

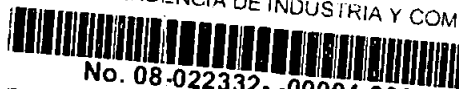
13

1

Castillo Grau & Asociados
ABOGADOS

Señores
DIVISIÓN DE NUEVAS CREACIONES
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
Bogotá, D.C.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



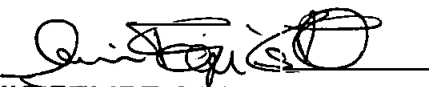
No. 08-022332- -00004-0000

Fecha: 2008-08-01 10:57:39 Dep. 2020 NUECREACION
Tra. 3 MODELO Eve: 1 REGDEPOSITO
Act. 444 RESPUESTAREQUE Folios: 31

Re.: Código 03-01-444
Expediente No. 08-22.332
Solicitud de Patente de Modelo
de Utilidad
POLY MEDICURE LTD.

En relación con el expediente de la referencia y dando cumplimiento a la última providencia recaída sobre este asunto por medio del presente escrito me permito aportar la copia certificada y traducida de la solicitud de patente de modelo de utilidad de la cual se reclama prioridad.

De Ustedes Atentamente,


LUIS FELIPE CASTILLO GIBSON
T.P. No. 68.995 del C.S.J.



**Prioritätsbescheinigung
DE 20 2007 009 977.0
über die Einreichung einer Gebrauchsmusteranmeldung**

Aktenzeichen: 20 2007 009 977.0

Anmeldetag: 17. Juli 2007

Anmelder/Inhaber: POLY MEDICURE LTD., Neu-Delhi/IN

Bezeichnung: Needle safety device for an intravenous catheter apparatus

IPC: A 61 M 5/158, A 61 M 5/32

Die angehefteten Stücke sind eine richtige und genaue Wiedergabe der Teile der am 17. Juli 2007 eingereichten Unterlagen dieser Gebrauchsmusteranmeldung unabhängig von gegebenenfalls durch das Kopierverfahren bedingten Farbabweichungen.

München, den 19. März 2008
Deutsches Patent- und Markenamt
Der Präsident
Im Auftrag

Stichtlmair

NEEDLE SAFETY DEVICE FOR AN INTRAVENOUS CATHETER**APPARATUS**

5

The present invention relates to a guard for the needle tip of an intravenous (IV) catheter. In particular, the invention relates to a needle safety device that automatically covers the needle during withdrawal from the patient to prevent accidental contact with medical professionals.

10 Medical professionals encounter numerous occupational hazards when administering care to patients. One serious hazard is the accidental pricking by a needle after removing from an intravenous catheter. Accidental pricking of medical professionals' skin by the needle is particularly
15 hazardous because the needle tip easily penetrates the latex gloves used by the medical professionals. The concern for accidental pricking is of particular concern in this era of blood borne disease such as Hepatitis or AIDS. Previous needle tip guards have been manufactured that recognize
20 the need for covering the needle tip when being withdrawn from the catheter. The prior art recognizes that the needle tip guard is placed upon the needle after the needle is being withdrawn from the catheter; however, the prior art is difficult to assemble, utilizes an awkward tapered wing housing that requires it to be wider than necessary, utilizes complicated structures and has other disadvantages. These disadvantages will become
25 evident from an examination of U. S. Patent No. 5,135,504 to McLees and U. S. Patent No. 6,117,108 to Woehr.

It is therefore a primary object of the invention to provide a needle safety device in which the disadvantages of the prior art are overcome.

It is a further object of the present invention to provide a intravenous catheter apparatus in which a cylindrical non-tapered wing housing cylinder is used that reduces the overall size of the intravenous catheter apparatus.

5 It is a still further object of the present invention to provide a needle safety device which has a simplified form and is therefore less costly in production and use.

Therefore, the foregoing objects, other objects, as well as numerous advantages of the present invention, are set forth in the following disclosure.

The foregoing objects are satisfied by the subject-matter of the independent claims.

15 The needle safety device of the invention comprises a base capable of receiving a needle and two opposing jaws attached to the base capable of being influenced by the needle. The two opposing jaws together form a reverse collet mechanism. The jaws are moveable between an expanded position with the effective outer diameter of the jaws increased when the needle is between the jaws and a collapsed position when the needle is not
20 between the jaws. The jaws of the needle safety device permit relative movement of the needle with the base when the jaws are expanded. The jaws close around the needle tip as the needle slips through the space between the jaws. The jaws prevent relative movement of the needle with the base when the jaws are collapsed.

25 The needle safety device may be used with an intravenous catheter apparatus that has a flexible catheter attached to a wing housing. The intravenous catheter apparatus has an inner obstruction within the wing housing. A needle having a needle tip is provided within the flexible catheter in the wing housing. The jaws upon the needle safety device as
30 stated above are moveable between an expandable position wherein the

jaws are outwardly moved by the needle and prevented from movement past the inner obstruction in a collapsed position when the jaws close around a needle tip which permits the needle safety device to move past the obstruction while encasing the needle tip.

5 According to another feature of the present invention, the needle safety device has a ramp portion adapted to permit movement of the needle safety device past an obstruction in the intravenous catheter apparatus when in the expanded position for assembly. The obstruction is most typically an annular ring within the wing housing.

10 According to another feature of the present invention, the jaws have a side perpendicular to the cylindrical side of the wing housing that prevents movement past an obstruction of the intravenous catheter apparatus while the needle safety device is in an expanded position.

15 According to another feature of the present invention, the jaws are connected to each other by at least one link at a distance from the base. The at least one link prevents the two jaws from spreading apart too far, which could result in a permanent damage to the needle safety device. The link may be provided on only one side of the jaws. Alternatively, first and second links may be provided on opposite sides of the jaws. Preferably, the
20 at least one link is formed to have spring-like properties such that the jaws can be spread apart against a restoring force of the link. The link is designed such that it retains its spring-like properties over the period of shelf life. For example, the link may have a curved shape, such as an S- or Z-like shape. Alternatively, the link may have a substantially straight
25 shape. To allow for a simplified and cost-effective production of the needle safety device, the base, the jaws, and preferably also the at least one link may be integrally formed and preferably made from a plastic material, for example, by injection molding. Alternatively, the base, the jaws, and preferably also the at least one link may be made from a metal material.

According to another feature of the present invention, the needle safety device is capable of receiving between 14 through 18 gauge needles.

According to another feature of the present invention, the needle safety device is capable of receiving between 18 through 24 gauge needles.

5 According to another feature of the present invention, the intravenous catheter apparatus has a cylindrical wing housing. The needle safety device fits efficiently within the cylindrical wing housing.

According to another feature of the present invention, the needle safety device is held in place within a chamber of the needle hub.

10 According to yet another feature of the present invention, the needle safety device is positioned with the needle safety device abutting a catheter base.

15 Preferred embodiments of the invention are described in the following description and in the accompanying drawings.

Figure 1 is a top view of an intravenous catheter apparatus.

Figure 2 is a cross sectional view of the apparatus of Figure 1 taken along line 2-2.

Figure 3 is an enlarged view of section 3 of Figure 2.

20 Figure 3A is an alternative embodiment of the needle safety device of Figure 3.

Figure 4 is a top view of the intravenous catheter apparatus with the needle partially removed from the catheter and wing housing.

25 Figure 5 is a side cross sectional view of Figure 4 taken along line 5-5.

Figure 6 is a top view of the intravenous catheter apparatus with the needle pulled out of the catheter and the needle out from between the jaws of the needle safety device.

30 Figure 7 is a side cross sectional view taken along line 7-7 of Figure 6.

Figure 8 is an enlarged view of section 8 of Figure 7.

Figure 8A is an alternative embodiment of the needle safety device of Figure 8.

Figure 9 is an enlarged cross sectional view of an alternative embodiment of the needle safety device having a flared needle and tension ring with jaws in an open position.

Figure 10 is the needle safety device of Figure 9 with jaws in a closed position.

Figure 11 is a top view of the intravenous catheter apparatus with the needle pulled away from the catheter and wing housing.

Figure 12 is a side cross-section taken along 9-9 of Figure 10.

Figure 13 is the needle safety device of Figure 8 with a link connecting the jaws.

Figure 13A is the needle safety device of Figure 8A with a link connecting the jaws.

Referring to Figure 1, an intravenous (IV) catheter apparatus 10 of the present invention is shown. The IV catheter apparatus is viewed as a finished product prior to use and includes a needle cover 12, a wing housing 14, a port cap 16 in unitary assembly with the wing housing 14, and a needle hub 18 attached to the wing housing 14.

As seen in the cross section depicted in Figure 2, a needle 20 extends from the needle hub 18 through the wing housing and ends in a needle tip 22 under the needle cover 12.

The needle 20 is hollow and the needle tip 22 is typically cut at a diagonal. When the needle tip 22 is inserted into a patient the needle may encounter fluid pressure which travels through the needle tip 22 through the needle 20 and enters a flash back chamber 24.

Surrounding the needle is a catheter 26 which is attached to the wing housing 14 by catheter base 28. The catheter 26 is a flexible tube that will remain in the user to provide fluids, nourishment, or medicines.

Figure 3 is an enlarged view of the needle safety device 40 of Figure 2. The needle hub 18 has an abutting chamber 30 that is used to hold in position the needle safety device 40 within the wing housing 14. The wing housing 14 has a wing housing chamber 32 in which the needle safety device is placed. Within the wing housing chamber 32 is an obstruction 34 that interacts with the needle safety device 40. In the illustrated embodiment, the obstruction 34 is an annular ring.

The catheter base extends into the wing housing and abuts the needle safety device 40. As illustrated, the needle safety device 40 is held securely in place within the abutting chamber 30 and the catheter base 28.

The needle safety device 40 has a base 42 that has a needle passageway 44 within it. The needle safety device 40 also has a reverse collet 46 that is used to expand to abut the obstruction 34 and to contract to avoid the obstruction 34.

The reverse collet has two jaws 48 moveable between an expanded position with the effective outer diameter of the jaws increased when the needle 20 is between the jaws 48. The jaws move from the expanded position to the collapsed position when the needle 20 is no longer between the jaws 48. The jaws 48 interact with the obstruction 34 to permit relative movement of the needle 20 with the base 42 of the needle safety device 40. The jaws 48 permit this relative motion when they are in the expanded position as seen in the progressive movement between Figures 2, 5, 7, and 10.

When the needle 20 passes beyond the jaws 48, the jaws close around the needle tip 22 preventing accidental contact by the medical professional with the needle tip 22. The jaws 48, when closed around the

needle tip, prevent relative movement of the needle 20 with the base 42 of the needle safety device 40 because the jaws 48 slip past the obstruction 34 without the obstruction 34 pulling upon the needle safety device 40. The needle safety device 40 is required to be held in place by the obstruction in order for the needle 20 to move relative to the needle safety device 40. The needle passageway 44 of the needle safety device 40 has a frictional coefficient which grips the needle 20 when the needle safety device 40 is not held in place by the obstruction 34.

As seen in enlarged Figures 3, 3A, 8, and 8A, the jaws 48 have a ramp 50. During assembly, the needle safety device 40 is typically placed upon the needle 20 on the end attached to the needle hub 18 and then the end attached into the needle hub 18. The needle safety device 40 is thus expanded prior to being placed within the wing housing 14. As the needle is placed into the catheter the needle safety device 40 is inserted into the wing housing and encounters the obstruction 34. The ramp 50 gradually rides through the obstruction 34 and then fits through the obstruction to provide a positive feel to the assembler. A side 52 opposite the ramp 50 prevents backward movement of the needle safety device 40 once in place past the obstruction 34.

The jaws 48 are connected to each other by at least one link 49 (Figures 13 and 13A) in a region between the base 42 and the ramp 50. The link may be provided on only one side of the jaws 48. Alternatively, first and second links may be provided on opposite sides of the jaws 48. The at least one link is formed to have spring-like properties such that the jaws 48 can be spread apart against a restoring force of the link. For example, the link may have a curved shape, such as an S- or Z-like shape. Alternatively, the link may have a substantially straight shape.

The base 42, the jaws 48, and preferably also the at least one link may be integrally formed and preferably made from a plastic material, for

example, by injection molding. Alternatively, the base 42, the jaws 48, and preferably also the at least one link may be made from a metal material.

A reverse taper 54 is provided upon the jaws 48. This reverse taper 54 engages the needle tip 22 permitting the needle tip 22 from moving
5 past the reverse taper 54. As seen by comparing Figures 3 and 3A, the reverse taper 54 may be on one or both of the jaws 48.

As seen in Figures 9 and 10, the needle safety device 40 may utilize a flared needle 23 and a tension ring 53 to keep the needle safety device 40 in protective communication with the needle tip 22. The needle 20 has
10 a flare positioned near its needle point 22 so that its effective diameter increases at that particular point. The flare 23 is created in assembly after the needle safety device 40 is placed onto the needle 20 which is attached to the needle hub 18. The flare 23 ensures that the needle safety device 40 will not be pulled out once the needle tip 22 is trapped in the
15 needle safety device 40. Additionally, a tension ring 53 is provided upon the jaws which will make collapsing of the jaws positive once the needle tip 22 moves past the front of the jaws 48 after the needle 20 is withdrawn out of the catheter 26 after use.

In use, a medical professional receives the intravenous (IV) catheter
20 apparatus with a protective needle cover 12 as seen in Figures 1 and 2, the needle 20 and catheter 26 are inserted into a patient's vein. As seen in Figures 4 and 5, the needle is then withdrawn from the patient by grasping the wing housing 14 and pulling upon the needle hub 18. The needle 20 slides through the catheter 26 and the needle safety device 40.

25 The needle tip 22 passes the jaws 48 permitting the jaws to collapse to their natural position. Alternatively, the tension ring 53 on the jaws 48 makes collapsing of the jaws 48 positive. In the jaws natural position, they are permitted to pass the obstruction 34 in the wing housing 14. Alternatively, the needle safety device 40 as seen in Figures 8 and 8A may
30 still slightly contact the obstruction 34; however, the jaws 48 made of a

flexible material and no longer constricted by the metal syringe 22 are permitted to flex slightly to pass the obstruction 34. In this scenario, the needle passageway 44 of the base 42 grips the needle 20 sufficiently for the jaws 48 to pass the obstruction 34. Alternatively, the flare 23 as in Figure 9 does not pass within the needle passageway 44 permitting the jaws 48 to pass the obstruction 34.

As seen in Figures 9 and 10 the medical professional then completely removes the needle safety device 40 past the wing housing 14 for disposal. The device protects the medical professional from accidental pricking by the needle tip 22.

The needle safety device 40 remains in its assembled position as seen in Figure 1 without affecting the working and functioning of the IV catheter apparatus 10 by having a contoured back portion of the base 42 fit within the needle hub abutting chamber 30. With the base portion 42 in the abutting chamber 30, the jaws are ensured to always be in a plane parallel the needle 20 so that the needle 20 may properly move between the jaws 48 and ensure proper functioning of the needle safety device 40.

The needle tip 22 once within the needle safety device 40 does not come out even if it is pressed against the medical professional, a work surface, or other object. Once the needle safety device 40 is in place, the needle 20 is safe for disposal.

Patentansprüche

5

1. A needle safety device for an intravenous catheter apparatus, the needle safety device comprising:
a base capable of receiving a needle;
two opposing jaws attached to the base and connected to each other by at least one link at a distance from the base, the jaws being capable of being influenced by the needle;
the jaws moveable between an expanded position with the effective outer diameter of the jaws increased when a needle is through the jaws and a collapsed position when the needle is not through the jaws;
the jaws permitting relative movement of the needle with the base when expanded, closing around a needle tip, and preventing relative movement of the needle with the base when collapsed.

15

20

2. A needle safety device in accordance with claim 1, wherein the link is provided on only one side of the jaws.
3. A needle safety device in accordance with claim 1, wherein first and second links are provided on opposite sides of the jaws.

25

4. A needle safety device in accordance with any one of the preceding claims, wherein the or each link is formed to have spring-like properties such that the jaws can be spread apart against a restoring force of the link.

14/58

5. A needle safety device in accordance with any one of the preceding claims, wherein the or each link has a curved shape, for example, an S- or Z-like shape, or a substantially straight shape.

5

6. A needle safety device in accordance with any one of the preceding claims, wherein the jaws have a ramp portion adapted to permit movement past an obstruction of the intravenous catheter apparatus when in the expanded position for assembly.

10

7. A needle safety device in accordance with claim 6, wherein the or each link is provided in a region between the base and the ramp portion.

15

8. A needle safety device in accordance with any one of the preceding claims, wherein the jaws have a side adapted to prevent movement past an obstruction of the intravenous catheter apparatus when in the expanded position.

20

9. A needle safety device in accordance with any one of the preceding claims, wherein the base receives between 14 to 18 gauge needles.

10. A needle safety device in accordance with any one of claims 1 to 8, wherein the base receives between 18 to 24 gauge needles.

25

11. A needle safety device in accordance with any one of the preceding claims, wherein the jaws have a reverse taper adapted to create a barrier against movement of a needle tip once the jaws are moved to the collapsed position.

30

12. A needle safety device in accordance with any one of the preceding claims, wherein the jaws have a tension ring positively collapsing the jaws.
- 5 13. An intravenous catheter apparatus comprising:
a flexible catheter attached to a wing housing;
an inner obstruction within the wing housing;
a needle within the flexible catheter and the wing housing;
a needle safety device having a base and jaws through which the
10 needle passes, wherein the jaws are connected to each other by at
least one link at a distance from the base, and wherein the jaws are
moveable upon the needle safety device between an expanded posi-
tion in which the jaws are outwardly moved by the needle and pre-
vented from movement past the inner obstruction, and a collapsed
15 position in which the jaws close around a needle tip which permits
the needle safety device to move past the obstruction while encasing
the needle tip.
14. An intravenous catheter apparatus in accordance with claim 13,
20 wherein the link is provided on only one side of the jaws.
15. An intravenous catheter apparatus in accordance with claim 13,
wherein first and second links are provided on opposite sides of the
jaws.
- 25 16. An intravenous catheter apparatus in accordance with any one of
claims 13 to 15, wherein the or each link is formed to have spring-
like properties such that the jaws can be spread apart against a re-
storing force of the link.

16 58

17. An intravenous catheter apparatus in accordance with any one of claims 13 to 16, wherein the or each link has a curved shape, for example, an S- or Z-like shape, or a substantially straight shape.
- 5 18. An intravenous catheter apparatus in accordance with any one of claims 13 to 17, wherein the jaws have a ramp portion permitting movement of the needle safety device past the obstruction during assembly.
- 10 19. An intravenous catheter apparatus in accordance with any one of claims 13 to 18, wherein the or each link is provided in a region between the base and the ramp portion.
- 15 20. An intravenous catheter apparatus in accordance with any one of claims 13 to 19, wherein at least one jaw has a side that prevents movement of the needle safety device past the obstruction when the jaws are expanded.
- 20 21. An intravenous catheter apparatus in accordance with any one of claims 13 to 20, wherein at least one jaw has a reverse taper to create a barrier to prevent accidental movement of the needle tip out of the needle safety device.
- 25 22. An intravenous catheter apparatus in accordance with any one of the claims 13 to 21, wherein the jaws have a tension ring positively collapsing the jaws.
- 30 23. An intravenous catheter apparatus in accordance with any one of claims 13 to 22, further comprising a needle hub attached to the needle, an abutting chamber within the hub, the needle safety de-

58
17

vice based fitting within the abutting chamber to align the needle safety device with the needle.

- 5 24. An intravenous catheter apparatus in accordance with any one of claims 13 to 23, further comprising a catheter base within the wing housing, the needle safety device jaws abutting the catheter base to secure the needle safety device for movement within the wing housing.

- 10 25. An intravenous catheter apparatus in accordance with any one of claims 13 to 24, wherein the obstruction is an annular ring.

- 15 26. An intravenous catheter apparatus in accordance with any one of claims 13 to 25, wherein the wing housing has an approximately cylindrical tube in which the needle and needle safety device travels.

- 20 27. An intravenous catheter apparatus in accordance with any one of claims 13 to 26, wherein the needle has a flared tip.

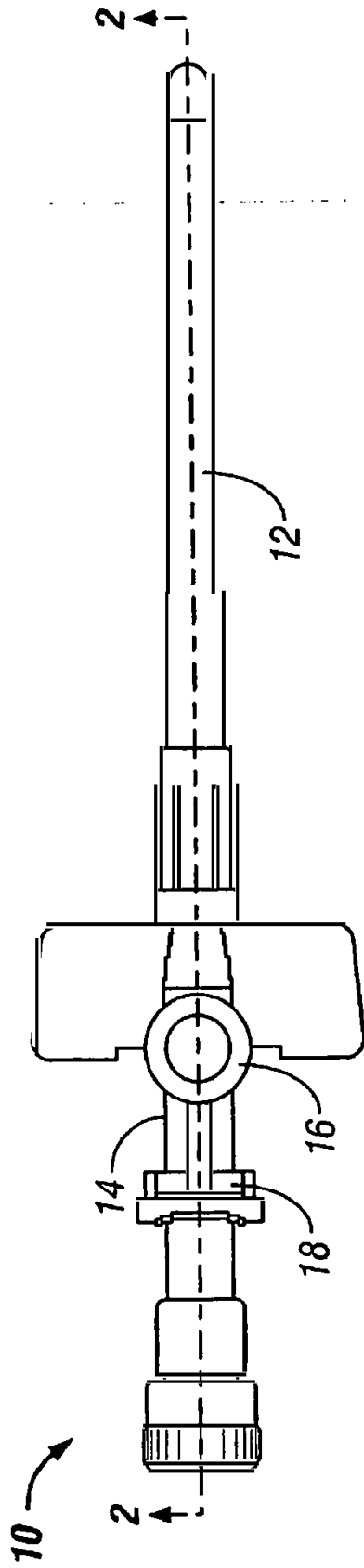


FIG. 1

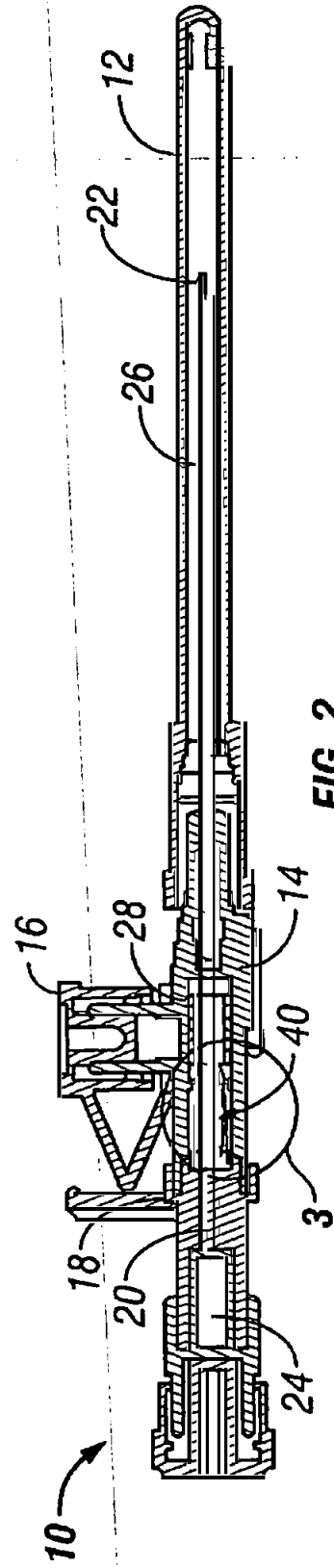


FIG. 2

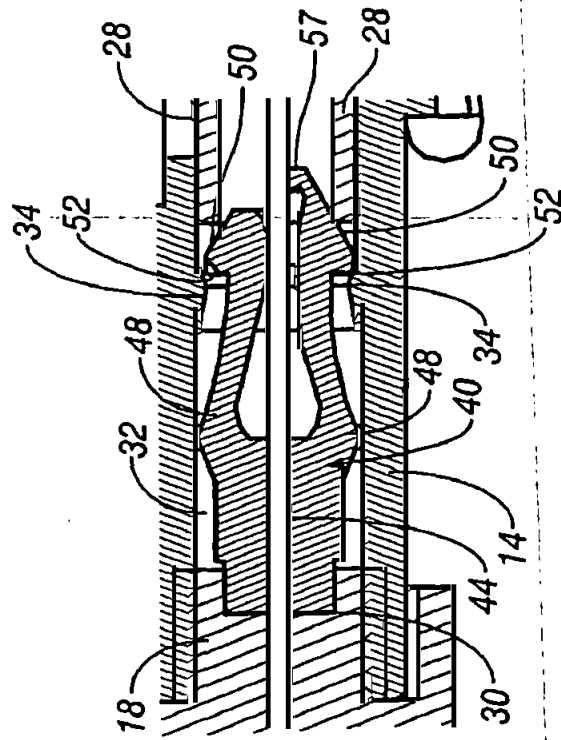


FIG. 3A

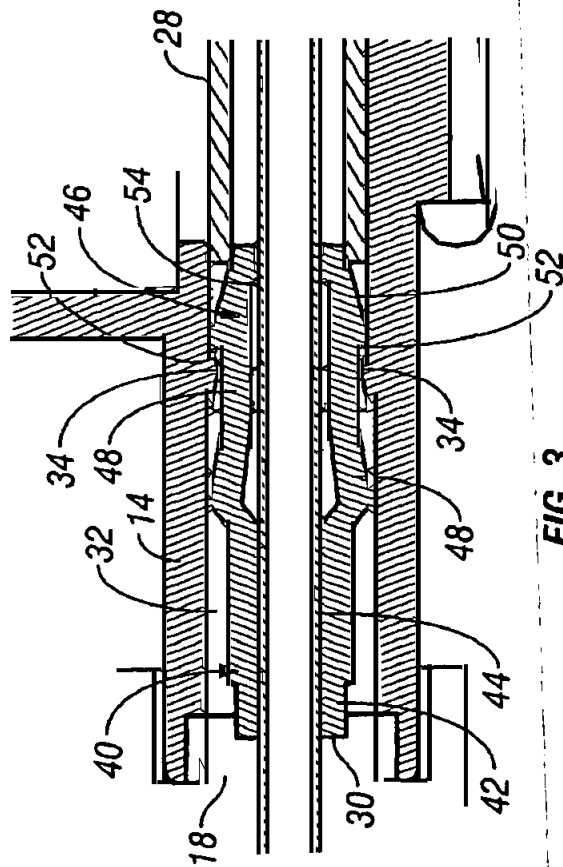


FIG. 3

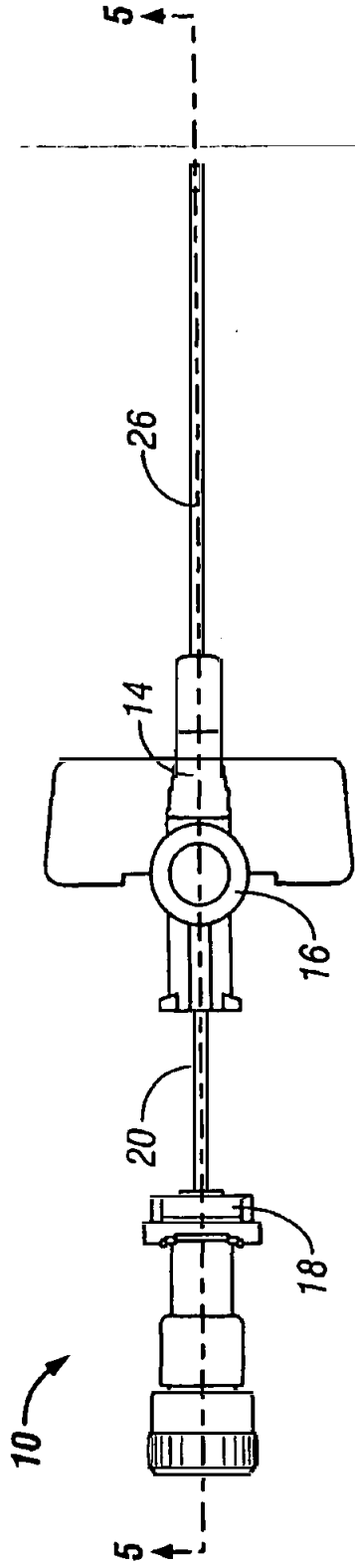


FIG. 4

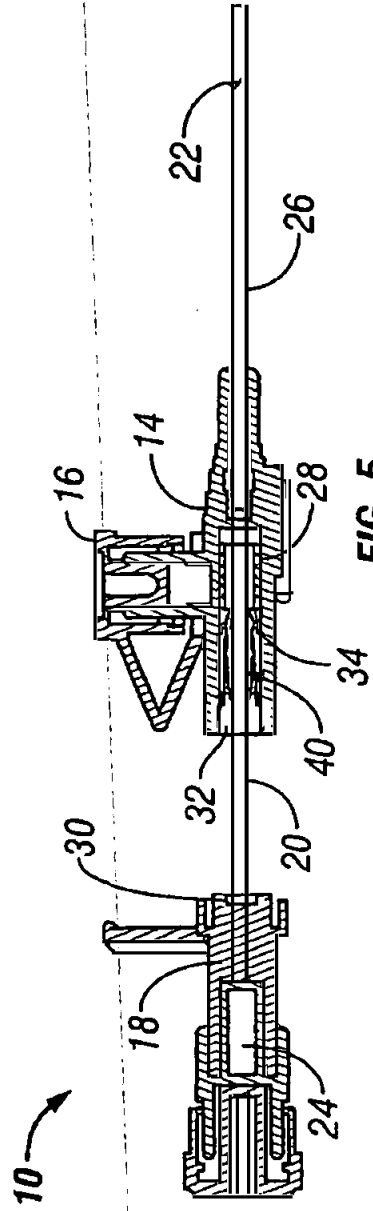


FIG. 5

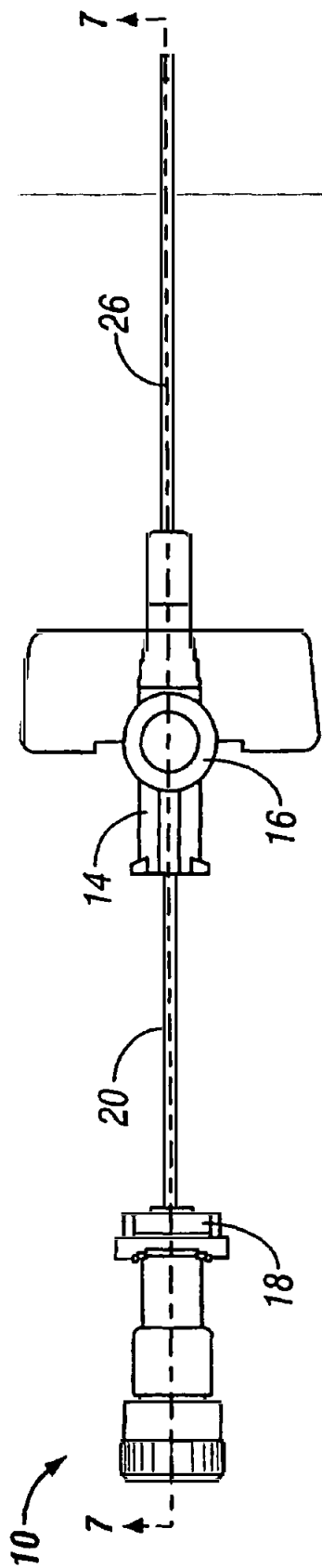


FIG. 6

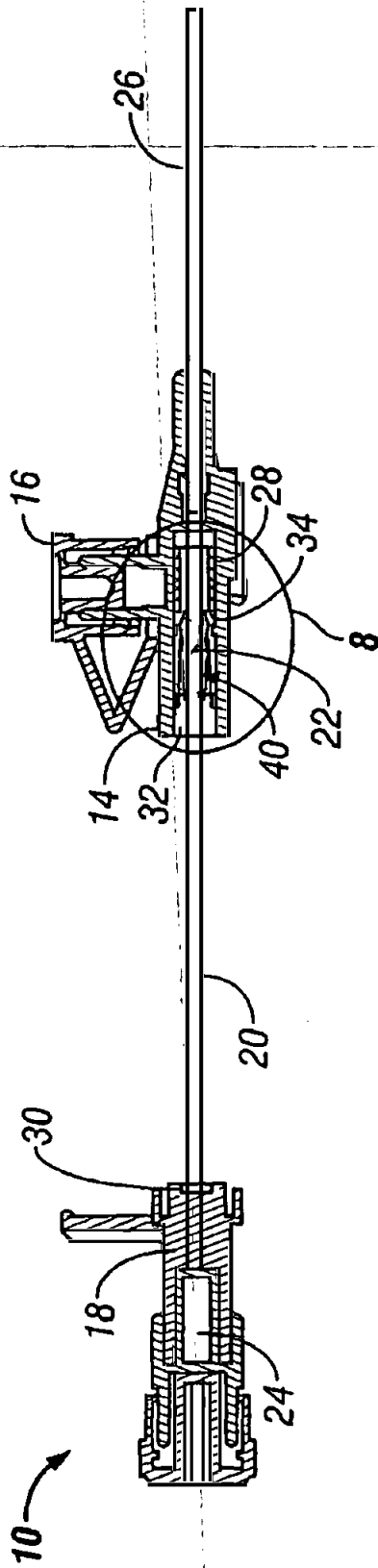


FIG. 7

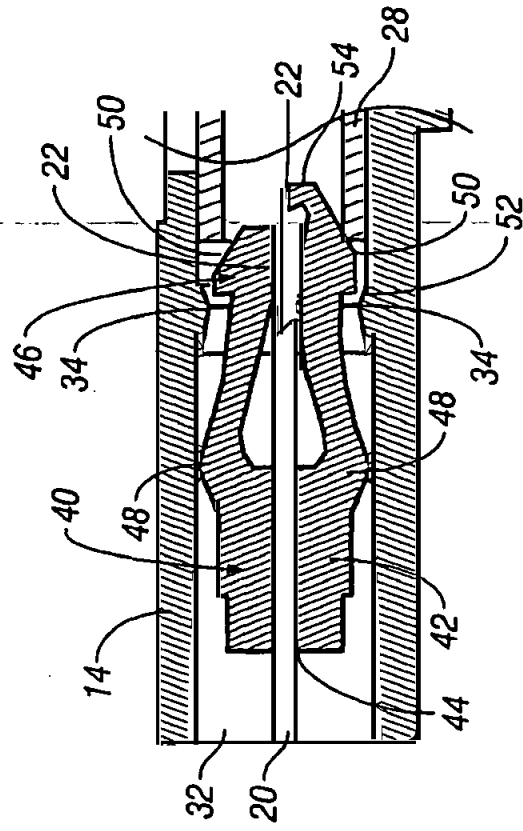


FIG. 8A

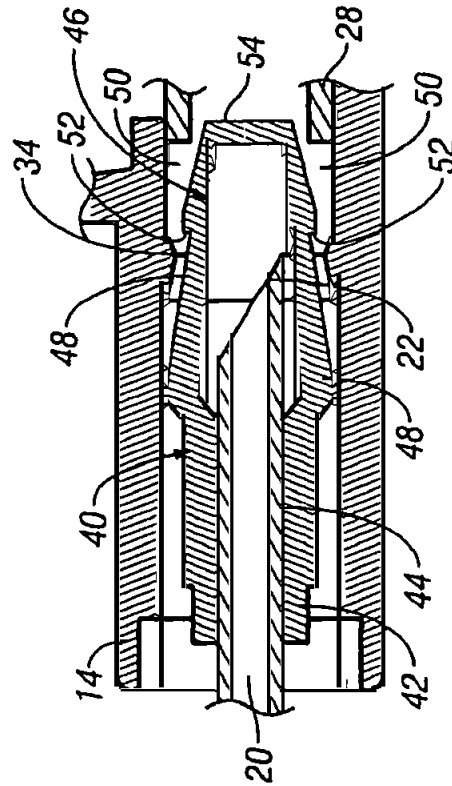


FIG. 8

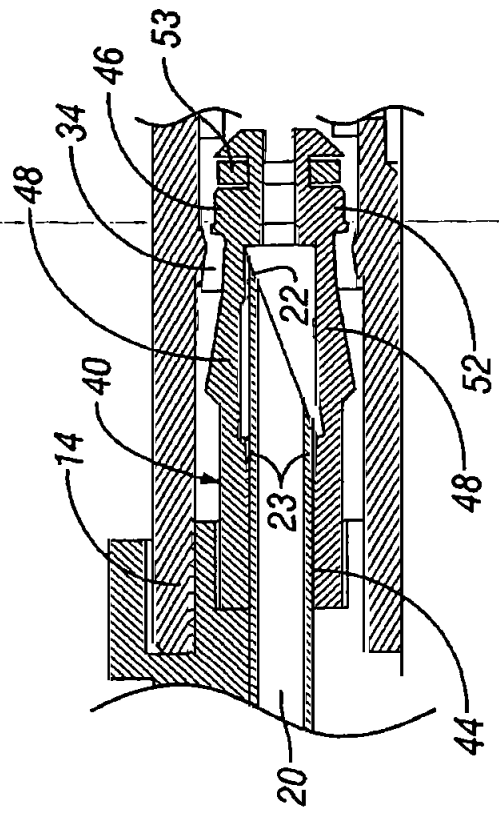


FIG. 10

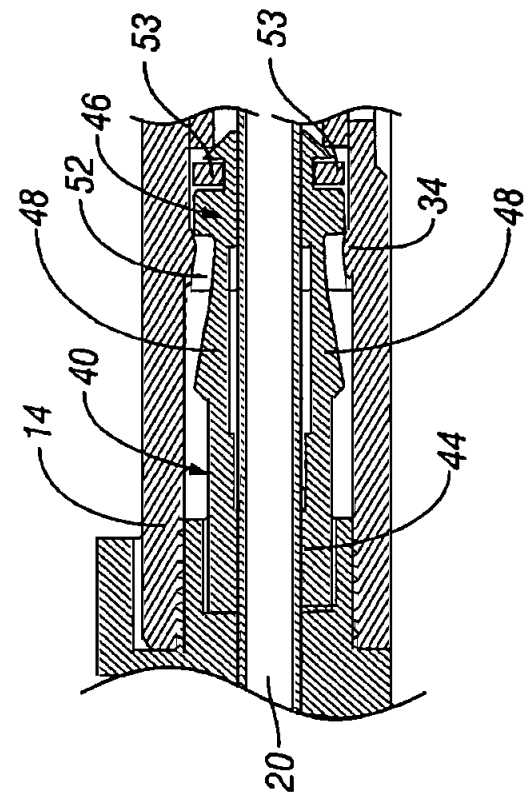


FIG. 9

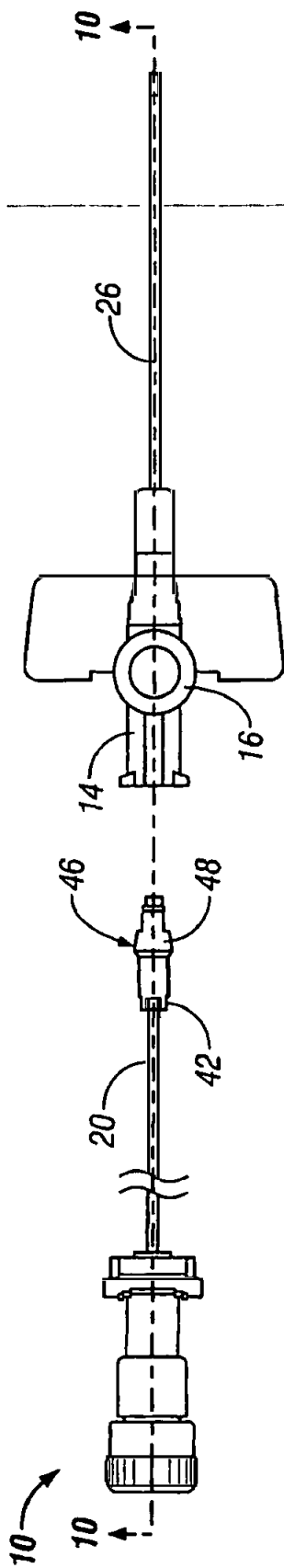


FIG. 11

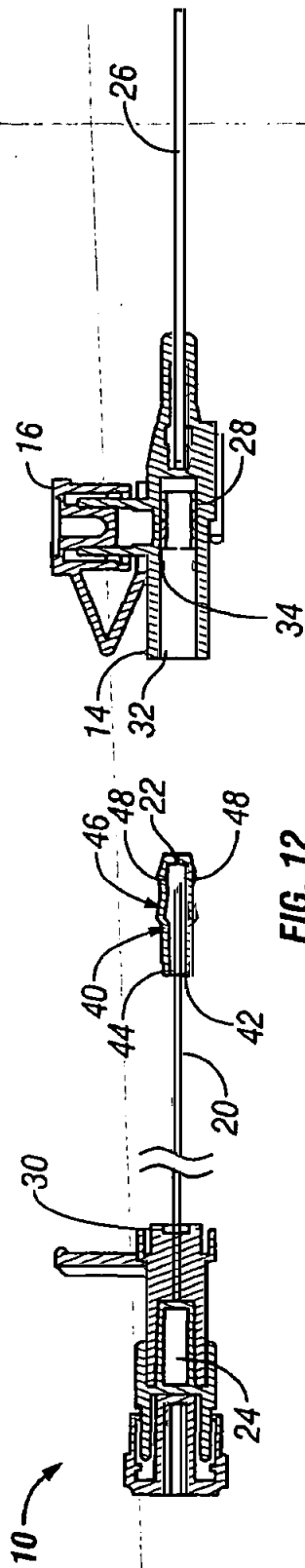


FIG. 12

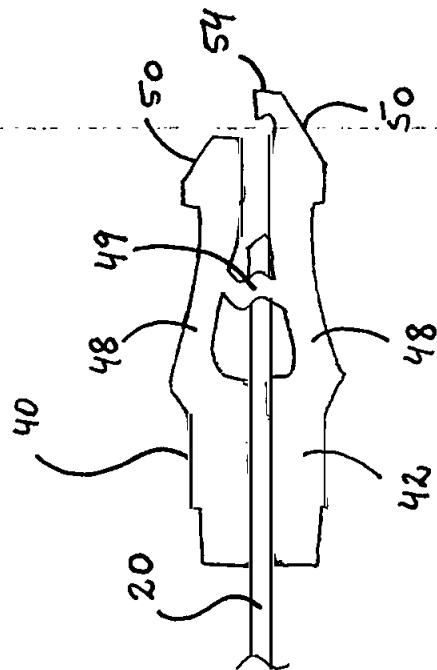


Fig. 13A

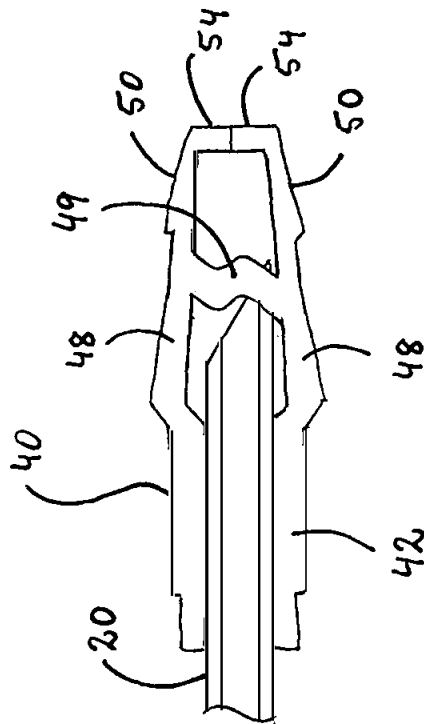


Fig. 13

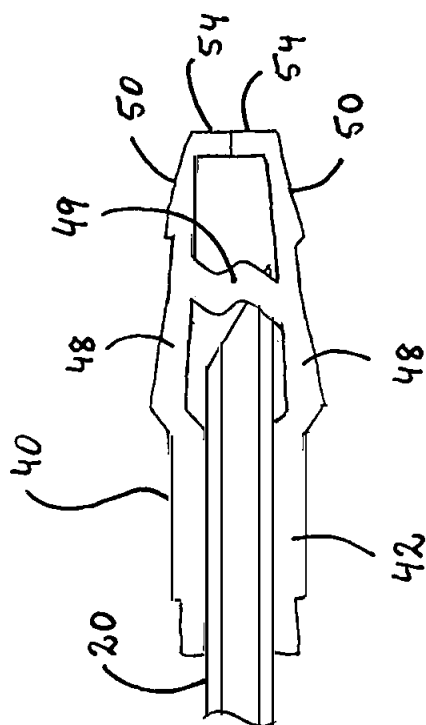


Fig. 13

27 68

REPÚBLICA FEDERAL DE ALEMANIA



**Certificado de Prioridad
DE 20 2007 009 977.0
sobre la presentación de una Solicitud de Modelo de Utilidad**

Solicitud: 20 2007 009 977.0
Fecha presentación: 17 de julio de 2007
Solicitante/Propietario: POLY MEDICURE LTD., Neu-Delhi/IN
Denominación: Needle safety device for an intravenous catheter apparatus
IPC: A 61 M 5/158, A 61 M 5/32

Los documentos adjuntos son una reproducción correcta y exacta de las partes de la documentación presentada el 17 de julio de 2007 de esta solicitud de modelo de utilidad, independientemente de las eventuales variaciones de color debidas al proceso de copiado.

(Cinta y oblea de la Oficina
alemana de Patentes y Marcas)

Munich, 19 de marzo de 2008
Oficina alemana de Patentes y Marcas
El Presidente
p.e. Fdo.: firma ilegible
Stichlmair

REIVINDICACIONES

1. Un dispositivo de seguridad de aguja para un aparato de catéter intravenoso, el dispositivo de seguridad de aguja comprende:

una base capaz de recibir una aguja;

dos mordazas opuestas fijas a la base y conectadas entre sí por al menos una unión a una distancia de la base; las mordazas pueden estar influenciadas por la aguja;

las mordazas son movibles entre una posición expandida y el diámetro exterior efectivo de las mordazas aumenta cuando la aguja está pasada por las mordazas y entre una posición colapsada cuando la aguja no está pasada por las mordazas;

las mordazas permiten el movimiento relativo de la aguja con la base cuando están expandidas, cerrándose alrededor de la punta de la aguja e impidiendo el movimiento relativo de la aguja con la base cuando están colapsadas.

2. Un dispositivo de seguridad de aguja según la reivindicación 1, en el cual la unión se provee solo a un lado de las mordazas.
3. Un dispositivo de seguridad de aguja según la reivindicación 1, en el cual se proveen primera y segunda uniones a los lados opuestos de las mordazas.
4. Un dispositivo de seguridad de aguja según cualquiera de las reivindicaciones anteriores, en el cual la o cada unión está formada para que tenga propiedades en forma de resorte de modo que las mordazas puedan separarse contra una fuerza de recuperación de la unión.
5. Un dispositivo de seguridad de aguja según cualquiera de las reivindicaciones anteriores, en el cual la o cada unión tiene forma curvada, por ejemplo, forma en S o Z, o sustancialmente forma recta.

- 29 20
6. Un dispositivo de seguridad de aguja según cualquiera de las reivindicaciones anteriores, en el cual las mordazas tienen una porción de rampa adaptada para permitir un movimiento que pase por una obstrucción del aparato de catéter intravenoso cuando está en posición expandida para ensamble.
 7. Un dispositivo de seguridad de aguja según la reivindicación 6, en el cual la o cada unión se provee en una región entre la base y la porción de rampa.
 8. Un dispositivo de seguridad de aguja según cualquiera de las reivindicaciones anteriores, en el cual las mordazas tienen un lado adaptado para impedir que un movimiento pase por una obstrucción del aparato de catéter intravenoso cuando está en posición expandida.
 9. Un dispositivo de seguridad de aguja según cualquiera de las reivindicaciones anteriores, en el cual la base recibe agujas de calibre entre 14 y 18.
 10. Un dispositivo de seguridad de aguja según cualquiera de las reivindicaciones 1 a 8, en el cual la base recibe agujas de calibre entre 18 y 24.
 11. Un dispositivo de seguridad de aguja según cualquiera de las reivindicaciones anteriores, en el cual las mordazas tienen un abocinamiento inverso adaptado para crear una barrera contra el movimiento de la punta de una aguja una vez las mordazas se mueva a la posición colapsada.
 12. Un dispositivo de seguridad de aguja según cualquiera de las reivindicaciones anteriores, en el cual las mordazas tiene un anillo de tensión que colapsa positivamente las mordazas.
 13. Un aparato de catéter intravenoso que comprende:
 - un catéter flexible pegado a una estructura de ala;
 - una obstrucción interior dentro de la estructura de ala;
 - una aguja dentro del catéter flexible y la estructura de ala;

3D H

un dispositivo de seguridad de aguja que tiene una base y mordaza a través de la cual pasa la aguja, en el cual las mordazas están conectadas entre sí por al menos una unión a una distancia de la base, y en el cual las mordazas se mueven en el dispositivo de seguridad de la aguja entre una posición expandida en la que las mordazas son movidas hacia fuera por la aguja y se impide el movimiento luego de que pasan la obstrucción interior, y una posición colapsada en la que las mordazas se cierran alrededor de la punta de la aguja lo cual permite que el dispositivo de seguridad de la aguja se mueva cuando pasa la obstrucción al tiempo que recubre la punta de la aguja.

14. Un aparato de catéter intravenoso según la reivindicación 13, en el cual la unión se provee únicamente a un lado de las mordazas.
15. Un aparato de catéter intravenoso según la reivindicación 13, en el cual se proveen primera y segunda uniones a los lados opuestos de las mordazas.
16. Un aparato de catéter intravenoso según cualquiera de las reivindicaciones 13 a 15, en el cual la o cada unión está formada para que tenga propiedades de resorte de modo que las mordazas puedan apartarse contra una fuerza de recuperación de la unión.
17. Un aparato de catéter intravenoso según cualquiera de las reivindicaciones 13 a 16, en el cual la o cada unión tiene una forma curva, por ejemplo, una forma en S o Z, o sustancialmente una forma recta.
18. Un aparato de catéter intravenoso según cualquiera de las reivindicaciones 13 a 17, en el cual las mordazas tienen una porción de rampa que permite que un movimiento del dispositivo de seguridad de la aguja pase por la obstrucción durante el ensamble.
19. Un aparato de catéter intravenoso según cualquiera de las reivindicaciones 13 a 18, en el cual la o cada unión está provista en una región entre la base y la porción de rampa.

- 31 72
20. Un aparato de catéter intravenoso según cualquiera de las reivindicaciones 13 a 19, en el cual al menos una mordaza tiene un lado que impide que el movimiento del dispositivo de seguridad de la aguja pase por la obstrucción cuando las mordazas están expandidas.
 21. Un aparato de catéter intravenoso según cualquiera de las reivindicaciones 13 a 20, en el cual al menos una mordaza tiene un abocinamiento inverso para crear una barrera que impida el movimiento accidental de la punta de la aguja fuera del dispositivo de seguridad de la aguja.
 22. Un aparato de catéter intravenoso según cualquiera de las reivindicaciones 13 a 21, en el cual las mordazas tiene un anillo de tensión que colapsa positivamente las mordazas.
 23. Un aparato de catéter intravenoso según cualquiera de las reivindicaciones 13 a 22 que además comprende un núcleo de aguja fijo a la aguja, una cámara de empalme dentro del núcleo, la base del dispositivo de seguridad de la aguja se ajusta dentro de la cámara de empalme para alinear el dispositivo de seguridad de la aguja con la aguja.
 24. Un aparato de catéter intravenoso según cualquiera de las reivindicaciones 13 a 23, que además comprende una base de catéter dentro de la estructura del ala; las mordazas del dispositivo de seguridad de la aguja se empalman a la base del catéter para asegurar el dispositivo para movimiento dentro de la estructura del ala.
 25. Un aparato de catéter intravenoso según cualquiera de las reivindicaciones 13 a 24, en el cual la obstrucción es un anillo anular.
 26. Un aparato de catéter intravenoso según cualquiera de las reivindicaciones 13 a 25, en el cual la estructura de ala tiene un tubo aproximadamente cilíndrico en el que se desplaza la aguja y el dispositivo de seguridad de la aguja.
 27. Un aparato de catéter intravenoso según cualquiera de las reivindicaciones 13 a 26, en el que la aguja tiene una punta ensanchada.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No: 08-022332- -00000-0000

 Fecha: 2008-03-03 15:59:45 Dep: 2020 NUECREACIÓN
 Tra: 3 MODELO Eve: 1 REGDEPOSITO
 Act: 411 PRESENTACION Folios: 30

Industria y Comercio
 SUPERINTENDENCIA

REQUISITOS MINIMOS PARA ADMISION A TRAMITE PCT

PATENTE DE INVENCION ☐MODELO DE UTILIDAD ☒Indicación de que se solicita la concesión de una patente ☒Datos de identificación del solicitante o de la persona que presenta la solicitud ☒Descripción de la invención ☒Dibujos de ser estos pertinentes ☒Comprobante de pago de las tasas establecidas ☒COMPLETA ☐INCOMPLETA ☐DISEÑO INDUSTRIAL ☐Indicación de que se solicita el registro de Diseño Industrial ☐Datos de identificación del solicitante o de la persona que presenta la solicitud ☐Representación gráfica y fotográfica del Diseño Industrial o muestra del material que incorpora el diseño ☐Comprobante de pago de las tasas establecidas ☐COMPLETA ☐INCOMPLETA ☐ESQUEMA DE TRAZADO ☐Indicación de que se solicita el registro de un Esquema de Trazado ☐Datos de identificación del solicitante o de la persona que presenta la solicitud ☐Representación gráfica del esquema trazado ☐Comprobante de pago de las tasas establecidas ☐COMPLETA ☐INCOMPLETA ☐
Andrés M. Nueva Corales

Responsable

Fecha

Carrera 13 No. 27-00 Piso 5, 7 y 10