

Medellín, 29 de julio de 2007

SUPERINDUSTRIA Y COMERCIO
Radicación No. 07 71876A
Fecha: 30 JUL. 2007 Folios 2
Hora: 3:35 pm

Señores:
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISIÓN DE NUEVAS CREACIONES
Carrera 13 N° 27-00 Edificio Bochica Piso 2°
Bogotá D. C.

3

ASUNTO: Solicitud Examen de Patentabilidad
REFERENCIA: RADICADO 06-218321 (modelo de utilidad)
Nombre: BOLSA CILÍNDRICA CON SELLO PERFECCIONADO

Por medio de la presente me permito solicitarles se de paso al EXAMEN DE PATENTABILIDAD a la solicitud de modelo de utilidad detallada en la referencia y de conformidad en lo establecido en el artículo 44 de la Decisión 486.

Anexo a la presente, comprobante de pago de la tasa establecida por valor de \$269.000.00

Agradezco de ustedes su amable atención.

Cordialmente,



MAURICIO ANDRÉS MACHADO ALVARADO.
CC. 71.378.527
TP.146.215 del CSJ.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

No. 06-218321-00003-0000
Fecha: 2007-07-30 15:35:00 Dep. 2020 NUECREACION
Tra. 3 MODELO Eva. 1 REGDEPOSITO
Act. 538 PERICION Folios: 2

Dir. cll 65 # 55-46 Parque E. Medellín
Teléfono: 5166500 ext 100.

30
ESTA CERTIFICACION DE EXCEDENTE DE PAGO SOLO PODRA SER UTILIZADA
COMO PARTE DE LA CANCELACION DE UNA TARIFA VIGENTE Y NO PODRA SER
SUSTITUIDA POR NINGUN RECIBO.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
No. 06-218321-00003-0000
Fecha: 2007-07-30 15:35:00 Dep: 2020 NUECREACION
Tit. 3 MODELO Eve: 1 REGDEPOSITO
Act. 538 PETICION Fotos: 2

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 07 - 64,331
FECHA : AGOSTO 16 DE 2007

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	VT. PAGO
MAURICIO A KACHAGO	CONSIGNACION	BANCO POPULAR	050-00110-6	58438055	27/07/2007	269,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50095-01-01 SOLICITUDES	86 EXAMEN DE PATENTABILIDAD DE MODELO	269,000.00
TOTAL :			\$ 269,000.00

SON: DOSCIENTOS SESENTA Y NUEVE MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

DIVISION DE NUEVAS CREACIONES

RADICACIÓN EXPEDIENTE No 06-218321

EXTRACTO DE LA PRESENTE SOLICITUD DE **MODELO DE UTILIDAD**

NUMERO FUE PUBLICADO EN LA GACETA DE PROPIEDAD INDUSTRIAL No

576 DE FECHA 31 DE MAYO DE 2007 EL TERMINO HABIL SEÑALADO POR

LA LEY EXPIRA EL 17 DE JULIO DE 2007.

NOTA: Dentro del plazo de los tres (3) 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 y en concordancia con el artículo 85 de la Decisión 486/2000.

SE PRESENTARON OPOSICIONES POR PARTE DE TERCEROS.

SI _____

NO X

United States Patent [19]

Knutar

[11] Patent Number: 4,721,397

[45] Date of Patent: Jan. 26, 1988

[54] FLEXIBLE RECEPTACLE FOR FLUIDS

[75] Inventor: Alf Knutar, Karleby, Finland

[73] Assignee: Oy Fluid-Bag AB, Jakobstad, Finland

[21] Appl. No.: 889,936

[22] PCT Filed: Nov. 13, 1985

[86] PCT No.: PCT/Fin85/00089

§ 371 Date: Jul. 15, 1986

§ 102(e) Date: Jul. 15, 1986

[37] PCT Pub. No.: WO86/02911

PCT Pub. Date: May 22, 1986

[30] Foreign Application Priority Data

Nov. 16, 1984 [FI] Finland 844503

[51] Int. Cl.⁴ B65D 33/16[52] U.S. Cl. 383/70; 383/78;
383/109; 383/906[58] Field of Search 383/70, 71, 78, 53,
383/37, 109, 114, 123, 906; 229/3.5 MF;
206/446, 802, 525; 138/118.1, 109

[56] References Cited

U.S. PATENT DOCUMENTS

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 3,556,390 1/1971 Gould 383/70
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FOREIGN PATENT DOCUMENTS

129100 12/1984 European Pat. Off. 206/802

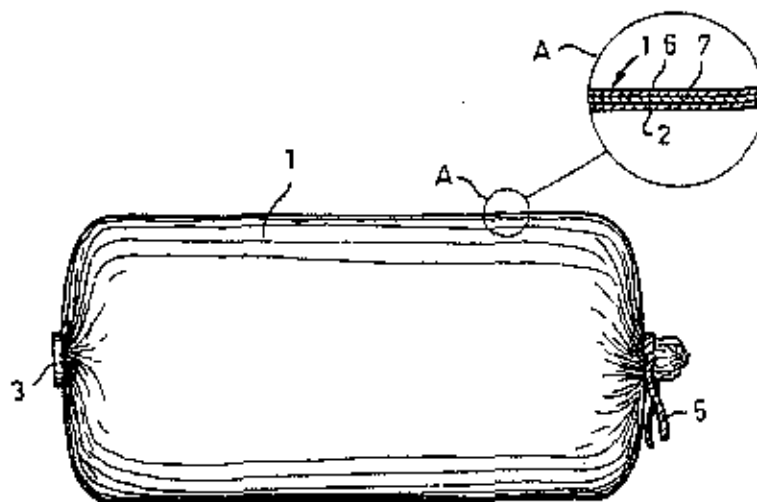
Primary Examiner—Willis Little

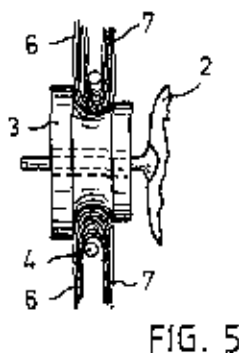
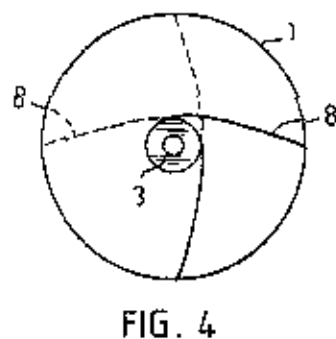
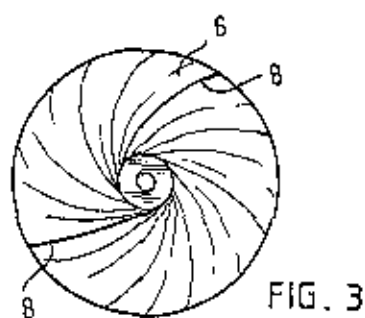
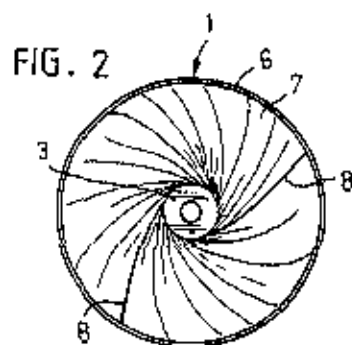
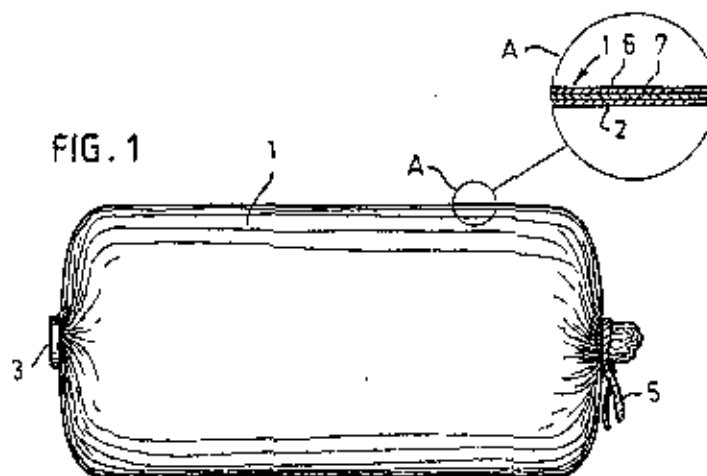
Attorney, Agent, or Firm—Cesari and McKenna

[57] ABSTRACT

The present invention relates to a flexible receptacle for fluids, which receptacle comprises a cylindrical outer casing (1) and an inner bag. The casing is formed by a hose which is doubled up at one end of the receptacle so as to obtain a casing (1) with a double wall. The strength properties of the casing can be considerably improved if the casing in the portions positioned in the vicinity of the doubled end of the receptacle are twisted around the central axis of the receptacle with respect to the mantle face of the receptacle.

7 Claims, 5 Drawing Figures





FLEXIBLE RECEPTACLE FOR FLUIDS

BACKGROUND OF THE INVENTION

The present invention relates to a flexible receptacle for fluids, which receptacle comprises a substantially cylindrical outer casing and an inner bag positioned within said casing, said bag being provided with filling and emptying means, whereby said casing is formed by a hose which is doubled up at one end of the receptacle so as to obtain an outer casing with a double wall.

It is previously known to transport fluids, such as juice, cooking oil and wine, in large flexible receptacles of plastic, which receptacles are enclosed in a container during transportation. The receptacles are made of a fabric of high strength properties and impermeable to liquids and gases, which fabric is provided with an opening for a filling and emptying valve. Known receptacles involve such a high price that only if the same receptacle is used several times could this way of transportation be regarded as profitable. Consequently, the receptacle must be washed after having been emptied, then folded up and returned to the place of delivery to be refilled there.

Attempts have been made to produce disposable receptacles so as to avoid the above-mentioned steps which increase costs. Such receptacles consist of an outer casing of a durable material and an inner bag of a thin material, to which bag the filling and emptying valve is attached. The outer casing is provided with an opening for the valve. A problem which has prevented wide use of this kind of disposable receptacle is that the receptacles must be inexpensive but nevertheless of such a durability that they meet the requirements made of receptacles of this type.

It is previously known to manufacture large sacks for bulk goods by passing a hose-shaped circular fabric through a relatively small ring until the ring is positioned in the middle of the fabric and thereafter folding back that portion of the fabric which has been passed through the ring over the other portion, whereafter the end portions of the fabric are bound together with a knot. In this way, a sack is obtained which has a double wall and is very durable on account of the double wall and the absence of seams.

A sack manufactured in this way, however, has certain disadvantages. One disadvantage is that when the sack is filled, the ring is exposed to high radial forces directed outwards, which requires a high durability from the ring. The disadvantage is particularly prominent if the sack is replaced by a receptacle which is filled with a pressurized liquid. Another disadvantage is that the contact surface between the ring and the fabric extending therethrough exceeds 180°. As the fabric is pressed against the ring with a high force when the sack is full, a high friction is created between the ring and the fabric, which to a great extent prevents the fabric material from sliding through the ring. This prevents equalization of the stresses in the outer and inner walls of the sack when the sack is being filled up and when it is exposed to strains during transportation. In addition, folding up the fabric around the ring subjects the longitudinal warp threads of the fabric to a breaking effect which together with the high friction between the fabric and the ring easily causes breaking of the warp threads.

SUMMARY OF THE INVENTION

The object of the present invention is to provide a flexible receptacle for fluids, which receptacle is provided with a casing comprising a double wall manufactured in the way described above, but which avoids the disadvantages impairing large sacks manufactured in this way. The receptacle according to the invention is characterized in that said casing is in the portions positioned adjacent the folding line of the hose twisted around the central axis of the receptacle.

Essential advantages are unexpectedly achieved by twisting the casing in the portions positioned adjacent the folding line of the hose around the central axis of the receptacle. More specifically, it has turned out that in a receptacle, an end face formed in this way can temporarily increase the volume of the receptacle if the pressure exerted on the end face by the contents is momentarily increased. This maybe results from the fact that an end face wherein the casing is twisted around the central axis contains more hose material than an untwisted end face. By virtue of this flexibility of the end face, the casing can be made of a considerably weaker material than if no twisting is effected, which in turn reduces the manufacturing costs of the receptacle. Tests on the strength properties, in which a receptacle is dropped down on a surface, have shown that the casing usually bursts first in the area of the end face. By virtue of said twisting, the end is provided with a potential additional surface which can be brought into use at temporary peak loads.

The above advantage is particularly prominent if both the outer and the inner walls of the casing are in the twisted state.

According to one particularly preferred embodiment of the invention, the outer and inner walls of the casing are twisted in the same direction, i.e. if the inner wall is twisted clockwise viewed from the outside, the outer wall is twisted in the same direction, whereby the twisting angles are thus added up. In comparison with the known sack described above, an essential advantage is thereby obtained in that the ring through which the casing extends is exposed to radically reduced strains, and consequently, the friction between the casing and the ring is practically non-existent. As the strains of the ring are reduced, it can be replaced with a weaker and thus cheaper ring and, at best, with a simple rope, and as the friction between the casing material and the ring is reduced, the outer and inner walls of the casing are automatically adjusted under strain in such a manner that both of them are always exposed to equal strains, which also enables use of a casing material which is less durable than that previously used.

In said respect, the end of the receptacle operates in the best possible way if the outer and the inner wall are twisted to the same degree.

The twisting angle is of crucial importance for the achievement of the above-mentioned advantages. Even if said advantages occur with small twisting angles, a decisive effect is obtained when the total twisting angle for the outer and the inner wall ranges from 100° to 200°. Tests have shown that the maximum benefit is derived with a total twisting angle of 180°. In this case, the casing exerts no kind of pressure on the ring and the friction between the ring and the casing material is, accordingly, non-existent and the only task of the ring is thereby to hold together the end of the casing when the receptacle is empty.

With a large twisting angle, it is of advantage if the opening for filling and emptying means is positioned centrally at that end of the receptacle where the casing is doubled up and twisted around the central axis. In other words, if the filling and emptying valve is placed in the central opening, the casing material exerts a pressure on the periphery of the valve, on account of which the valve is maintained in place in the casing without any fastening means.

BRIEF DESCRIPTION OF THE DRAWINGS

One preferred embodiment of the receptacle according to the invention is more closely described in the following with reference to the attached drawing, wherein

FIG. 1 is a side view of the receptacle according to the invention,

FIG. 2 is an end view of the inner wall of the casing,

FIG. 3 is an end view of the outer wall of the casing,

FIG. 4 is an end view of the receptacle with two warp threads outlined, and

FIG. 5 is a side view of the filling and emptying valve.

FIG. 1 illustrates an essentially cylindrical flexible receptacle for fluids, which receptacle comprises an outer casing 1 and an inner bag 2 positioned within the casing. Said bag 2, which is made of a thin flexible plastic, is attached to a valve 3 which is schematically shown in FIG. 5. The casing 1 consists of a durable fabric of plastic threads, the warp threads extending in the longitudinal direction of the receptacle and the weft threads in the peripheral direction.

The casing of the receptacle is made of a hose, the length of which is more than double as compared with the receptacle and which is folded at one end of the receptacle so as to provide a double-walled outer casing. The casing is formed in such a manner that the hose is drawn through a relatively small ring 4 (FIG. 5). When one half of the hose is drawn through the ring, that hose portion which is drawn through the ring is turned so that the inside is turned outwards and said portion is drawn over the rest of the hose until the both free ends of the hose are positioned at the same end of the receptacle, on the right in FIG. 1. The free end portions of the hose are bound together by means of a rope 5. In this way, a casing is obtained which has double walls, the outer wall being indicated by the reference numeral 6 and the inner wall by the numeral 7.

According to the invention, the outer and inner walls of the casing, at that end of the receptacle, where the casing is folded around the ring 4, are twisted around the central line of the receptacle as shown in FIGS. 2 and 3. The figures show the folds formed on twisting the end portions of the casing, while the lines 8, which are tangent to the periphery of the valve 3, also correspond to the direction of the warp threads of the casing.

FIG. 2 illustrates twisting of the inner wall 7 of the casing over about 90° around the central line of the receptacle, whereby the warp threads 8, which normally would have extended radially from the periphery of the receptacle towards the center, now extend tangent to the periphery of the valve. FIG. 3 illustrates how the warp threads 8 in the outer wall 6 of the casing extend obliquely with respect to the radius from the periphery of the valve to the periphery of the receptacle, because the outer wall 6 is also twisted at an angle of about 90° in the same direction as the inner wall 7.

FIG. 4 illustrates how a warp thread 8 extends from the periphery of the receptacle towards the center and again towards the periphery, whereby the broken line indicates the warp thread in the inner wall 7 of the casing and the continuous line indicates the warp thread in the outer wall 6 of the casing. It appears from the figure that one and the same warp thread extends substantially straight across the end face of the receptacle by virtue of the total twisting of 180° of the casing portions, whereby it is obvious that the warp thread is not exposed to a strain equally high as in case the warp thread were turned at an angle of 180° on the ring 4. The warp thread 8 extends between the periphery of the valve 3 and the ring 4, as appears from FIG. 5.

As a result of the twisting of the end portions at an angle of about 180°, the valve 3 is automatically locked in the central opening of the end face, because the casing exerts a low pressure in the direction towards the central line of the receptacle when the receptacle is filled up. For the same reason, the ring 4 is not at all exposed to any kind of strains.

The receptacle according to the invention is manufactured in such a manner that the hose (circular fabric) having a length essentially double in comparison with the finished receptacle is passed through a rope loop until the loop is positioned in the middle of the hose. The half of the hose passed through the loop is thereafter turned over 180° around the central line of the receptacle, turned inside out and drawn over the other half, which is thereafter provided with an inner bag, the valve of which is positioned in the rope loop. Finally, the end portions of the hose are bound together e.g. by means of a rope.

In the embodiment described above, both the outer and the inner walls of the casing are twisted to the same extent in the same direction. However, it is possible to obtain essential advantages when only one wall is in the twisted state and when the walls are twisted to different degrees. As already mentioned, the advantages of the invention become apparent even with small twisting angles. The advantages, however, become more apparent while increasing the total twisting angle up to 180°, at which angle maximum advantages are obtained. Besides liquids, the receptacle according to the invention can also be used for gases and bulk goods. In certain cases, the ring 4 can even be left out. In addition, it is self-evident that the casing does not necessarily need to be manufactured of a seamless hose but the casing can consist of two or more parts connected to each other.

I claim:

1. A flexible receptacle for fluids, said receptacle comprising a substantially cylindrical outer casing having two end faces and one mantle face and an inner bag positioned within said casing, said bag being provided with filling and emptying means, said casing being formed by a hose which is turned inside out upon itself thereby providing an inner wall and an outer wall, whereby that end face of said casing positioned adjacent to a folding line of the hose along which said hose is doubled up is twisted around the central axis of the receptacle.

2. The receptacle according to claim 1, wherein said end face of the casing is twisted with respect to said mantle face.

3. The receptacle according to claim 1, wherein both the outer and inner walls of said casing are in said twisted state.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIRECCION DE NUEVAS CREACIONES

2020
Bogotá, D.C.,

Abogado
Dr. MAURICIO ANDRES MACHADO ALVARADO.

ASUNTO	Radicación	06- 218321
	Trámite	002
	Evento	001
	Actuación	430
	Oficio	- 334
	Folios	05

Patente de Invención	☐	Patente de Modelo de Utilidad	☒
Via Nacional	☒		
Vía PCT (fase nacional)	☐	Cap. I	☐
		Cap. II	☐

No. Sol. Internacional _____
Fecha de Presentación Interna. _____

Como resultado del examen de fondo, realizado con fundamento en el artículo 85 y en concordancia con el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le comunica:

1. Documentos estudiados

<u>Descripción:</u>	Folios:	4 a 6	Como se radico inicialmente.
<u>Reivindicaciones:</u>	Folios:	6	Como se radico inicialmente.
<u>Dibujos:</u>	Folios:	8 a 11	Como se radico inicialmente.

2. Objeto de la invención

Titulo de la invención: **"BOLSA CILINDRICA CON SELLO PERFECCIONADO".**
(Folio 1).

Problema Técnico Planteado:

- Evitar las fugas o roturas en una bolsa para transportar líquidos, semilíquidos o sólidos debido a la concentración de esfuerzos por el peso y la presión ejercidos por el contenido de estos fluidos o sólidos en dicha bolsa.

inferior, la cual no pueden soportar el peso de los fluidos y sólidos que ella contiene para su respectivo transporte.

Solución:

- La solución al problema técnico planteado es proporcionar una bolsa cilíndrica con sello perfeccionado elaborada en polietileno, que se caracteriza por tener un cuerpo plegado que es el resultado de los dobleces que presenta en su parte inferior y que a su vez conforman la sección circular fundida la cual conforma el sello perfeccionado y que se ilustra como un botón cilíndrico compacto, proporcionando una óptima distribución en la concentración de los esfuerzos permitiendo una óptima resistencia a la presión que ejerce el peso sobre los productos contenidos como líquidos, sólidos o semisólidos que se encuentran dentro de la bolsa, evitando pérdidas y sobre costos, ya que por el calibre del material, resulta más económico al ser trabajado en grandes cantidades, además se evitan fugas, roturas y fallas en el sellado de la bolsa, la cual mejora un transporte seguro y óptimo para el almacenamiento de productos contenidos dentro de la bolsa.

IPC: B65D33/16, B65D31/00, B65D30/10, B65D30/20, B65D33/28,

3. Análisis de la solicitud de Patente

Reivindicaciones (artículo 30 D 486, Art 22 PCT).

Claridad:

- Se le sugiere al solicitante presentar una nueva reivindicación independiente No. 1, que contenga en el preámbulo los elementos conocidos en el estado de la técnica y en la parte caracterizadora presentar los elementos y/o características novedosas que lo hacen diferente del estado de la técnica.

Se le recuerda al solicitante que en la reivindicación independiente, la parte caracterizadora, que suele seguir al preámbulo precedida por la frase "**caracterizado por**", recoge las características técnicas que van hacer protegidas y que constituyen la novedad frente al objeto conocido del estado de la técnica.

4. Determinación del Estado de la Técnica

Teniendo en cuenta la fecha de presentación nacional, con fecha del 24 de Noviembre del 2006, se encontraron los siguientes documentos relevantes:

Nº	Documento	Título	Fecha de Publicación
D1	US4721397	FLEXIBLE RECEPTACLE FOR FLUIDS	1988/01/26

5. Análisis de Patentabilidad (Art 14 D486):

Novedad (Art 16 D486)

1. Respecto a la solicitud en estudio:

La reivindicación No.1 dice: "Bolsa con sello perfeccionado para la protección en el transporte y/o almacenamiento....., caracterizada por tener un cuerpo plegado (1), cuyos pliegues (2) son el resultado de los dobleces que presenta en su parte inferior, los cuales presentan un primer doblez de los lados del tubular hacia el centro en proporciones iguales; un segundo doblez que comprende un quiebre en forma vertical sobre el medio tubular con los laterales hacia afuera y luego un tercer doblez tomando como base el medio vertical de los laterales y con un doblez equidistante hacia este, que se repite de acuerdo al tamaño de la bolsa conformando una sección cilíndrica (3), sobre dicha sección del extremo de la bolsa se ubica enrollada, una porción de cinta (4) del mismo material de la bolsa y sobre ella una cinta adhesiva de seguridad (5), a continuación de la cual se presenta rematando el extremo del sello perfeccionado (6) consistente en una pequeña porción fundida del mismo material del extremo de la bolsa a manera de botón cilíndrico compacto". (Ver folio 6).

Para efectos del examen, se toma en cuenta como características técnicas esenciales las que se encuentran subrayadas por el examinador.

2. Respecto al estado de la técnica:

El documento D1 US4721397 ilustra una bolsa o receptáculo flexible para transportar productos como líquidos, semilíquidos o sólidos. Esta bolsa según como esta configurada proporciona un mejor resistencia a las fuerzas y esfuerzos que ejerce los productos contenidos dentro de la bolsa. (Ver "Abstract", "columna 1 a 6," y las "figuras No.1 a No.5").

3. Análisis de las diferencias con respecto al estado de la técnica:

En la tabla No.1, se ilustran en las casillas de comparación, la explicación de Afirmativa si las reivindicaciones están comprendidas dentro del estado de la técnica (documento D1), en caso contrario se enunciará como No es Afirmativa.

Tabla No.1.

ESTUDIO DE NOVEDAD	
Características esenciales de la Solicitud en estudio	Estado de la Técnica
	Documento D1
.....tener un cuerpo plegado (1), cuyos pliegues (2) son el resultado de los dobleces que presenta en su parte inferior, los cuales presentan un primer doblez de los lados del tubular hacia el centro en proporciones iguales; un segundo doblez que comprende un quiebre en forma vertical sobre el medio tubular con los laterales hacia afuera y luego un tercer doblez tomando como base el medio vertical de los laterales y con un doblez equidistante hacia este, que se repite de acuerdo al tamaño de la	Afirmativa (Ver "Abstract", Columna 1 a 4

4. Realizada la comparación y el análisis del documento D1, mediante la tabla No.1 con respecto a la solicitud en estudio donde se presenta la reivindicación No.1, se evidencia que D1 contiene todas las características esenciales de la reivindicación No.1. Por lo que se concluiría que la reivindicación No.1 de la solicitud en estudio no es nueva y no cumpliría con lo estipulado en el artículo 16 de la decisión 486.

Conclusión:

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

N°	Documento N°	Reivindicaciones Afectadas	Requisito que Afecta
D1	US4721397	1	Novedad

En cumplimiento del artículo 85 de la Decisión 486 de la Comisión de la Comunidad Andina, se le indica que debe dar respuesta dentro del término de treinta 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.

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, No. 10 del 2001.


JESUS FERNEL GARCIA GARCIA
 Director de Nuevas Creaciones (E)

El anterior requerimiento fue notificado por fijación en lista, de fecha 14 AVE. 2000

CONCEPTO TÉCNICO No.4120	EXAMINADOR TÉCNICO Código No. 202072
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