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(54) Title: A CATHETER CONTAINING DEVICE, A DRESSING FOR A CATHETER AND A KIT COMPRISING BOTH THEREOF

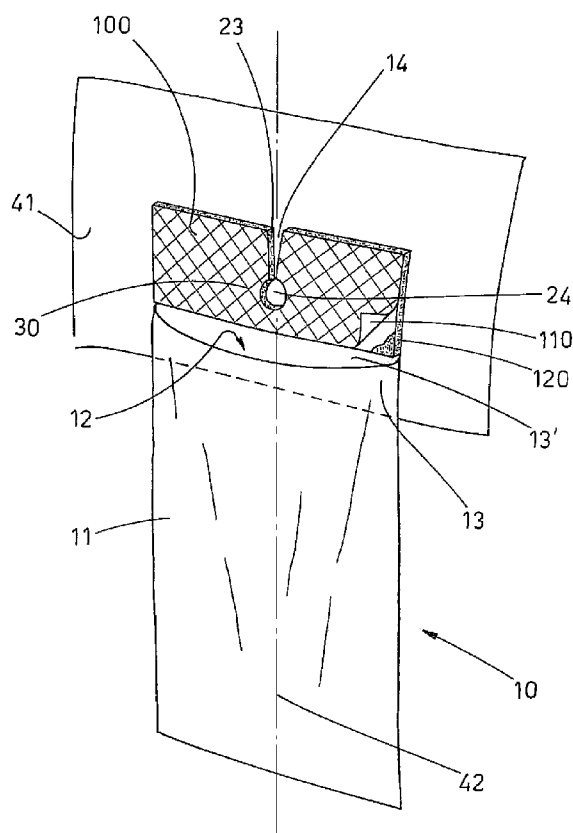


FIG. 2

(57) Abstract: Catheter containing device, of a type constituted by a pouch (11), externally accessible via an opening (12), the pouch (11) being constituted by two facin walls (13,13'), characterised in that at least one of the walls (13,13') affords a slit (14) destined to receive the catheter contained in the pouch (11) in a free coupling.

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- 1 -

A CATHETER CONTAINING DEVICE, A DRESSING FOR A CATHETER AND A KIT COMPRISING BOTH THEREOF

TECHNICAL FIELD

- 5 The invention relates to the field of medical devices, in particular container devices for containing catheters and dressings for catheters.

BACKGROUND ART

- 10 Catheters are vascular access devices used in the medical field for liquid infusion and intravenous administration of pharmaceutical drugs. In some pathologies these vascular accesses can be kept open for rather long times.

- In particular the central venous catheter (CVC) is an external vascular access that is tunnelled over a long period of time (for example in oncology and peritoneal dialysis) or for obtaining an immediate access in emergency
15 situations.

- The central venous catheter is constituted by a variable-length catheter of about 20 centimetres with a diameter of the order of a few millimetres, which is tunnelled below the skin by inserting the terminal part thereof into the path of a central vein (subclavian, jugular, femoral). One or more connections for
20 infusion devices are located in the proximal part of the catheter, external of the skin.

 Once the catheter has been implanted, the access point must be closed as quickly as possible without getting infected; if not a further implant will have to be made in a different position.

- 25 The long-term complications of the catheter are occlusion of the catheter, venous thrombosis and infections. For these reasons careful and frequent maintenance is required, at each use of the catheter heparin has to be

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administrated in order to prevent occlusion and thrombosis, and the zone adjacent to the exit point of the catheter from the body must be periodically medicated with disinfectants and covered with packs of antiseptic material.

5 The portion of catheter which projects from the body has to be fixed to the body or collected in a pouch which has the function of protecting the catheter from external agents and which can be fixed to the body by a plaster.

At present, the medical field uses dressings, the surface layer of which is made of aluminium or in which the fibres of the surface layer are covered with aluminium, in order to facilitate haemostasis and to prevent infection. For
10 example, in a tracheostomy, an operation which creates a permanent opening between the trachea and the cervical skin, dressings are applied in which the fibres of the surface layer are clad with aluminium. In the post-operative period these tracheostomy dressings are placed around the zone of the throat adjacent to the tracheostomy tube in order to facilitate cicatrisation.

15 In some cases the tracheostomy dressings have a slit which is suitable for surrounding the tube and therefore adhere more satisfactorily as the zone in which the tracheostomy tube projects from the body. The slits consist of a cut terminating in a circular hole of diameter 8-12 mm suitable for locating the tracheostomy dressing in strict adherence to the tracheostomy tube, the
20 external dimensions of which correspond. To fix the tracheostomy dressing to the skin a length of plaster is used. Cicatrisation of the wound of the tracheostomy takes a couple of months. The portion of tube which projects from the neck is of a minimal length, so that it does not cause traumas over a long time to the entry zone due to accidental impacts or proximal
25 displacements, and once the wound has cicatrised there is no further need for dressing.

Patients having recourse to peritoneal dialysis or chemotherapy, to whom a central venous catheter has been fixed, have to keep the catheter up to the end of therapeutic treatment. For this reason, when the central venous
30 catheters are obstructed or when the zone they are implanted in gets infected,

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they have to be replaced.

There emerges, therefore, a need to avoid or reduce the catheter replacements which require periodical and discomfiting operations on the patient.

5

DISCLOSURE OF INVENTION

The aim of the present invention is to provide a medical device enabling a reduction of the catheter replacements, in particular to provide a container device for a catheter which both contains the portion of catheter external of the body and facilitates the healing and reduces the probability of infection of the wound, both in the post-operative period and during the time the catheter is attached, thus reducing the number of implanting procedures to which a patient has to be subjected.

A further aim of the present invention is to provide a catheter dressing which facilitates healing and reduces the probability that the wound will get infected during the post-operative period and during the time the catheter is attached.

The invention further has the objective of providing a kit comprising at least a device according to the invention and at least a catheter dressing according to the invention.

The above-cited aims are obtained with a system constituted by a catheter container device of a type constituted by a pouch which is accessible from the outside by means of an opening, the pouch being constituted by two facing walls, in which at least one of the walls affords an opening for freely couplingly receiving the catheter contained in the pouch; and a dressing for catheters comprising: at least a surface layer destined to be laid on the skin, the layer being blood-permeable and permeable to bodily fluid; at least an internal absorbent layer; at least an internal absorbent layer; in which at least one from among the surface layer and the internal absorbent layer comprises

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at least a substance selected from a group consisting of silver, aluminium and derivatives thereof; and at least a slit selected from a group comprising:

an upturned-Y-shaped slit, starting from an edge of the dressing with a first cut and terminating in a bifurcation defined by two further cuts originating at an
5 end of the first cut and identifying an angle; or

a fissure-shaped cut, starting from an edge of the dressing and terminating with a hole, which single cut is of a length comprised between 0 and 6 cm and which hole is circular with a diameter comprised between 1.5 mm and 7 mm, preferably between 5-6 cm.

10 The special conformation and dimensions of the slits enable the catheter dressing of the invention to be better adapted to the profile of the catheter at the point in which it emerges from the body, and thus to be placed in contact with the whole zone surrounding the point. The presence of silver or aluminium or derivatives thereof in the catheter dressing facilitates
15 haemostasis and thus both reduces healing times and antibacterial characters, reducing the probability of infection in the wound.

The catheter dressing of the invention can be used singly in the post-operative period, or can be applied on the catheter container device such as to be located in contact with the skin when the slit of the device receives the
20 catheter, the slits corresponding to the device and the dressing being superposed. The catheter dressing is applied on the container device at each application and will be periodically replaced during the course of the application of the dressing while the catheter container device can be re-utilised more than once if in good condition and clean.

25 Thus a kit comprising at least one of the catheter container devices and at least a catheter dressing as described above of the invention is advantageous.

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BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of an embodiment of the invention;

figure 1a is an alternative slit to the one shown in the embodiment of the invention of figure 1;

5 figure 2 is a perspective view of a further embodiment of the invention.

In figures 1 to 2 identical components used for the various embodiments of the invention are denoted using the same numbers, and have similar characteristics to unless otherwise indicated.

10 BEST MODE FOR CARRYING OUT THE INVENTION

Figure 1 illustrates a catheter container device 10 of the invention. The device 10 is constituted by two walls 13, 13' facing one another and having one of the walls 13' exhibiting a slit 14 destined to freely couplingly receive the catheter contained in the pouch 11.

15 Figures 1 and 2 show particular preferred embodiments of the invention in which the walls 13, 13' of the catheter container device have a different extension and define, as shown in figures 1 and 2, a flap 15 adjacent to the opening 12, and in which the slit 14 involves the flap 15. This embodiment is particularly preferred in that it enables application of the catheter dressing 100
20 of the invention and makes the arrangement of the device 10 about the catheter easier to accomplish.

In all the embodiments of the invention the slit 14 of the catheter container device 10 can originate from:

a point of the portion of the edge of the opening 12 in the wall 13, 13';

25 or

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a point on the edge of the flap 15, as shown in figures 1, 1a.

The slit 14 of the catheter container device 10 can preferably originate from a point of the edge portion of the opening 12 relative to the wall 13 or 13'.

The slit 14 of the container device 10 destined to receive the catheter in free
5 coupling is advantageously:

in an upturned Y-shape, as shown in figures 1a and 2; the slit begins with a first cut 20 and terminates in a bifurcation defined by two further cuts 21, 21' which originate from an end of the first cut 20 and identify an angle 22;

or

10 in a shape of a slit starting from a single cut 23 and terminating with a hole 24, as shown in figure 1. Preferably the single cut 23 has a length comprised between 0 and 6 cm and the hole is circular with a diameter comprised between 1.5 and 7 mm, in particular comprised between 5 and 6 mm.

The conformations enable the area of the device in contact with the skin
15 surrounding the entry point of the catheter to be maximised.

Particularly preferred are the slits 14, both in the container device 10 and the catheter dressing 100, in which the first cut 20 has a length comprised between 0.5-8 cm, the further two cuts 21, 21' having a length comprised between 1 and 3 cm. and the angle 22 is comprised between 85°-95°,
20 preferably 90°.

These configurations enable the zone adjacent to the slit to strictly adhere to the catheter, further maximising the area of the device in contact with the skin surrounding the entry point of the catheter, which will thus be entirely in contact with the anti-bacterial and haemostatic agents.

25 Figure 1 also shows a further advantageous aspect of the invention which enables fixing the container device 10 to the patient's skin. The illustrated container device 10 further comprises an auxiliary adhesive strip coupled to

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the container device 10 in proximity of or at the area 30 adjacent to the slit 14. The auxiliary adhesive layer possesses at least an adhesive side and a portion 41 of surface not superposed on the area 30 and arranged such that the adhesive side is placed in contact with the skin when the slit 14 receives
5 the catheter. Obviously, in the case in which the auxiliary adhesive layer superposes the slit 14, the adhesive layer will also have a slit 14 of equal conformation and dimensions.

As shown in figure 2, the extension of the surface of the auxiliary adhesive layer is advantageously greater than the area 30 adjacent to the slit 14,
10 entirely covers the area 30 and extends distally to the opening 12 along the longitudinal axis 42 of the device beyond the flap 15.

Optionally the portion of surface of the auxiliary adhesive layer extending distally could also have a slit superposing the slits 14 of the container device 10 and/or the catheter dressing 100, and which proceeds up to the edge of the
15 auxiliary adhesive layer.

Figure 2 further illustrates a particularly advantageous embodiment of a catheter container device 10 in which a catheter dressing according to the invention is applied to the area 30 adjacent to the slit 14 destined to be located in contact with the skin surrounding the catheter. The surface layer 110
20 thereof is arranged such as to be located in contact with the skin when the slit 14 of the device receives the catheter and the slits 14 of the device 10 and the dressing 100 are superposed.

When the catheter dressing 100 is not applied to the container device 10, preferably at least the area 30 adjacent to the slit 14 and destined to be
25 located in contact with the skin surrounding the catheter comprises at least a substance selected from a group comprising silver, aluminium and derivatives thereof.

In at least an embodiment the area 30 of the catheter container device adjacent to the slit 14 is destined to be located in contact with the skin
30 surrounding the catheter, or the surface layer 110 of the catheter dressing 100

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are made of a non-stick textile, a non-stick textile fabric having knit weft, a non-woven non-stick textile selected from a group comprising:

- a) a textile having fibres made of silver or aluminium;
- b) a slim perforated layer of silver or aluminium;
- 5 c) a textile the fibres of which are covered with silver or aluminium and wherein the aluminium or silver fibres are situated on the surface destined to be placed in contact with the skin (i.e. a textile metallized with silver or aluminium).

Obviously, in the case of a catheter dressing 100, the surface is the external
10 surface of the surface layer 110 destined to be placed in contact with the skin.

It is preferable to metallise an anti-stick support permeable to blood and other bodily fluids with silver and/or aluminium, the support being a knit, a textile, a non-woven textile made of polyethylene, polyester, viscose, or another material used pharmaceutically. Metallisation can be performed either with
15 classic techniques or using modern and innovative methods such as micro- or nano-deposition. The metallisation of the support reduces the quantity of metal used with respect to the embodiments of a) or b) and is therefore preferable thereto.

In a further embodiment, silver and/or aluminium derivatives or particles of
20 silver and/or aluminium are used, which can be situated either on the area 30 adjacent to the slit 14 and destined to be located in contact with the skin surrounding the catheter and/or on the surface layer 110 and/or in the absorbent layer 120 of the catheter dressing.

Thus, there is a particular preference for catheter container devices 10 and
25 catheter dressings 100 comprising at least one of the following derivatives of aluminium and silver selected from a group constituted by aluminium sulphate (anhydrous aluminium sulphate and in various forms of hydration thereof) cas numbers 10043-01-03, 16828-11-8, 16828-12-9 and 7784-31-8), aluminium

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and potassium dodecahydrate. cas 7784-24-9, metallic aluminium, metallic silver, ionic silver, an inorganic silver salt, in particular silver nitrate, cas 7761-88-8; and an organic compound of silver, in particular protein silver, cas 9008-42-8; vitellinate silver, cas 9015-51-4, silver alginate and silver sulfadiazine.

5 In the catheter dressing 100 these compounds can be comprised in at least one of the surface layer 110 and absorbent layer 120. In a case in which the metal particles of silver and/or aluminium or the silver derivatives and/or aluminium derivatives are exclusively contained in the absent layer 120 of the dressing 100, the surface layer 110 will have a perforated structure or a
10 structure with openings which will allow the absorbent layer 120 to come into contact with the patient's skin. However the structure of the surface layer will retain the fibres of the absorbent layer internally of the dressing even during the stage of removal thereof from the skin. An expert in the field, according to the type of absorbent material used and the length of the fibres, will be
15 perfectly able to establish the shape of the holes or the openings. In these embodiments the surface layer can be constituted by a textile or a woven cotton material, or polyester, or another material used in the manufacturing of the surface layers of the absorbent medical devices well known to an expert in the field.

20 The use of silver or its derivatives is preferable to the use of aluminium or its derivatives as silver has greater anti-bacterial and haemostatic powers than aluminium and its derivatives. Therefore catheter container devices and catheter dressings of the invention preferably comprise silver or its derivatives.

Dressings for catheters of the invention can be manufactured in any geometric
25 shape, for example: square, circular, rectangular, hexagonal, octagonal, oval, triangular, and more besides. Square catheter dressings are particularly suitable, having a side length comprised between 3 and 8 cm, or rectangular with sides comprised between 2.5 and 8 cm or circular with a diameter comprised between 2.5 and 8 cm.

30 Similarly, the pouch 11 too can be of various shapes and sizes, according to

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the type and length of the catheter, which they will contain, through preferably rectangular or square, as these are easier to make.

Also particularly advantageous are embodiments in which the catheter dressing 100 is applied on a plaster, an elastic bandage, a self-adhesive bandage, as they enable fastening the single catheter dressing 100 to the body.

The above-mentioned surface layer of the dressing 100 is preferably anti-stick, and without projecting fibrous particles.

The absorbent layer can be constituted by a gauze absorbent made of hydrophilous cotton, or non-woven textile or expandable dressings constituted by a single spongy material such as synthetic felt or ribbon polypropylene or viscose for pharmaceutical use. An absorbent layer made of viscose or viscose-polypropylene is preferred, having a thickness comprised between 0.1 and 15 mm or greater, according to the clinical situation. More preferable is a thickness comprised between 1 and 4 mm and having an absorbent power of 500-1500% in a second, and even more preferable is 700-1500% in a second.

CLAIMS

- 1). A catheter containing device, of a type constituted by a pouch (11), externally accessible via an opening (12), the pouch (11) being constituted by two facing walls (13, 13'), characterised in that at least one of the walls (13, 13') affords a slit (14) destined to receive the catheter contained in the pouch (11) in a free coupling.
- 2). The device of claim 1, characterised in that the walls (13, 13') are of a different size and define a flap (15) adjacent to the opening (12), the slit (14) being afforded in the flap (15).
- 3). The device of claim 1 or 2, characterised in that the slit (14) originates from:
- a point on a portion of edge of the opening (12) in the wall (13, 13'), or
- a point on an edge of the flap (15).
- 4). The device of any one of claims 1 to 3, characterised in that the slit (14) is:
- upturned-y-shaped, starting with a first cut (20) and terminating in a bifurcation defined by two further cuts (21, 21') originating at an end of the first cut (20) and identifying an angle (22); or
- fissure-shaped, starting with a single cut (23) and terminating with a hole (24).
- 5). The device of claim 4, characterised in that the first cut (20) is of a length comprised between 0.5 and 8 cm, and the two further cuts (21, 21') are of lengths comprised between 1-3 cm, and the angle (22) is comprised between 85° and 95°.
- 6). The device of claim 4, characterised in that the single cut (23) has a length comprised between 0 cm and 6 cm and in that the hole is circular with a diameter comprised between 1.5 mm and 7 mm.
- 7). The device of any one of claims from 1 to 6, characterised in that at least

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the area (30) adjacent to the slit (14) and destined to be located in contact with a skin area surrounding the catheter comprises at least a substance selected from a group consisting of silver, aluminium and derivatives thereof.

8). The device of claim 7, characterised in that the area (30) adjacent to the slit (14) is made of a non-stick textile, a non-stick textile fabric having knit weft, a non-woven non-stick textile selected from a group comprising:

a textile having fibres made of silver or aluminium;

a textile having fibres covered with silver or aluminium; and

a slim perforated layer of silver or aluminium.

9). The device of claim 7, characterised in that the area (30) adjacent to the slit (14) comprises a derivative of aluminium or silver selected from a group constituted by anhydrous aluminium sulphate and in various forms of hydration thereof, aluminium and potassium dodecahydrate, metallic aluminium, metallic silver, ionic silver, an inorganic silver salt, an organic compound of silver, silver nitrate, protein silver, vitellinate silver, silver alginate and silver sulfadiazine.

10). The device of any one of claims from 1 to 9, characterised in that it further comprises an adhesive auxiliary layer coupled to the containing device in proximity of or at the area (30) adjacent to the slit (14), the auxiliary adhesive layer having at least an adhesive side and a portion (41) of surface not superposed on the area (30) adjacent to the slit (14) arranged such that the adhesive side is placed in contact with the skin when the slit (14) receives the catheter.

11). The device of claim 10, characterised in that the extension of the surface of the auxiliary adhesive layer is greater than the area (30) adjacent to the slit (14), entirely covers the area (30) adjacent to the slit, and extends distally of the opening (12) along a longitudinal axis (42) of the device beyond the flap (15), the auxiliary adhesive layer affording a slit which superposes the

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corresponding slit (14) of the containing device (10) and/or a corresponding slit of a dressing for a catheter (100) application.

12). A dressing for a catheter application, comprising:

at least a surface layer (110) for resting on the skin, the layer being permeable
5 to blood and body fluids;

at least an internal absorbent layer (120);

wherein at least one of the surface layer (110) and the absorbent layer (120) comprises at least a substance selected from a group consisting of silver, aluminium and derivatives thereof, characterised in that it comprises at least a
10 slit (14) selected from a group consisting of:

an upturned-y-shaped slit, starting from an edge of the dressing (100) with a first cut (20) and terminating in a bifurcation defined by two further cuts (21, 21') originating at an end of the first cut (20) and identifying an angle (22); or

fissure-shaped, starting from an edge of the dressing and terminating with a
15 hole (24), which single cut (23) is of a length comprised between 0 and 6 cm and which hole is circular with a diameter comprised between 1.5 mm and 7 mm.

13). The dressing of claim 12, characterised in that the first cut (20) is of a length comprised between 0.5 and 8 cm, and the further two cuts (21, 21') are
20 of lengths comprised between 1 cm and 3 cm, and the angle (22) is comprised between 85° and 95°.

14). The dressing of any one of claims 12 and 13, characterised in that the first surface layer (110) is non-stick textile, a non-stick textile fabric having knit weft, a non-woven non-stick textile selected from a group comprising:

25 a textile having fibres made of silver or aluminium;

a slim perforated layer of silver or aluminium;

- 14 -

a textile having fibres covered with silver or aluminium and in which the aluminium or silver fibres are situated on the external surface of the surface layer destined to be placed in contact with the skin.

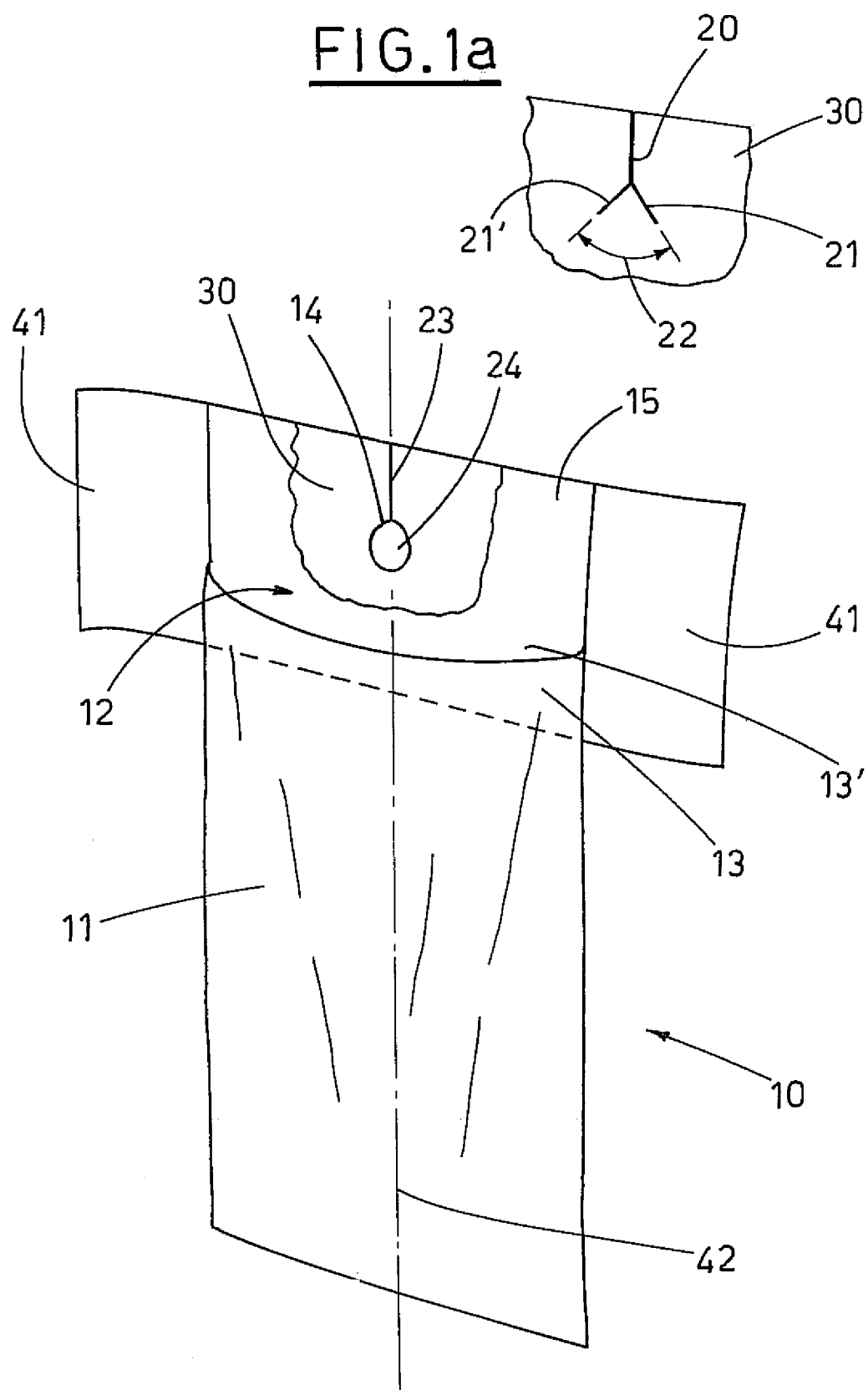
15 15). The dressing of one of claims 12 and 13, characterised in that at least one of the surface layer (110) and the absorbent layer (120) comprises at least one of following derivatives of aluminium and silver selected from a group constituted by anhydrous aluminium sulphate and in various forms of hydration thereof, aluminium and potassium dodecahydrate, metallic aluminium, metallic silver, ionic silver, an inorganic silver salt, an organic
10 compound of silver, silver nitrate, protein silver, vitellinate silver, silver alginate and silver sulfadiazine.

15 16). The device of one of claims from 1 to 6, or 10-11, characterised in that the dressing (100) of claims 12 to 15 is applied on the area (30) adjacent to the slit (14), the surface layer (110) of which is arranged such as to be located in contact with the skin when the slit (14) of the device receives the catheter, with
the slit (14) of the device (10) and the slit of the dressing being superposed.

17). A kit comprising at least the device (10) of claims 1 to 6 or 10 to 11, and at least the dressing (100) of claims 12 to 15.

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FIG.1aFIG.1

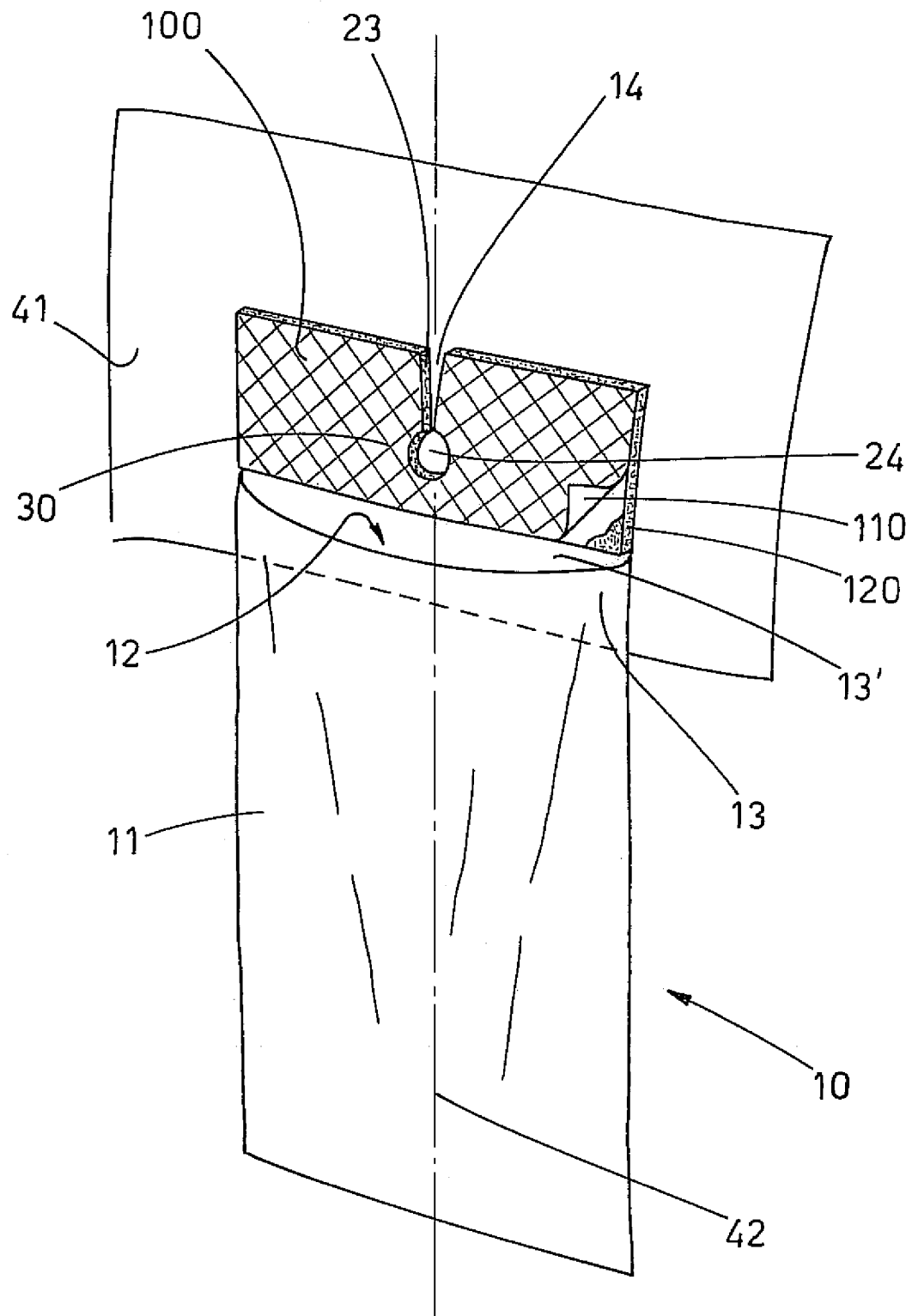


FIG. 2

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2009/064144

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61M25/02 A61M25/00 A61F13/02 A61L15/58

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A61M A61F A61L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-----------------------|
| Y | US 2002/068903 A1 (BEAUSOLEIL ANNETTE A [CA] ET AL) 6 June 2002 (2002-06-06) paragraph [0030] - paragraph [0033] figure 2 | 1-11, 17 |
| Y | ----- WO 2006/085085 A (UNOMEDICAL LTD [GB]; SOUTHWELL JAMES EDWARD [GB]) 17 August 2006 (2006-08-17) | 1-4, 6, 10-11, 17 |
| A | paragraph [0046] figures 1, 2 | 5, 7 |
| Y | ----- US 4 324 237 A (BUTTARAVOLI PHILIP M) 13 April 1982 (1982-04-13) column 4, line 49 - line 55 ----- -/-- | 5 |

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

28 January 2010

Date of mailing of the international search report

08/02/2010

Name and mailing address of the ISA/

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Authorized officer

Amaro, Henrique

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2009/064144

| C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|--|--|-----------------------|
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| Y | EP 0 284 219 A (SMITH & NEPHEW ASS [GB] SMITH & NEPHEW [GB]) 28 September 1988 (1988-09-28) | 7-9 |
| A | column 4, line 10 - line 17 ----- | 12 |
| X | WO 2007/011596 A2 (MEDICAL DEVICE GROUP INC [US]; WRIGHT CLIFFORD A [US]; STEWART GENE [U] 25 January 2007 (2007-01-25) paragraph [0032] paragraph [0035] paragraph [0038] paragraph [0053] figure 1 ----- | 12-16 |
| X | WO 01/68179 A1 (WESTAIM BIOMEDICAL CORP [CA]; BURRELL ROBERT EDWARD [CA]; YIN HUA QING) 20 September 2001 (2001-09-20) page 2, line 24 - page 3, line 4 page 7, line 4 - line 9 page 20, line 9 - line 13 figures 1,2 ----- | 12-16 |
| A | US 2007/225652 A1 (SCHERR GEORGE H [US]) 27 September 2007 (2007-09-27) paragraph [0028] figures 1,2 ----- | 12 |

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2009/064144

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-11, 17

Catheter containing device comprising a pouch defined by two facing walls defining an opening where at least one of the walls includes a slit destined to receive a catheter in the pouch in a free coupling; a kit including the defined catheter containing device

2. claims: 12-16

A dressing for a catheter comprising a surface layer for resting on the skin and an absorbent layer, wherein at least one of the layers comprises at least a substance consisting of silver, aluminium and; a slit selected from two specific dimensions

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2009/064144

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