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(54) **Temporary closure for medical waste containers and the like**

Temporäre Schliessvorrichtung für Behälter und dergleichen für medizinische Abfälle

Couverture temporaire pour récipients et similaires à déchets médicaux

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EP 1 798 166 B1

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Description

OBJECT OF THE INVENTION

[0001] The present invention relates to a closure device which has been specially designed as a temporary closure means for containers used in medical centers and the like in which given the nature of the content and once they have been used, a leak-tight closure preventing the handling of said waste, which could be toxic for the person handling it, must be provided.

[0002] The invention further relates to a medical waste container comprising such a temporary closure.

[0003] The object of the invention is to obtain temporary closure means for the container from the initial moment it is used until the moment it must be permanently closed because it is full, ensuring good closure conditions throughout said period, preventing the volatile cytotoxic medicinal elements from being released to the surface and thus improving the container user conditions. A further object of the invention is to obtain a medical container comprising such a temporary closure.

BACKGROUND OF THE INVENTION

[0004] Wastes are generated particularly in certain medical centers which imply a risk of contamination for people, they therefore require special handling until they are disposed of, generally by incineration.

[0005] To that end, containers are used which must allow being opened and closed as many times necessary when it is in the process of being filled, but which must allow a leak-tight and non-removable closure once their disposal becomes necessary for their storage and transport to the point of incineration, preventing incorrectly accessing them so as to prevent the risks that may derive from the opening of the container.

[0006] Utility model ES-U 9201433 must be pointed out in this sense, which describes a container for medical wastes and the like, the body of which comprises at the level of its mouth a perimetral rim surrounded by an also perimetral and external groove, whereas the cover comprises a perimetral groove that is able to receive therein the perimetral rim of the body with the placement of a gasket, the outer wall of said groove having prongs which penetrate the groove of the base body, traversing body windows thereof and being locked therein when they pass through them.

[0007] Although this solution is perfectly valid in relation to the results that are obtained, i.e. in relation to the leak-tightness of the closure and the tamper-proof nature thereof, it does have the fundamental drawback that the prongs of the cover forming projecting elements entail a permanent risk for the users of the container of being cut and scratched on both their hands and through the latex gloves normally used as protection, such that the unnoticed tearing of one of the gloves could entail unforeseen consequences.

[0008] European patent EP 808 782 A discloses another waste container with a closure and a tool for opening it which is a solution that is virtually equivalent to the solution of the previously discussed utility model, given that it incorporates a structure that is virtually identical at the level of the cover, the only exception being that in this case the prongs are facing outwardly rather than inwardly, and with the particularity that at the level of the mouth of the body it has a considerably narrower rim and outside it has a T-shaped partition also provided with grooves or windows for the passage of the prongs. This solution thus maintains protection of the prongs in the final closure position for the container, however it still has the same drawback as that set forth above during the multiple opening and closing operations carried out on the container before it is permanently closed as in the case of the aforementioned utility model.

[0009] This patent also describes and claims a tool allowing the opening of the container once it has been permanently closed which is of little interest given that these containers are single-use devices, such that they are incinerated along with their content.

[0010] Regardless of the drawbacks set forth above, while the container is being used until it is completely filled, which in practice may be a considerably long time, the closure of the container strays considerably from leak-tight conditions, such that if cytotoxic materials are deposited therein, as they usually are, which release volatile elements, the latter exit the container to the outside. Furthermore, since the cover is handled with contaminated gloves or when materials are externally spilled thereon, there is a risk of cross-contamination.

DESCRIPTION OF THE INVENTION

[0011] The temporary closure provided by the invention resolves in a fully satisfactory manner the drawbacks set forth above, on one hand due to the fact that it allows that the conventional and permanent cover for the leak-tight closure of the container is not used until the container is permanently closed, such that it is not even part of the container, forming an appendage which can be stored in any suitable location until it is used, and on the other due to the fact that the temporary closure is coupled in a considerably leak-tight manner to the body of the container and considerably maintains the leak-tight features until the moment it is disposed of, logically in a workable manner so as to allow sequentially depositing the wastes therein.

[0012] Therefore, the invention discloses a temporary closure for medical waste containers and the like, specifically for containers to the body of which there is coupled in a swiveling manner a cover provided with tamper-proof closure means on the mouth of the body, characterized in that it consists of a plate provided perimetrically and at the bottom with supports intended for being arranged on a perimetral internal step of the body of the container, said plate having a perimeter that coincides in

shape and size with the inner section of the body at the level of its implementation area, it having been provided that said plate comprises a wide window in turn cooperating with a cover hinged to said plate, such that through said plates and cover a temporary closure of the body of the container is formed until the container is completely filled, at this time the body receiving the conventional and permanent closure cover which can be non-removably fixed to the mouth thereof.

[0013] To that end and more specifically, the temporary closure is based on the frequent existence in medical waste containers of a perimetral widening and step close to their mouth and is carried out with a plate provided with supports on said step, such that the perimeter of the mentioned plate copies in relation to shape and size the inner perimeter of the body at the level of its area of implementation, thus obtaining a perfect fit between plate and body of the container determining a virtually leak-tight coupling.

[0014] As a complement to the described structure, the mentioned plate has a wide central window complemented with a swiveling cover which is attached to the window with a tongue and groove coupling, defining an also substantially leak-tight closure, which cover further has the particularity of incorporating, in addition to a deformation serving as a handle for facilitating the opening thereof, stops for limiting the swiveling thereof, making the opening unstable and making said cover to automatically move to the closure position due to gravity.

[0015] According to this structure, the temporary closure provides the body of the container with the sought leak-tight features during the entire process of filling it, and when said process is complete, being unnecessary to extract the temporary closure, the conventional cover with prongs can be applied to the mouth of the body of the container, forming the permanent tamper-proof closure.

DESCRIPTION OF THE DRAWINGS

[0016] To complement the description being made and for the purpose of aiding to better understand the features of the invention according to a preferred practical embodiment thereof, a set of drawings is attached as an integral part of said description in which the following is shown with an illustrative and non-limiting character:

Figure 1 shows a perspective view of the body of a hospital waste container which the temporary closure object of the present invention can be applied to.

Figure 2 shows another perspective view of the mentioned temporary closure.

Figure 3 again shows a perspective view of the temporary closure of Figure 2 duly coupled to the body of the container of Figure 1 with the cover of the mentioned temporary closure in the intermediate

opening position.

Finally, Figure 4 shows a cross-sectional view of a detail of the assembly shown in Figure 3.

PREFERRED EMBODIMENT OF THE INVENTION

[0017] In view of the mentioned figures, it can be seen how the temporary closure proposed by the invention requires for its implementation a container the body (1) of which has a stepped widening (2) that is relatively close to its mouth so as to form the support and stabilization means for said temporary closure, which is carried out in a plate (3) perimetrically and at the bottom provided with supports (4) intended for being arranged on the step (2) of the body (1) of the container, and such that in said support position the perimeter of the plate (3) coincides in shape and size with the inner corresponding section of the body (1), a stable and leak-tight coupling thus being formed between both elements.

[0018] The plate (3) comprises a wide central window (5), preferably rectangular with rounded corners which is usually blocked by a cover (6) mainly comprising a lower cupping (7) tightly entering the window (5), also forming a leak-tight closure.

[0019] This cover (6) has in the center on one of its edges a deformation (8) acting as a handling and the ends of its opposite edge are carried out in respective cylindrical and coaxial bosses determining the swivel axis of the door, which swivels on one-piece bosses (9) with the plate (3), which are further provided with stops (10) for limiting the swiveling of said cover (6) such that the latter is not able to reach the upright position, much less surpass it, therefore when the manual action on the cover ceases, it automatically moves to the closure position.

[0020] According to the aforementioned, during the process in which the container is being filled, which may last for a longer or shorter time, the cover (6) is used as a means for accessing the inside thereof and once it has finally been filled and is going to be disposed of, the permanent cover, not shown in the drawings as it can be any conventional type of cover, is coupled to the body (1), for which purpose the body (1) incorporates at the level of its mouth elastically deformable clamps (11) having restricted mouths and which are able to receive the swiveling axes or bosses by means of pressure coupling which form the conventional hinging means of the cover. Thus, and as can be seen in Figure 3, the container can be permanently closed by means of the mentioned conventional cover not shown, the temporary closure (3-6) which is also disposable being internally maintained, said permanent closure maintaining the classic features of permanent inaccessibility to the inside of the container.

Claims

1. A temporary closure for medical waste containers

and the like, specifically for containers to the body (1) of which there is coupled in a swiveling manner a cover provided with tamper-proof closure means on the mouth of the body, **characterized in that** it consists of a plate (3) provided perimetrically and at the bottom with supports (4) intended for being arranged on a perimetral internal step (2) of the body (1) of the container, said plate (3) having a perimeter that coincides in shape and size with the inner section of the body (1) at the level of its implementation area, it having been provided that said plate (3) comprises a wide window (5) in turn cooperating with a cover (6) hinged to said plate (3).

2. A temporary closure for medical waste containers and the like according to claim 1, **characterized in that** the mentioned cover (6) has a cupping (7) on most of the cover which is suitable in shape and size for tightly fitting into the window (5) of the plate (3), said cover (6) being provided with a marginal deformation (8) acting as a handle, and opposite thereto a swiveling axis functioning in a pair of sleeves (9) integrated in the plate (3).
3. A temporary closure for medical waste containers and the like according to claim 2, **characterized in that** the pair of sleeves (9) for the axis of the cover (6) are provided with stops (10) which limit the swiveling movement of the cover (6), preventing said movement from reaching 90°.
4. A medical waste container comprising a temporary closure according to any of the previous claims, **characterized in that** the body (1) of the container incorporates at the level of its mouth elastically deformable clamps (11) having a restricted mouth for coupling the swiveling axes forming the hinging means of the permanent cover, the closure position of which is not hindered by the inner plate (3) or its cover (6).

Patentansprüche

1. Vorläufiger Verschluss für Behälter für medizinischen Abfall und dergleichen, insbesondere für Behälter, mit deren Körper eine Abdeckung auf schwenkbare Weise gekoppelt ist, die mit Betrugsnachweis-Verschlussmitteln an der Mündung des Körpers versehen ist, **dadurch gekennzeichnet, dass** er aus einer Platte (3) besteht, die an ihrem Umfang und am Boden mit Unterstützungen (4) versehen ist, die dazu vorgesehen sind, an einer Umfangsinnenstufe (2) des Körpers (1) des Behälters angeordnet zu werden, wobei die Platte (3) einen Umfang besitzt, dessen Form und dessen Größe mit dem inneren Abschnitt des Körpers (1) auf Höhe seines Implementierungsbereichs übereinstimmen,

und dass vorgesehen ist, dass die Platte (3) ein breites Fenster (5) aufweist, das wiederum mit einer Abdeckung (6) zusammenwirkt, die an der Platte (3) angelenkt ist.

2. Vorläufiger Verschluss für Behälter für medizinischen Abfall und dergleichen nach Anspruch 1, **dadurch gekennzeichnet, dass** die erwähnte Abdeckung (6) im größten Teil der Abdeckung eine Napfform (7) besitzt, deren Form und deren Größe geeignet sind, um eng in das Fenster (5) der Platte (3) zu passen, wobei die Abdeckung (6) mit einer geringfügigen Verformung (8) versehen ist, die als ein Griff wirkt, und ihr gegenüber mit einer Schwenkachse versehen ist, die in einem Paar Hülsen (9), die in die Platte (3) integriert sind, wirkt.
3. Vorläufiger Verschluss für Behälter für medizinischen Abfall und dergleichen nach Anspruch 2, **dadurch gekennzeichnet, dass** das Paar Hülsen (9) für die Achse der Abdeckung (6) mit Anschlägen (10) versehen ist, die die Schwenkbewegung der Abdeckung (6) begrenzen, wodurch verhindert wird, dass die Bewegung 90° erreicht.
4. Behälter für medizinischen Abfall, der einen vorläufigen Verschluss nach einem der vorhergehenden Ansprüche umfasst, **dadurch gekennzeichnet, dass** der Körper (1) des Behälters auf Höhe seiner Mündung elastisch verformbare Klemmen (11) enthält, die eine beschränkte Mündung für die Kopplung mit den Schwenkachsen besitzen, die die Scharniermittel der dauerhaften Abdeckung bilden, deren Verschlussposition durch die innere Platte (3) oder ihre Abdeckung (6) nicht behindert wird.

Revendications

1. Fermeture provisoire pour conteneurs de déchets médicaux et analogues, en particulier pour des conteneurs au corps (1) desquels est couplé, en pivotement, un couvercle pourvu d'un moyen de fermeture inviolable sur l'ouverture du corps, **caractérisée en ce qu'elle** consiste en une plaque (3) dotée, à sa périphérie et en sa partie inférieure, de supports (4) destinés à être disposés sur un épaulement interne périmétral (2) du corps (1) du conteneur, ladite plaque (3) ayant un périmètre qui coïncide, en forme et en dimension, avec la section interne du corps (1) au niveau de sa zone de mise en oeuvre, étant prévu que ladite plaque (3) comprend une large fenêtre (5) coopérant à son tour avec un couvercle (6) articulé sur ladite plaque (3).
2. Fermeture provisoire pour conteneurs de déchets médicaux et analogues selon la revendication 1, **caractérisée en ce que** le couvercle (6) cité comporte

une cuvette (7) sur la plus grande partie du couvercle, qui est apte, en forme et en dimension, à s'ajuster étroitement dans la fenêtre (5) de la plaque (3), ledit couvercle (6) étant doté d'une déformation de bord (8) servant de poignée, et, opposé à celle-ci, d'un axe de pivotement opérant dans une paire de manchons (9) intégrés à la plaque (3). 5

3. Fermeture provisoire pour conteneurs de déchets médicaux et analogues selon la revendication 2, **caractérisée en ce que** la paire de manchons (9) pour l'axe du couvercle (6) est pourvue de butées (10) qui limitent le mouvement de pivotement du couvercle (6), empêchant que ledit mouvement atteigne 90°. 10

4. Conteneur de déchets médicaux comprenant une fermeture provisoire selon l'une quelconque des revendications précédentes, **caractérisé en ce que** le corps (1) du conteneur inclut, au niveau de son ouverture, des attaches déformables élastiquement (11) ayant une ouverture restreinte pour accouplement des axes de pivotement formant les moyens d'articulation du couvercle permanent, la position de fermeture duquel couvercle n'est pas gênée par la plaque interne (3) ou son couvercle (6). 15 20 25

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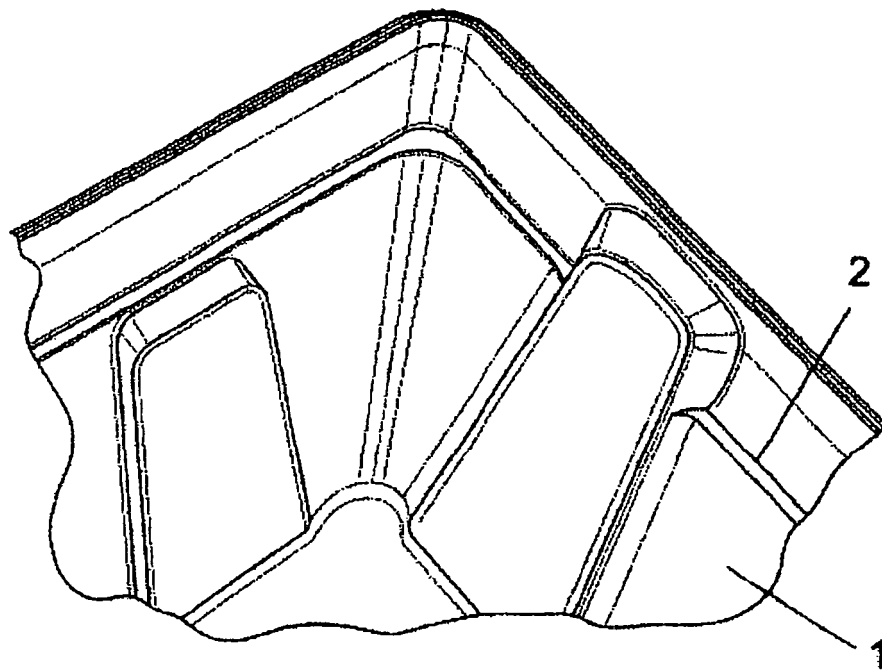


FIG. 1

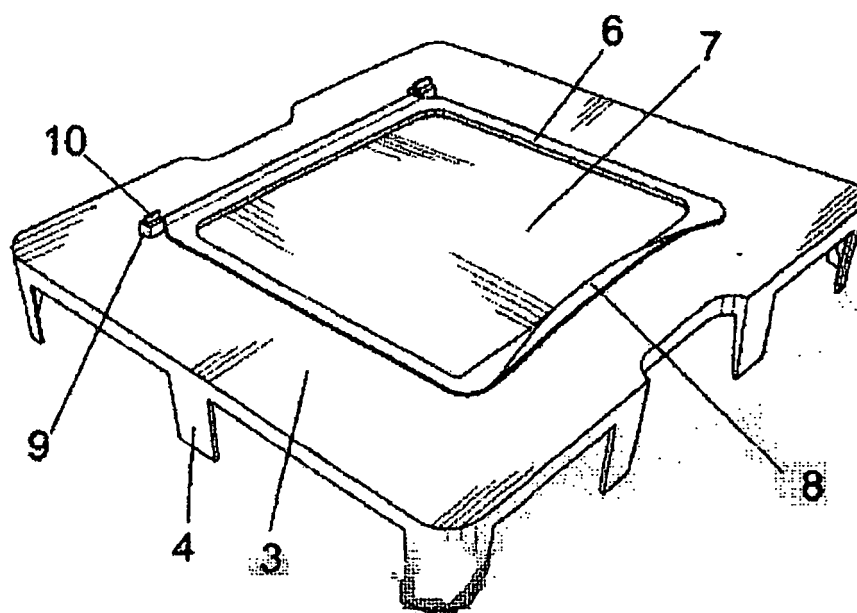


FIG. 2

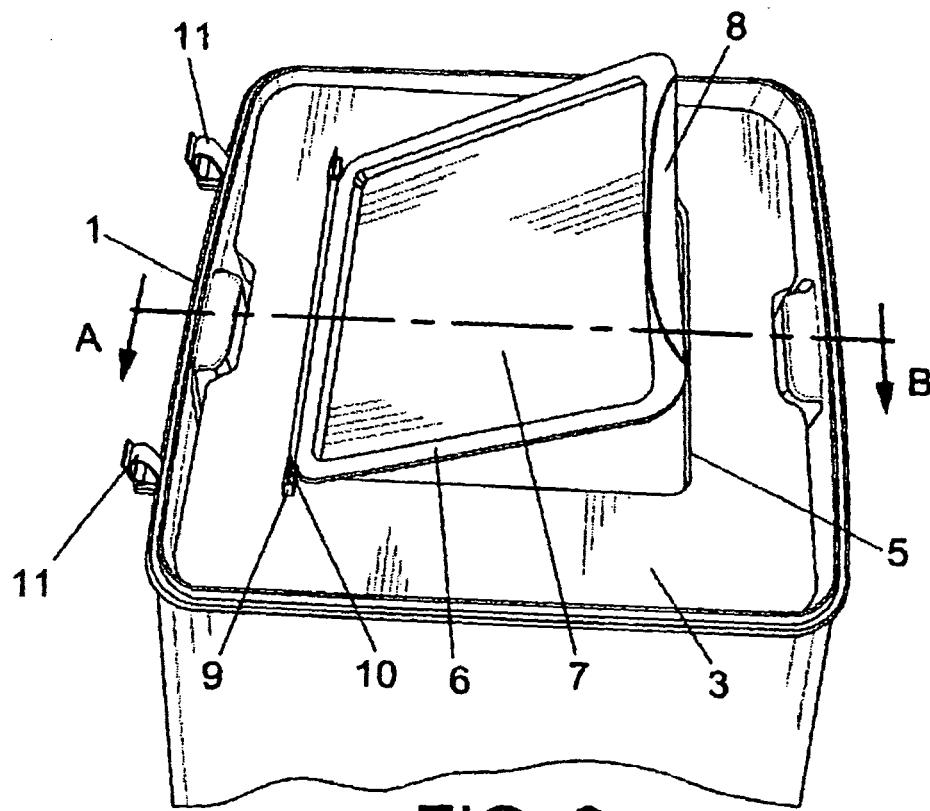


FIG. 3

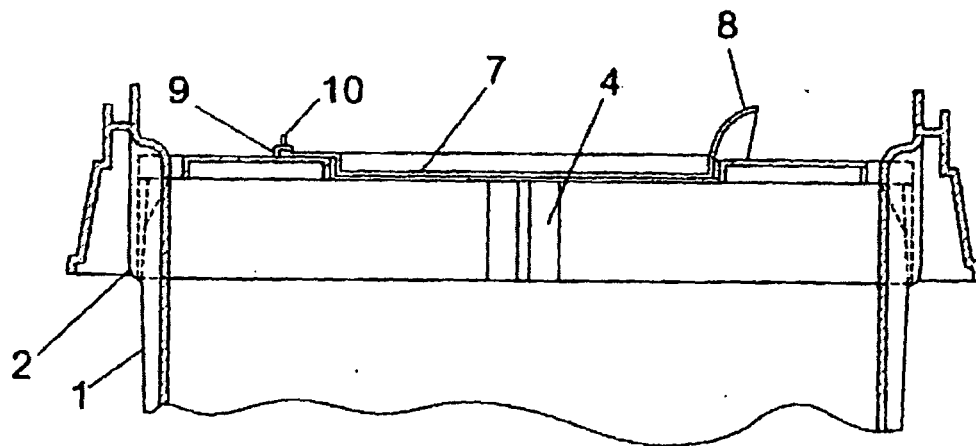


FIG. 4

A-B

REFERENCES CITED IN THE DESCRIPTION

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