

AS. 102.826

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 07-003855- -00003-0000

Fecha: 2008-07-04 16:59:36 Dep. 2020 NUECREACIONE
Tra. 11 PATENTE IYI Eve: 378 FASE NACIONAL
Act 538 PETICION Folios: 2

Señores

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

DIVISION DE NUEVAS CREACIONES

E. S. D.

REF.: Expediente No. 07 003.855 - Solicitud de Patente FASE NACIONAL

Corresp. a la Solicitud Internacional PCT/US2005/021485.

a nombre de: **THE BOC GROUP, INC.**

Titulada: REVESTIMIENTO ANTIMICROBIANO PARA CILINDROS DE GAS Y COMPONENTES DE CONEXIÓN.

JUAN PABLO CADENA SARMIENTO, vecino de Bogotá, portador de la tarjeta profesional No. 57492 del Consejo Superior de la Judicatura, obrando como apoderado de la Sociedad **THE BOC GROUP, INC.**, según lo acredita el documento de poder presentado en esa División, de acuerdo con el Artículo 44 de la Decisión 486 de la Comisión de la Comunidad Andina, me permito solicitar que se examine si la invención contenida en la solicitud en referencia es patentable.

De acuerdo con lo anterior, me permito anexar el recibo oficial de caja No. 08-40,599 por valor de \$420.000.

De la Señora Jefe atentamente,

JUAN PABLO CADENA SARMIENTO

C.C. No. 80.410.337 de Usaquén

T.P. No. 57492 del C.S.J.

Cra 7 No. 71-21 Torre B, Piso 4

Bogotá, 03 de julio de 2008

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 08 - 40,599
FECHA : MAYO 21 DE 2008

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No. 07-003855-00003-0000

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***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	Vr. PAGO
BRIGARD & CASTRO LTDA	CONSIGNACION	BANCO DE BOGOTA	062754387	3255884	21/05/2008	31,860,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01 SOLICITUDES	85 EXAMEN DE PATENTABILIDAD DE INVEN	420,000.00
		TOTAL :	\$ 420,000.00

SOME CUATROCIENTOS VEINTE MIL PESOS

RESPONSABLE :

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

77

Industria y Comercio
SUPERINTENDENCIA

DIVISIÓN DE NUEVAS CREACIONES

RADICACIÓN EXPEDIENTE No. 07-03855

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

FUE PUBLICADO EN LA GACETA DE PROPIEDAD INDUSTRIAL No **587** DE

FECHA **18 DE ENERO DE 2008** EL TÉRMINO HÁBIL SEÑALADO POR LA LEY

EXPIRA EL **16 DE ABRIL 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



US 20030089723A1

(19) **United States**

(12) **Patent Application Publication**
Funck

(10) **Pub. No.: US 2003/0089723 A1**
(43) **Pub. Date: May 15, 2003**

(54) **PRESSURISED CONTAINER FOR STORING PRESSURISED LIQUID AND/OR GASEOUS MEDIA, CONSISTING OF A PLASTIC CORE CONTAINER WHICH IS REINFORCED WITH FIBRE-REINFORCED PLASTICS AND A METHOD FOR PRODUCING THE SAME**

(52) **U.S. Cl. 220/581**

(57) **ABSTRACT**

The invention relates to a plastic core container which is reinforced with a fibre-plastic composite, for storing pressurized liquid and/or gaseous media. Said container comprises one or more connecting parts located in the neck and/or base and/or cylindrical container part. At least one of said connecting parts (3) is configured for receiving a screw-in cylindrical or conical pressure-line feed device, such as for example, a valve or pipe connection. The invention also relates to a method for producing a plastic core container of this type. According to the invention, a cylindrical insert (4) is mounted in the connection shank of the plastic core container, said insert having an end collar that envelopes or surrounds the end of said connection shank. At least two seals are positioned in such a way that at least one seal lies between the insert and the inner surface of the plastic connecting shank of the plastic core container (1) and at least one additional seal lies between the insert and the pressure-line feed device. This guarantees a tight and permanent impermeability in the vicinity of the connecting parts, even under extreme, fluctuating thermal and operational stresses.

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(21) **Appl. No.: 10/181,839**

(22) **PCT Filed: Jan. 5, 2001**

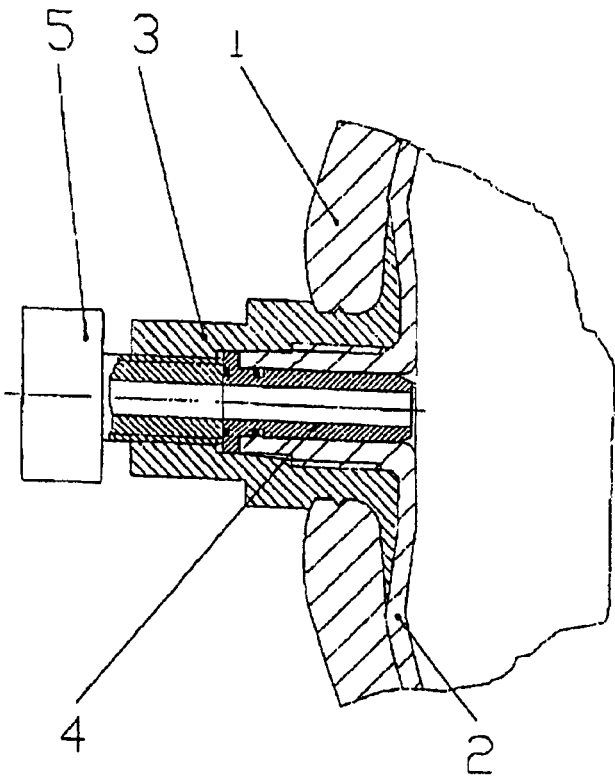
(86) **PCT No.: PCT/DE01/00091**

(30) **Foreign Application Priority Data**

Jan. 10, 2000 (DE)..... 100 00 705.8

Publication Classification

(51) **Int. Cl.⁷ F17C 1/00**



metal fibres and/or other types of fibre can be used as reinforcing fibres in the fibre plastics composite.

[0016] With respect to the corresponding method for manufacturing a pressure vessel of fibre plastics composite for storage of liquid and/or gaseous media under an operating pressure above atmospheric pressure, the object upon which the invention is based is solved by means of the following steps:

[0017] a) Configuration of the internal surface of the connector shank of the plastics core vessel for receiving the inserts by appropriate shaping in the manufacturing process of the plastics core vessel and/or by subsequent mechanical processing of the internal surface of the connector shank of the plastics core vessel.

[0018] b) Fitting of the insert by shrinking the previously heated connector shank of the plastics core vessel in the connector shank, and/or by pressing in and/or by shrinking the insert after previous cooling of the insert into the outlet of the connector shank of the plastics core vessel.

[0019] c) Assembly of the connection piece on the external surface of the connector shank of the plastics core vessel, wherein the underside of the collar of the connection piece can be firmly fitted, using suitable fastening techniques, to the external surface of the plastics core vessel

[0020] d) Reinforcement of the previously assembled plastics core vessel with fibre plastics composite and start of pressure hose feed.

[0021] By means of the method according to the invention, vessels can be provided that have the advantageous actions, functions and effects described hereinabove, to which reference is made here and which have been fully taken into account.

[0022] The media to be stored can be air, oxygen, nitrogen, carbon dioxide, propane, natural gas, hydrogen or any other technical gases or liquids or the like. The invention is not limited to any particular kind of stored gases and/or liquids.

[0023] In accordance with a further aspect of the invention, a vessel as described hereinabove, which is manufactured in particular according to a method according to the invention, can be used for different purposes.

[0024] Examples of possible types of application are, for example and not exclusively, use as a pressure vessel for combustible gases such as, for example, natural gas or hydrogen, for gas-powered vehicles, pressure vessels for pneumatic and hydraulic applications, compressed air storage in heavy good vehicles, buses and railways, as pressure vessels for fire extinguishers, as pressure vessels for safety systems (for example, airbags), and as pressure vessels for propane gas.

[0025] The invention will hereinafter be described in more detail with reference to embodiments and to the attached drawings, wherein there is shown, in:

[0026] FIG. 1 a schematic cross-section of the connector area according to the invention,

[0027] FIG. 2 a schematic plan view of the vessel according to the invention according to a second embodiment with centrally arranged filling and emptying apertures in a lid,

[0028] FIG. 3 a schematic plan view of the vessel according to the invention according to a third embodiment with two filling and emptying apertures arranged offset in the lid,

[0029] FIG. 4 a schematic side view of the vessel according to the invention of FIGS. 1-3, with a filling and emptying aperture arranged optionally in addition in the cylindrical part of the vessel.

[0030] In FIG. 1 the connector area of one embodiment is shown schematically in cross-section. On the fibre plastics composite (1) reinforced plastics core vessel (2) for storage of liquid and/or gaseous media under pressure there is fitted a connection piece (3) in the neck and/or base and/or cylindrical part of the container.

[0031] An insert (4) is provided in the connection piece (3) of the plastics core vessel (2), in which insert clads the outlet of the connector shank of the plastics core vessel (2) in the manner of a collar.

[0032] The insert (4) can be provided with an annular groove for a sealing ring beneath the projecting collar of the insert (4) between the insert and the internal surface of the connector shank of the plastics core vessel (2) as well as a further annular groove with a sealing ring on the surface of the projecting collar of the insert, that is compressed by the pressure hose feed (5) (pipeline connector and/or valve). In addition by means of previous processing or other suitable manufacturing of the connector shank, the internal surface of the connector shank of the plastics core vessel can be joined, for example by shrinkage, onto the insert, resulting in great dimensional precision of the external geometry of the connector shank of the plastics core vessel.

[0033] The connection piece (3) is collar-shaped with respect to the surface of the plastics core vessel (2), configured with or without raised areas arranged on the surface of the collar, and/or keyed surfaces offset by 90° on the external surface of the connection piece in the region of the fibre plastics composite (1). This configuration of the connection piece enables specific transfer of force from the fibre plastics composite (1) to the connection piece (3) and resistance to twisting during assembly and disassembly of the pipeline connection or a valve.

[0034] In FIG. 2 a schematic plan view of the vessel according to the invention is shown in accordance with an embodiment, wherein the vessel can be filled and/or emptied via the centrally arranged connection piece (3).

[0035] In FIG. 3 a schematic plan view of the vessel according to the invention is shown in accordance with a further embodiment, wherein the vessel can be filled and/or emptied via two offset connection pieces (3).

[0036] FIG. 4 shows, by way of an example, an optional configuration of FIG. 2 and FIG. 3 where, for technical reasons, a further connector (3) has to be arranged in the cylindrical part of the vessel.

1. Fibre plastics composite reinforced plastics core vessel for storage of liquid and/or gaseous media under pressure, with a plastics core vessel that is provided with one or more connection pieces in the neck and/or base and/or cylindrical

part of the vessel, at least one connection piece of which is configured to receive a pressure hose feed with a cylindrical or conical thread that can be screwed in such as, for example, a valve or pipeline connector, characterised in that in the connector shank of the plastics core vessel there is mounted a cylindrical insert with, at end of the connector shank, a cladding or surrounding collar-shaped end, wherein at least two seals are arranged such that at least one seal between the insert and the internal surface of the plastics connection shank of the plastics core vessel, and at least one further seal is arranged between the insert and pressure hose feed.

2. Fibre plastics composite reinforced plastics core vessel according to claim 1, characterised in that the seal between the insert and internal surface of the connector shank of the plastics core vessel and/or the seal between the collar surface of the insert and the pressure hose feed is composed of annular grooves together with a seal and/or another suitable sealing means or a gasket.

3. Fibre plastics composite reinforced plastics core vessel according to claim 1 and 2, characterised in that the collar surface of the connection piece is matched to the contour of the plastics core vessel surface and possibly the underside of the collar can be firmly fixed to the external surface of the plastics core vessel using suitable fastening techniques.

4. Fibre plastics composite reinforced plastics core vessel according to claim 1 to 3, characterised in that the connection piece is connected by a threaded portion, and/or adhesive, and/or other fastening techniques to the external surface of the connector shank of the plastics core vessel, and/or to the external surface of the surrounding collar of the insert.

5. Fibre plastics composite reinforced plastics core vessel according to claim 1 to 4, characterised in that the connec-

tion piece is provided with a conical or cylindrical internal thread for receiving the pressure hose feed.

6. Fibre plastics composite reinforced plastics core vessel according to claim 1 to 5, characterised in that the fibre plastics composite can be incorporated, according to the most advantageous mechanical stresses on the collar surface, into the cylindrical recesses of the connection pieces, wherein raised parts or indentations on the surface of the collar and/or keyed surfaces in the connection piece in the region of the fibre plastics composite produce a higher resistance to torsion for the connection piece over the fibre plastics composite with respect to sealed-in valves or pipelines.

7. Method for manufacturing a fibre plastics composite reinforced plastics core vessel for storage of liquid and/or gaseous media under pressure, characterised in that after previous configuration of the internal surface of the connector shank of the plastics core vessel, for example, in the form of mechanical processing, an insert is fitted into the connector shank of the plastics core vessel, that leads to a greater dimensional precision of the external shank geometry by means of the defined cylindrical external geometry of the insert, wherein the insert fitted by shrinking the previously heated connector shank of the plastics core vessel into the connector shank and/or by pressing in and/or shrinking the insert after previous cooling of the insert.

8. Method for manufacturing a fibre plastics composite reinforced plastics core vessel according to claim 7, characterised in that the insert is fitted prior to the connection piece being mounted on the connector shank of the plastics core vessel.

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US005238749A

United States Patent [19]
Cueman et al.

[11] **Patent Number:** **5,238,749**
[45] **Date of Patent:** **Aug. 24, 1993**

- [54] **ANTIMICROBIAL COATING PROCESS AND PRODUCT**
- [75] **Inventors:** **Glenn F. Cueman; Robert S. Watterson, III, both of Charlotte, N.C.**
- [73] **Assignees:** **Clinitex Corporation, Huntersville; Avancer Technologies, Inc., Charlotte, both of N.C.**
- [21] **Appl. No.:** **669,165**
- [22] **Filed:** **Mar. 14, 1991**

Related U.S. Application Data

- [63] Continuation-in-part of Ser. No. 286,515, Dec. 19, 1988, Pat. No. 5,000,979, which is a continuation-in-part of Ser. No. 845,095, Mar. 27, 1986, abandoned.
- [51] **Int. Cl.⁵** **B32B 17/10**
- [52] **U.S. Cl.** **428/441; 424/409; 424/411; 428/461; 428/500; 428/703; 428/907**
- [58] **Field of Search** **428/907, 441, 461, 500, 428/703; 424/409, 411**

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3,575,123 4/1971 Shepherd et al. 428/907 X
3,857,934 12/1974 Bernstein et al. 424/411 X
4,098,877 7/1978 Ball et al. 424/45

Primary Examiner—Michael Lusigan
Attorney, Agent, or Firm—Ralph H. Dougherty

[57] **ABSTRACT**

An improved antimicrobial coated product and a method for coating substrates, the product of which is capable of withstanding high impact, is not subject to corrosion, is resistant to germ retention and transfer, and thus is extremely well suited for the containment of toxic, hazardous, corrosive, and bacteria-laden wastes as well as for products which are resistant to attack from fungus, positive and negative bacteria, yeast infections and contaminations, and viruses, as well as resistant to attack from corrosion, corrosive chemicals, caustic chemicals, and radiation. The substrate is coated with a thermoplastic material incorporating an antimicrobial agent by electrostatic, fluidized bed or flame spraying techniques. Alternatively, the substrate may be coated with a combination of a thermosetting resin and a thermoplastic material, either or both incorporating an antimicrobial agent, all of which can be cured in place.

8 Claims, No Drawings

- 1. An antimicrobial laminated article, comprising:
a substrate selected from the group consisting of non-ferrous and ferrous metals, glass, porcelain, concrete, refractory and other high silica materials, plastics and thermoplastics;
a coating of thermoplastic material containing an effective antimicrobial amount of 5-chloro-2,4 dichloro-phenoxy) phenol which exhibits controlled migration through said coating to said substrate surface when an imbalance of vapor pressure of said 5-chloro-2-(2,4-dichloro-phenoxy) phenol within said coating demands equalization;
said coating material being bonded to said substrate, and having a high degree of impermeability.
- 2. An antimicrobial coated product according to claim 1, wherein said 5-chloro-2-(2,4 dichloro-phenoxy) phenol comprises from 1 to 10 percent by weight of the thermoplastic powder.
- 3. An antimicrobial anti-fouling coated article, comprising:
a substrate;
a coating of a thermoplastic material containing an effective antimicrobial amount of 5-chloro-2-(2,4 dichloro-phenoxy) phenol which exhibits controlled migration through said coating to said substrate surface when an imbalance of vapor pressure of said 5-chloro-2-(2,4 dichloro-phenoxy) phenol within said coating demands equalization;
said coating being bonded to the substrate, and having a high degree of impermeability.
- 4. An antimicrobial anti-fouling coated article according to claim 3, said substrate being selected from the group consisting of: boats, buoys, concrete pilings, metal pilings, drilling platforms, undersea pipelines, canal locks and gates, dams, hydroelectric dam intakes, and penstocks.
- 5. An antimicrobial coated product made by the process of, sequentially:
selecting a substrate that will hold an electrostatic charge;

- preparing the surface of the substrate;
grounding the substrate;
electrostatically applying a layer of a positively charged, uncured, powdered thermoplastic material containing an effective antimicrobial amount of an antimicrobial biocidal or biostatic substance which maintains its biocidal properties above 300° F. and migrates through the thermoplastic material to the surface of the thermoplastic on demand to said substrate by electrostatic methods;
the antimicrobial biocidal or biostatic substance being selected from the group consisting of 5-chloro-2-(2,4dichlorophenoxy) phenol and polyhexamethylene biguanide hydrochloride which exhibits controlled migration through said coating to said substrate surface when an imbalance of vapor pressure of said 5-chloro-2-(2,4 dichloro-phenoxy) phenol within said coating demands equalization; and
thereafter heating the substrate and said coating to a temperature of from 355° to 430° F. and holding the temperature for a period of from 5 to 22 minutes;
whereby said coating materials become cured and bonded to the substrate, and develop a high degree of impermeability.
 - 6. An antimicrobial coated product according to claim 5, wherein said antimicrobial biocidal or biostatic substance is from 1 to 10 percent by weight of the thermoplastic powder.
 - 7. An antimicrobial product according to claim 5, wherein said substrate is a food service, dental, medical, clinical, surgical, sick room, hospital, or personal product which comes into contact with human beings, body parts, or body wastes.
 - 8. An antimicrobial product according to claim 5, wherein said substrate is selected from the group consisting of: handle, stall separator, toilet seat, bed pan, urinal, surgical instrument, instrument tray, waste container, body fluid container, grease trap, basket, dish-washer, utensil, counter top, chair seat, bench and stool.
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