion between these two parts being intended to bear against the counter-ring, while the free rectilinear part is intended to bear against the inside face of the collar.

In an alternative embodiment, the top of the inside face of the collar comprises a shoulder against which the end of the rectilinear part bears.

The way in which the invention can be executed and the consequent advantages will appear more clearly from the illustrative embodiments which follow, aided by the attached figures.

FIG. 1 shows a sectional view of a stopper cap in accordance with the invention.

FIGS. 2 and 3 show in detail the characteristic tabs of the invention, respectively installed on a bottle (FIG. 2) and as produced by the molding (FIG. 3).

FIG. 4 shows an alternative embodiment.

FIG. 5 shows in detail the characteristic tab of the invention, in the bowed position.

A stopper cap according to the invention indicated by a general reference numeral (1), for a bottle indicated by general reference numeral (2), with a neck (3), which comprises a thread (4) and a counter-ring (5). Reference numeral (6) indicates a sealing ring intended to bear against the top of the neck, while reference numeral (7) indicates a sealing skirt intended to bear against the inside face of the neck.

This stopper cap (1) is composed essentially of a cap proper consisting of a ceiling (10) and an annular skirt (11), whose inside face (12) carries a thread (13) interacting with the thread (4) of the neck.

The cap (1) also comprises an annular anti-tamper collar (20) connected at the top (21) to the bottom (14) of the skirt (11) by a succession of breakable bridges (22, 23) at regular intervals, obtained directly from the molding. The bottom (25) of the collar (20) carries a succession of characteristic tabs (30) which are also at regular intervals and of a width determined beforehand according to the application envisaged.

According to a first feature of the invention, these tabs (30) are of constant thickness (e) substantially their entire length as shown in FIG. 2.

According to another feature of the invention, these tabs (30) essentially comprise two parts, respectively a first curved part (31), connected to the bottom (25) of the collar (20) and continued by a second rectilinear part (32), a joining portion (33) between these two parts (31, 32) being intended to bear against the counter-ring (5).

FIG. 3 shows in detail the tabs as produced by the molding and before screwing on, while FIG. 2 shows this same tab in the screwed-on position. It will be seen that when in position, the joining portion (33) bears against the counter-ring (5). When the skirt (11) is unscrewed, the portion (33) bears strongly against the counter-ring (5), and the curved portion (30) therefore tends to bow in the space V defined between the counter-ring (5) and the bottom of the anti-tamper collar (20). During this movement, the second rectilinear part (32) slides down the inside face (24) of the collar (20). A clean break of the bridges (22) results.

In an alternative embodiment shown in FIG. 4, a top (35) of the inside face (24) of the annular anti-tamper collar (20) has a shoulder (40) in which the end (41) of the rectilinear part (32) of the tab (30) lodges in the screwed-on position.

It is important that the characteristic tabs (30) have a cross-section of constant thickness (e) so that the whole locks on better. Thus, when the installed cap (1) is unscrewed, as it works its way around the turns of the thread (4) the tab (30) compresses, first bearing by way of the joining portion (33) against the base (5) of the counter-ring. As a result, the tabs (30) bow and become deformed (see FIG. 5) as the two extremities of the curved portion are brought towards each other. In this way a diameter of a portion of a circle formed by these tabs (30) is reduced. This increases the force applied to the breakable bridges (22). Hence, when the moment comes, a clean break of these bridges (22) results. Throughout this movement, the second rectilinear part (32) of the tabs slides down the inside wall (24) of the collar (20) to ensure good deformation.

In a known manner, these caps are made of plastic material, such as polyethylene or polypropylene in particular, and in a single piece.

This solution offers many advantages over solutions known to date, among others the solutions described in

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**SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIRECCION DE NUEVAS CREACIONES**

202086
Bogotá, D.C.,

Abogado
ALICIA LLOREDA RICAURTE

ASUNTO	Radicación	06-074258
	Trámite	011
	Evento	379
	Actuación	430
	Oficio	214
	Folios	14

Patente de Invención ☒ Patente de Modelo de Utilidad ☐

Vía Nacional ☐

Vía PCT (fase nacional) ☒ Cap. I ☐ Cap. II ☒

No. Sol. Internacional PCT/US2005/000206
Fecha de Presentación Internat. 05-01-2004

Como resultado del examen de fondo, realizado conforme a lo establecido por el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le comunica:

1. Documentos estudiados

Descripción:	Folios: 69 a 82
Reivindicaciones:	Folios: 83 a 89
Dibujos:	Folios: 90 a 107
Prioridad:	Folios: 68 a 107
	05-01-2004. US10/752074

2. Objeto de la invención

- Título de la solicitud: "CIERRE QUE INDICA MANIPULACION CON LENGÜETA PLEGABLE" (folio 69).
- Objeto de la invención: según el autor en la mayoría de los cierres de este tipo las lengüetas deben usualmente formarse enfrentadas y luego plegadas hacia arriba lo que hace mas compleja su fabricación. Otras poseen bandas plegables unitarias que se extienden en la circunferencia del cierre en lugar de lengüetas individuales. Por lo tanto, el autor propone un cierre con una banda de evidencia de violación que posee una pluralidad de lengüetas plásticas conectadas al anillo en una base, sobre ellas van montadas unas

W: 20.5.1068

extensiones de lengüeta que permite un ensamble mas seguro entre el sello y el cuello del recipiente.

- El objeto de esta invención se clasifico como B65D41/34 según la Clasificación Internacional de Patentes (IPC.).

3. De la solicitud de Patente

3.2 Reivindicaciones (artículo 30 D 486)

Después de realizar el estudio completo de la solicitud, se hacen las siguientes observaciones a este capítulo:

- La solicitud posee un numero innecesario de reivindicaciones independientes definiendo el mismo objeto 1, 6, 10, 14, 18, 19, 20, 21 (folios 83-89). La invención se puede definir perfectamente en una única reivindicación, por lo tanto se sugiere al solicitante presentar una solo reivindicación independiente para el cierre.
- El método de la reivindicación 22 (folio 89) esta definido por algunas de las características del producto (cierre) además en el no están determinadas claramente las etapas que permitan la obtención de un producto final o su construcción Según el artículo 14 D486, solamente se otorgaran patentes a las invenciones que sean de producto o procedimiento. Por lo tanto, se sugiere al solicitante eliminar esta reivindicación.
- Se sugiere al solicitante incluir entre paréntesis () los números de referencia de cada uno de los elementos que hacen parte de la invención de acuerdo con la numeración empleada en los dibujos (figuras 1 a 18), con el fin de hacer mas fácil y sencilla la comprensión de la materia objeto reivindicada. Adicionalmente eliminar y no incluir términos imprecisos como. "al menos", "por lo menos", "alrededor" etc.

4. Unidad de invención (artículo 25 D 486)

Después de realizar el estudio completo de la solicitud, se hacen las siguientes observaciones:

- La solicitud tal como fue definida en el capítulo reivindicatorio posee dos grupos inventivos el grupo 1 que corresponde a las reivindicaciones 1-21 (folios 83-89) que definen un cierre que indica manipulación y el grupo 2 que corresponde a la reivindicación 22 (folio 89) que se refiere a un método para producir un cierre. Los mencionados grupos no se relacionan con un solo concepto inventivo porque les faltan las mismas o correspondientes características especiales por las siguientes razones: el método reivindicado requiere de un molde de cierre que incluye una pared superior una falda y una banda que indica manipulación características que el grupo 1 no requiere ya que en este grupo solo se menciona la banda de indicación. Por lo tanto, la solicitud no cumple con el requisito de unidad de invención. En consecuencia se pide al solicitante aclarar y definir sobre cual invención debe basarse el estudio de patentabilidad y como consecuencia de ello, limitar el objeto a proteger de la solicitud.

5. Determinación del Estado de la Técnica

Teniendo en cuenta que la fecha de prioridad reivindicada es 05-01-2004, se encontraron los siguientes documentos relevantes:

N.	Documento	Titulo	Fecha de pub.
D1	US6371317	TAMPER INDICATING CLOSURE WITH FOLDABLE TAB	16-04-2002
D2	US5096079	SCREW-ON STOPPER CAP, HAVING A TAMPER-PROOF BAND	17-03-1992

6. Análisis de patentabilidad (artículo 14 D486)

6.1 Novedad (artículo 16 D486)

El estudio se realizó comparando elemento por elemento de la invención tal como esta definida en la reivindicación diez (10, folios 84-85) con el documento D1, encontrando que el mencionado documento revela algunos de los elementos y características de dicha reivindicación:

<i>Reivindicación 10 (folios 84-85)</i>	<i>D1</i>
1. Un cierre y un contenedor que indica manipulación , que comprende: un contenedor que tiene un cuello cilíndrico, el cuello incluye una rosca interna y un hombro por debajo de la rosca interna y un cierre que incluye una pared superior , un margen anular que depende de la pared superior, el margen anular incluye una rosca interna y una banda de indicación de manipulación conectada a un borde inferior del margen a lo largo de la línea frágil.	Ver: elementos 20, 10, 22, 24, 30, 28 figuras 1, 7.
2. Una banda de indicación de manipulación incluye un anillo plástico, una pluralidad de lengüetas plásticas cada una conectada al anillo en una base, cada una de las lengüetas incluye un par de miembros de extensión angulados entre si y unidos mediante un miembro transversal que tiene un espesor máximo sustancialmente igual a un espesor máximo de una punta de cada miembro de extensión cuando dicho espesor es medido en la misma dirección, cada una de las lengüetas formada en una orientación descendente y construida para doblarse hacia una orientación estable interior y ascendente.	Ver: elementos 30, 34, 36, 38, figuras 1, 7.
3. Y una extensión de lengüeta distribuida en al menos uno del miembro transversal y en al menos un miembro de extensión de al menos una lengüeta y que se extiende en una dirección de los miembros de extensión desde la amenos una lengüeta la extensión de la lengüeta encajada para configurar al menos un perfil de contenedor, en donde las lengüetas y las extensiones de lengüetas están distribuidas para asegurarse bajo el hombro del contendor cuando el cierre es aplicado al contenedor, las lengüetas y las extensiones de lengüeta distribuidas para contactar el hombro cuando el cierre es removido de forma que la banda de indicación de manipulación se separa del margen a lo largo de la línea frágil.	Posee todos los elementos mencionados en esta característica a excepción de las extensiones de lengüeta 34ª, ver figura 8 folio 97.

La diferencia entre las reivindicaciones independientes 1, 6, 10, 14, 18, 19, 20, 21 (folios 83-89) radica en las extensiones 34a ubicadas sobre las lengüetas 34 (característica N.3, ver elementos 34, 34a, figura 8 folio 97).

De la tabla anterior se puede deducir que la solicitud tal como fue definida en la reivindicación independiente 10 sería nueva y que las reivindicaciones 1-21 cumplirían con lo estipulado en el artículo 16 de la Decisión 486 de la Comisión de la Comunidad.

6.2 Nivel Inventivo (artículo 18 D486)

Continuando con el estudio, las reivindicaciones independientes 1, 6, 10, 14, 18, 19, 20, 21 (folios 83-89) definen extensiones de lengüeta sobre las lengüetas (presillas) de la banda de violación (elemento 34a figura 8, folio 97). Esta configuración para una banda de violación fue revelada por D2 que sugiere y demuestra extensiones de lengüetas (presillas) para una banda de evidencia de violación (Ver en D2: elementos 30, 31, 32, figuras 1-5).

Así las cosas, la solicitud se vería afectada por nivel inventivo ya que no sería difícil para un experto en la materia en el tiempo en que se realizó la invención, tomar como base el cierre propuesto por D1 dándole a la banda de seguridad unas extensiones de lengüeta (presillas) como las sugeridas por el documento D2 logrando así un ensamble mas seguro entre el cierre y el cuello del recipiente antes de la abertura. Hecho que no constituye un resultado sorprendente e inesperado y que por el contrario se ubica en el desarrollo normal de la tecnología. El análisis anterior permitiría afirmar que la presente solicitud no cumpliría con lo estipulado en el artículo 18 de la Decisión 486 de la Comisión de la Comunidad Andina de Naciones.

6. Conclusión:

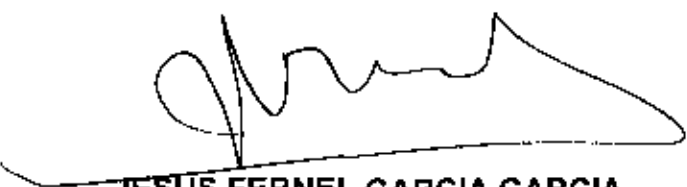
Los requisitos de patentabilidad de la presente solicitud se encuentran afectados así:

Nº	Documento Nº	Reivindicaciones afectadas	Requisito que afecta
D1	US6371317	1-21	NIVEL INVENTIVO
D2	US5096079	1-21	NIVEL INVENTIVO

- Se sugiere al solicitante tener en cuenta las observaciones hechas en el numeral tres (3) y REALIZAR EL CAMBIO DE MODALIDAD DE PATENTE DE INVENCION A PATENTE DE MODELO DE UTILIDAD, DEBIDO A QUE LA PRESENTE SOLICITUD NO CUMPLIRIA con el requisito de nivel inventivo.

En cumplimiento del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le indica que debe dar respuesta dentro del término de sesenta (60) días contados a partir de la fecha de notificación de la presente comunicación. En caso de no dar respuesta al presente requerimiento, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, se denegará la patente.

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Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Única N° 10 de 2001.



JESUS FERNEL GARCIA GARCIA
Director de Nuevas Creaciones (e)

El anterior requerimiento fue notificado por fijación en lista, de fecha
09 ENE 2010

CONCEPTO TÉCNICO No 3847	EXAMINADOR TÉCNICO Código No.202086
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