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(54) **Container tent for shelter of personal or storage of equipment, particularly in combat areas**

Containerzelt als Unterstand für Personal oder zur Aufbewahrung von Ausrüstung, insbesondere in Kampfgebieten

Tente de conteneur pour abriter le personnel ou le stockage des équipements, particulièrement dans les zones de combat

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Description

[0001] The present invention relates to a container tent for shelter of personnel or storage of equipment, and in particular a container tent for use in combat areas.

[0002] A mobile building construction is presented by US 4,722,155, comprising a wall structure intended, together with a roof, to define at least one room. The wall structure includes two spaced shells defining a gap-like space having upper openings for filling heavy bulk material such as macadam, gravel or the like into the space so as to form a safety wall being resistant, especially to firing or explosive action. In order to release the bulk material, the space is provided with at least one lower opening allowing the release of bulk material from the wall structure when transporting the building construction from one ground to another.

[0003] For instance, when the armed forces are participating in operations in combat areas, such as in Afghanistan, it is a great need for safe spaces for shelter of personnel or storage of equipment, etc. In this connection, an objective is that such spaces should be centrally stored and, thereafter, transported into the combat area having as less net weight and volume as possible. In particular in a folded condition, this involves that a considerable simplification can be achieved by additionally utilizing dimensions corresponding to ISO containers. If so, much of the equipment already available can be used for production and handling of ISO containers. Another objective is that all components of the space as such should be accommodated within a separate package and, then, especially enabling more packages to be stacked onto each other. The space should also be erected into a use position at the current place in the combat area as easily as possible.

[0004] According to the present invention these current problems are solved by means of a container tent for shelter of personnel or storage of equipment, particularly in combat areas, comprising an upper and lower horizontal container element foldably arranged by means of a support structure in the form of profiles situated near outer edges of the upper and lower container element, characterized in that a vertical side element for covering towards the surroundings between the upper and lower container element is formed by at least two layers of strong fabric sheath mountable at a distance from each other to provide an open gap between the respective fabric sheets, and that, after the mounting along the erected upper and lower container element, the gap in the vertical side element between the respective fabric sheets is filled with gravel or other mass as to achieve sufficient ballistic properties.

[0005] Advantageous embodiments appear from the dependent claims.

[0006] The container tent according to the present invention is now to be further discussed by means of preferred embodiments depicted in the accompanying drawings, in which:

Fig. 1 shows a schematic perspective view of a container tent consisting of an upper and lower horizontal container element and a vertical side element for covering towards the surroundings in an erected use position;

Fig. 2 shows schematic perspective views of one or more container tents, respectively, having the upper and lower container element in a folded storage or transport position;

Fig. 3 shows a schematic perspective view of in section of more container tents connected to each other forming a larger unit;

Fig. 4 shows schematic views in section of details regarding the vertical side element of the container tent; and

Fig. 5 shows schematic sections of the side element filled with gravel or other mass, and guidings in the upper container element for extension of the side element along the erected container elements.

[0007] The foldable container tent according to invention consists of an upper and lower horizontal container element 1, 2. These are foldably arranged using a support structure in the form of profiles 3 situated near outer edges of the container elements, see Fig. 3. In addition to the vertical profiles illustrated, and when needed, the support structure can be provided with diagonal profiles, not shown. The container elements and profiles in the support structure are made from a suitable metal, e.g. aluminium. The fastening and mounting of the support structure to the container elements falls within the expertise of skilled persons and, thus, is not further discussed herein. The upper container element 1 can be formed with corner fittings 9 having lift-apertures for use during lifting and erecting the container tent.

[0008] In addition, it is included in the container tent a vertical side element 4 for covering towards the surrounding between the erected the container elements 1, 2. The side element is formed of at least two layers of a strong fabric sheath, selected from suitable material type, and mountable in distance from each other as to provide for a free gap 5 between the respective fabric sheets. To achieve sufficient ballistic properties and, thus, to prevent personnel or other equipment situated in the container tent, the gap in the side element between the respective fabric sheets is filled with gravel or other mass after mounting along the container elements, see Fig. 5. It should be noted that in the folded position, as shown in Fig. 2, the side element and possibly other accessories can be placed within the space then being provided between the two container elements.

[0009] To enable practical mounting of the vertical side element 4 along the outer edges of the erected upper and lower container element, the respective fabric sheets

are extendable along guidings 6 formed in the container elements, whereby the container tent is also covered towards the surroundings between the two the container elements. Further, it is a necessity that an upper and lower portion of each fabric sheet has a configuration corresponding to the guidings in the container elements. The guidings 6 from the section in Fig. 5 are only meant as an example but, of course, the skilled person understands that other variants are suited as well and is able to propose other appropriate solutions.

[0010] Although the fabric sheets in the vertical side element 4 could be made in the form of a separate and continuous sheet, it seems most practical having a division of each fabric sheet into more sheet pieces. This is particularly the case when more container tents, as shown in Fig. 3, are connected as to form a larger unit of container tents having desired configuration and dimension. The corner fittings 9 can be utilized in a manner not illustrated, for instance, to couple the respective container tents. As an example, a way to join the sheet pieces is shown in Fig. 4. A respective pair of sheet pieces is connected to each other using an extension spring 7 situated in grommet openings 8 in overlapped portions of the sheet pieces. If needed, it can naturally be used more than the only and centrally situated extension spring illustrated in the figure. This type of joining can be used in connection with a vertical door element 10, a vertical window element 11 and corner areas of one separate or more coupled container tents. If such door and window elements are used as part of the vertical side element 4, these must naturally be formed in a ballistic satisfactory manner. Alternatively, doors and windows can be protected by means of shield walls, not illustrated, then being situated in proper distance therefrom.

[0011] To ensure sufficient ballistic properties on the top of the container tent, the upper horizontal container element, after being erected, can be covered by gravel, for instance. If so, the same container element is provided with an indentation in a manner not illustrated, accommodating the gravel in a sufficient height. As illustrated in Fig. 5, the container element is also formed with openings or slits 12 for entry of gravel or other material into the gap 5 between the respective fabric sheets in the vertical side element 4.

[0012] Without constituting any vital features of the container tent according to the present invention, examples of such can be in the form of:

- In the folded condition the upper and lower container element or a stack thereof can be coupled in an appropriate manner preventing relative displacement during storage and transport.
- The lower container element 2 has ducts for heating the container tent.
- The support structure can be articulated in an appropriate manner to the upper and lower container element 1, 2, whereby erecting into use position occurs by lifting the container elements from each other

as to unfold the support structure to upright position.

- The upper container element 1 can be provided with solar cells and collectors for production of electric power and hot water and/or an air-conditioner for supply of cold or warm air into the container tent.
- Alternatively, the air-conditioner can be installed within the vertical door element 10.
- One of the container elements 1, 2 can be provided with ventilating ducts, preferentially the upper.
- The guidings 6 in the container elements 1, 2 and the accompanying portion of each fabric sheet is made in thermal insulating manner.
- A separate camouflage sheet can be used at least having dimensions covering the upper container element 1. Thereby, recognition is prevented when aircrafts are passing over the container tent.

Claims

1. A container tent for shelter of personnel or storage of equipment, particularly in combat areas, comprising an upper and lower horizontal container element (1, 2) foldably arranged by means of a support structure in the form of profiles (3) situated near outer edges of the upper and lower container element (1, 2), **characterized in that** a vertical side element (4) for covering towards the surroundings between the upper and lower container element (1, 2) is formed by at least two layers of strong fabric sheet mountable at a distance from each other to provide an open gap (5) between the respective fabric sheets, and that, after the mounting along the erected upper and lower container element (1, 2), the gap (5) in the vertical side element (4) between the respective fabric sheets is filled with gravel or other mass as to achieve sufficient ballistic properties.
2. A container tent according to claim 1, **characterized in that** the respective fabric sheets in the vertical side element (4) are extendable along guidings (6) in the upper and lower container element (1, 2) as to cover the container tent towards the surroundings.
3. A container tent according to claims 1 or 2, **characterized in that** more container tents are situated in a relationship to the upper and lower container element (1, 2) side-by-side and/or end-by-end as to provide a larger unit of container tents having a desired configuration and size.
4. A container tent according to claim 3, **characterized in that** the respective fabric sheets in the vertical side element (4) is composed of more sheet pieces connected to each other by means of at least one extension spring (7) placed in grommet openings (8) in a respective pair of sheet pieces.

5. A container tent according to any of the preceding claims, **characterized in that** the upper container element (1) is covered by gravel or other mass as to achieve sufficient ballistic properties.
6. A container tent according to any of the preceding claims, **characterized in that** the upper container element (1) is formed with openings or slits (12) for entry of gravel or another material into the gap (5) between the respective fabric sheets in the vertical side element (4).
7. A container tent according to any of the preceding claims, **characterized in that** a vertical door element (10) and possibly at least one window element (11) are include in vertical side element (4).

Patentansprüche

1. Containerzelt als Unterstand für Personal oder zur Aufbewahrung von Ausrüstung, insbesondere in Kampfgebieten, umfassend ein oberes und unteres horizontales Containerelement (1, 2), das mittels einer Stützstruktur in Form von in der Nähe von Außenkanten des oberen und unteren Containerelements (1, 2) angeordneten Profilen (3) faltbar angebracht ist,
dadurch gekennzeichnet, dass ein vertikales Seitenelement (4) zur Abdeckung gegenüber der Umgebung zwischen dem oberen und unteren Containerelement (1, 2) durch zumindest zwei Schichten einer starken Gewebeplane gebildet ist, welche mit einem Abstand zueinander montierbar sind, um eine offene Lücke (5) zwischen den jeweiligen Gewebeplanen bereitzustellen, und dass die Lücke (5) im vertikalen Seitenelement (4) zwischen den jeweiligen Gewebeplanen nach der Montage entlang dem aufgerichteten oberen und unteren Containerelement (1, 2) zur Erzielung von ausreichenden ballistischen Eigenschaften mit Kies oder einer anderen Masse gefüllt ist.
2. Containerzelt nach Anspruch 1, **dadurch gekennzeichnet, dass** die jeweiligen Gewebeplanen im vertikalen Seitenelement (4) entlang von Führungen (6) im oberen und unteren Containerelement (1, 2) zur Abdeckung des Containerzelts gegenüber der Umgebung erweiterbar sind.
3. Containerzelt nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** mehrere Containerzelte nebeneinander und/oder endweise in einer Beziehung zum oberen und unteren Containerelement (1, 2) angeordnet sind, um eine größere Einheit von eine gewünschte Ausgestaltung und Größe aufweisenden Containerzelten bereitzustellen.

4. Containerzelt nach Anspruch 3, **dadurch gekennzeichnet, dass** die jeweiligen Gewebeplanen im vertikalen Seitenelement (4) aus mehreren Planenstücken zusammengesetzt sind, die mittels zumindest einer in Durchführungsöffnungen (8) in einem jeweiligen Paar von Planenstücken angebrachten Zugfeder (7) miteinander verbunden sind.
5. Containerzelt nach irgendeinem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das obere Containerelement (1) zur Erzielung von ausreichenden ballistischen Eigenschaften mit Kies oder einer anderen Masse gedeckt ist.
6. Containerzelt nach irgendeinem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das obere Containerelement (1) mit Öffnungen oder Schlitzten (12) zum Eintritt von Kies oder einem anderen Material in die Lücke (5) zwischen den jeweiligen Gewebeplanen im vertikalen Seitenelement (4) ausgebildet ist.
7. Containerzelt nach irgendeinem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** ein vertikales Türelement (10) und möglicherweise zumindest ein Fensterelement (11) im vertikalen Seitenelement (4) enthalten sind.

Revendications

1. Tente de conteneur pour abriter le personnel ou le stockage des équipements, particulièrement dans les zones de combat, comprenant un élément horizontal de conteneur supérieur et inférieur (1, 2), arrangé de manière pliable au moyen d'une structure de support dans la forme de profils (3) placés près de bords extérieurs de l'élément de conteneur supérieur et inférieur (1, 2), **caractérisée en ce qu'un** élément latéral vertical (4) pour couverture s'étendant vers les abords entre l'élément de conteneur supérieur et inférieur (1, 2) est constitué par au moins deux couches de bâche de tissu fort apte à monter l'une éloignée de l'autre afin d'établir un écartement ouvert (5) entre les deux couches de bâche de tissu respectives, et **en ce qu'**après le montage le long de l'élément de conteneur supérieur et inférieur (1, 2) érigé, l'écartement (5) dans l'élément latéral vertical (4) entre les couches de bâche de tissu respectives est rempli de gravier ou d'une autre masse en vue d'obtenir des qualités balistiques suffisantes.
2. Tente de conteneur selon la revendication 1, **caractérisée en ce que** les couches de bâche de tissu respectives dans l'élément latéral vertical (4) peuvent s'étendre le long des guidages (6) dans l'élément de conteneur supérieur et inférieur (1, 2) pour couvrir la tente de conteneur vers les abords.

3. Tente de conteneur selon les revendications 1 ou 2, **caractérisée en ce que** plusieurs tentes de conteneur sont arrangées par rapport à l'élément de conteneur supérieur et inférieur (1, 2) l'un à côté de l'autre et/ou de bout en bout en vue d'établir une plus grande unité de tentes de conteneur présentant une configuration et étendue désirées. 5

4. Tente de conteneur selon la revendication 3, **caractérisée en ce que** les couches de bâche de tissu respectives dans l'élément latéral vertical (4) sont composées de plusieurs pièces de bâche l'une reliée à l'autre au moyen d'au moins un ressort d'extension (7) arrangé dans des ouvertures d'estrope (8) dans une paire respective de pièces de bâche. 10
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5. Tente de conteneur selon l'une quelconque des revendications précédentes, **caractérisée en ce que** l'élément de conteneur supérieur (1) est couvert de gravier ou d'une autre masse en vue d'obtenir des qualités balistiques suffisantes. 20

6. Tente de conteneur selon l'une quelconque des revendications précédentes, **caractérisée en ce que** l'élément de conteneur supérieur (1) est pourvu d'ouvertures ou d'évidements (12) pour faire entrer du gravier ou un autre matériau dans l'écartement ouvert (5) entre les couches de bâche de tissu respectives dans l'élément latéral vertical (4). 25
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7. Tente de conteneur selon l'une quelconque des revendications précédentes, **caractérisée en ce qu'un** élément vertical de porte (10) et éventuellement au moins un élément de fenêtre (11) sont compris dans l'élément latéral vertical (4). 35

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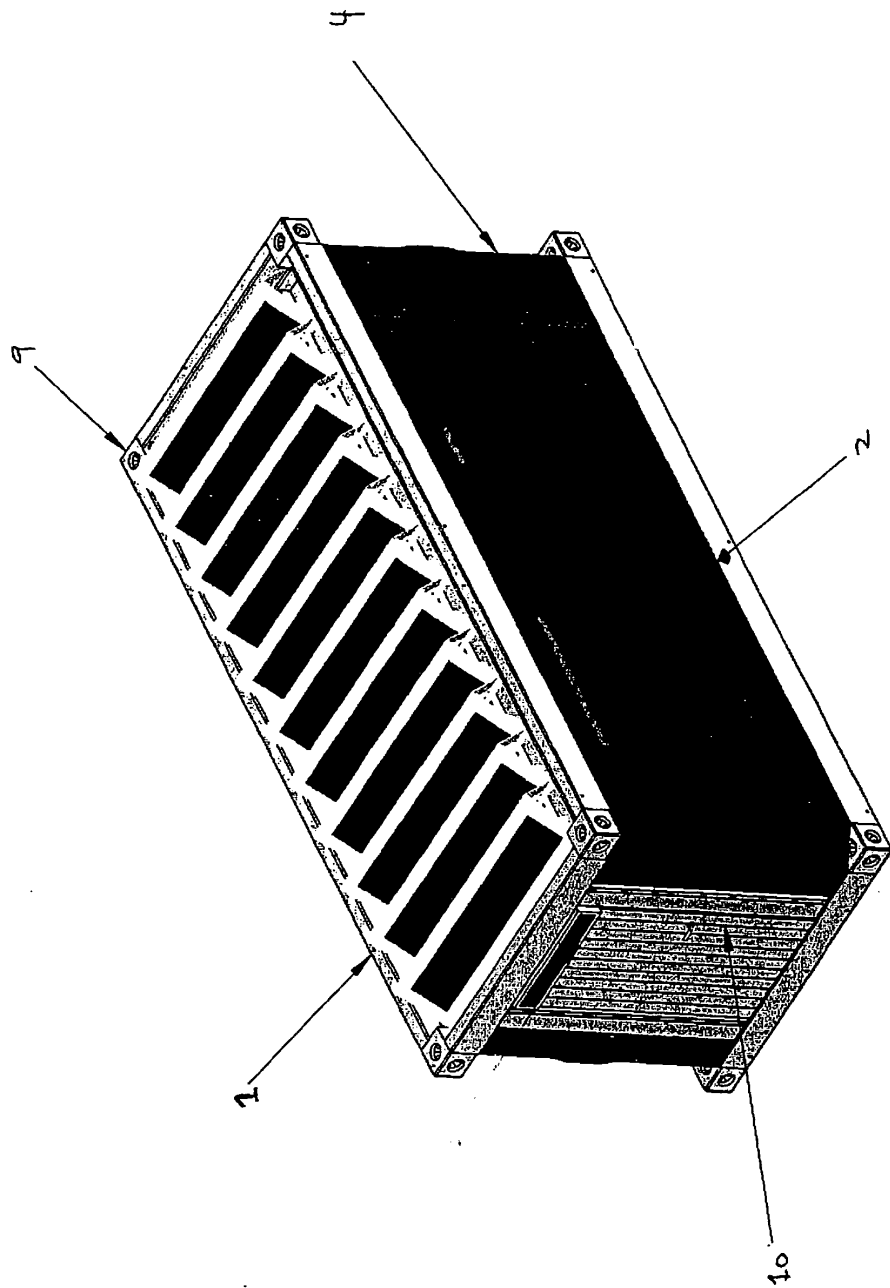


Fig. 1

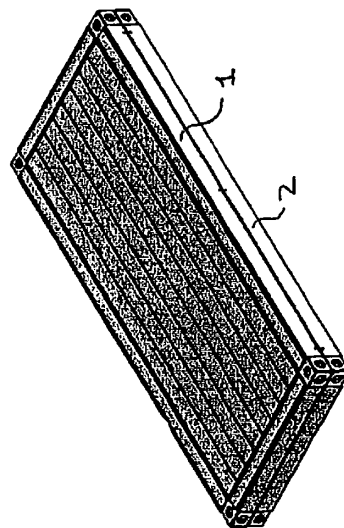
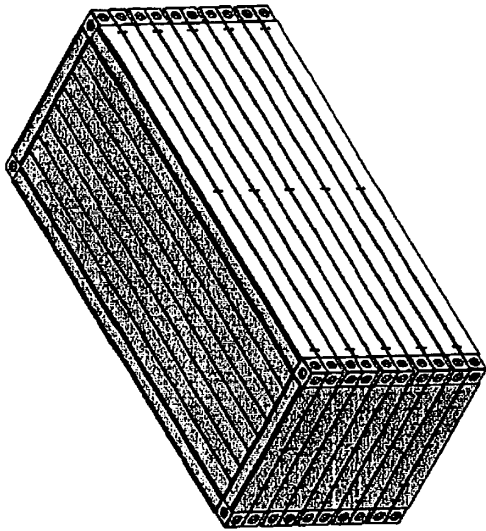


Fig. 2

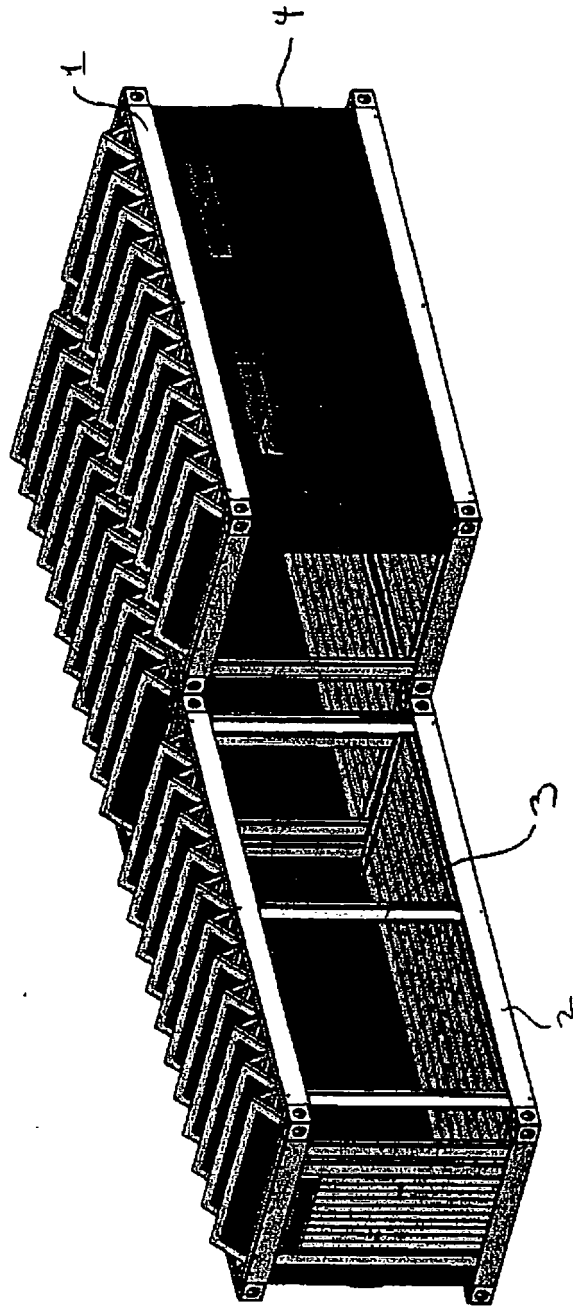
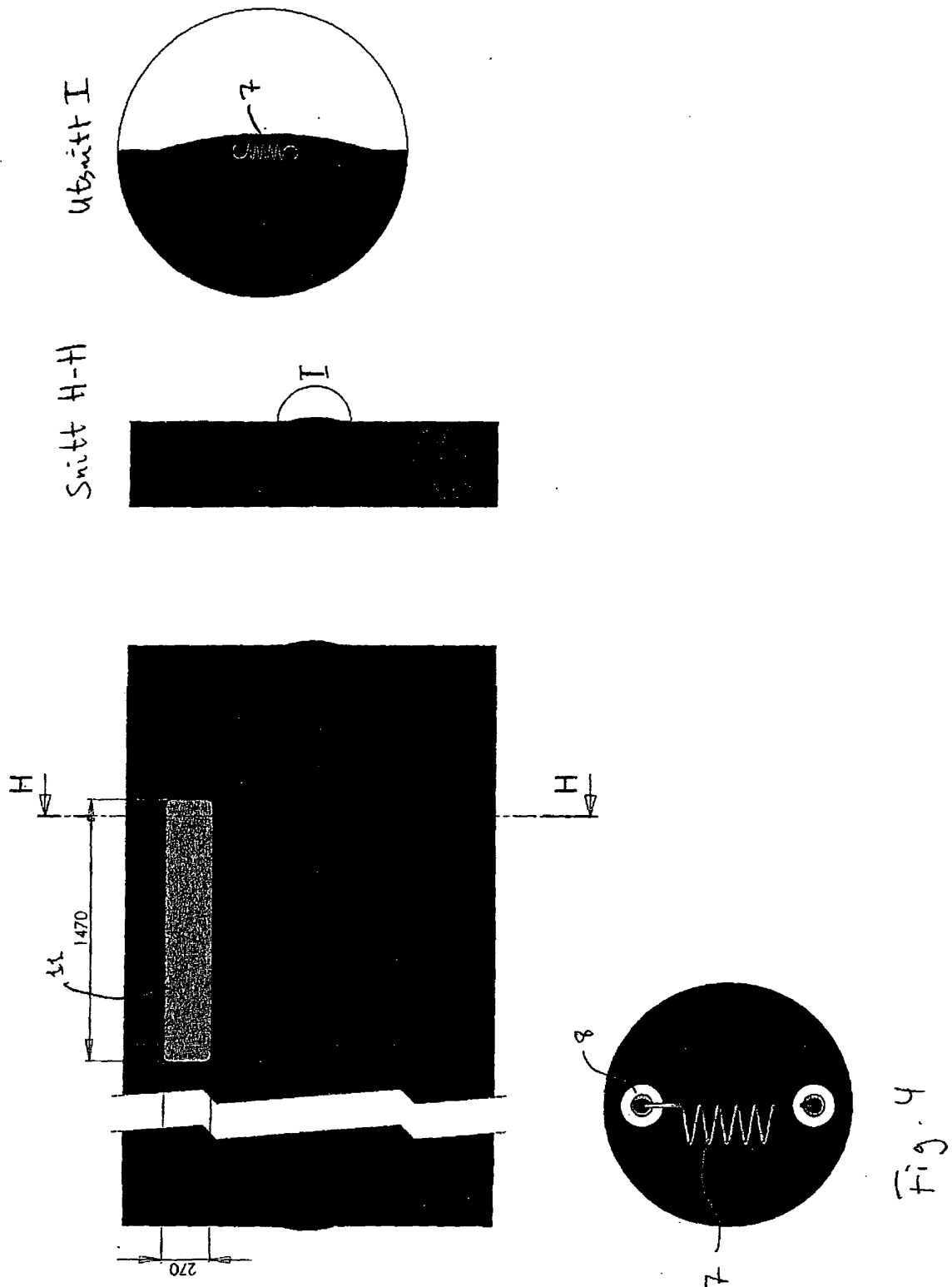


Fig. 3



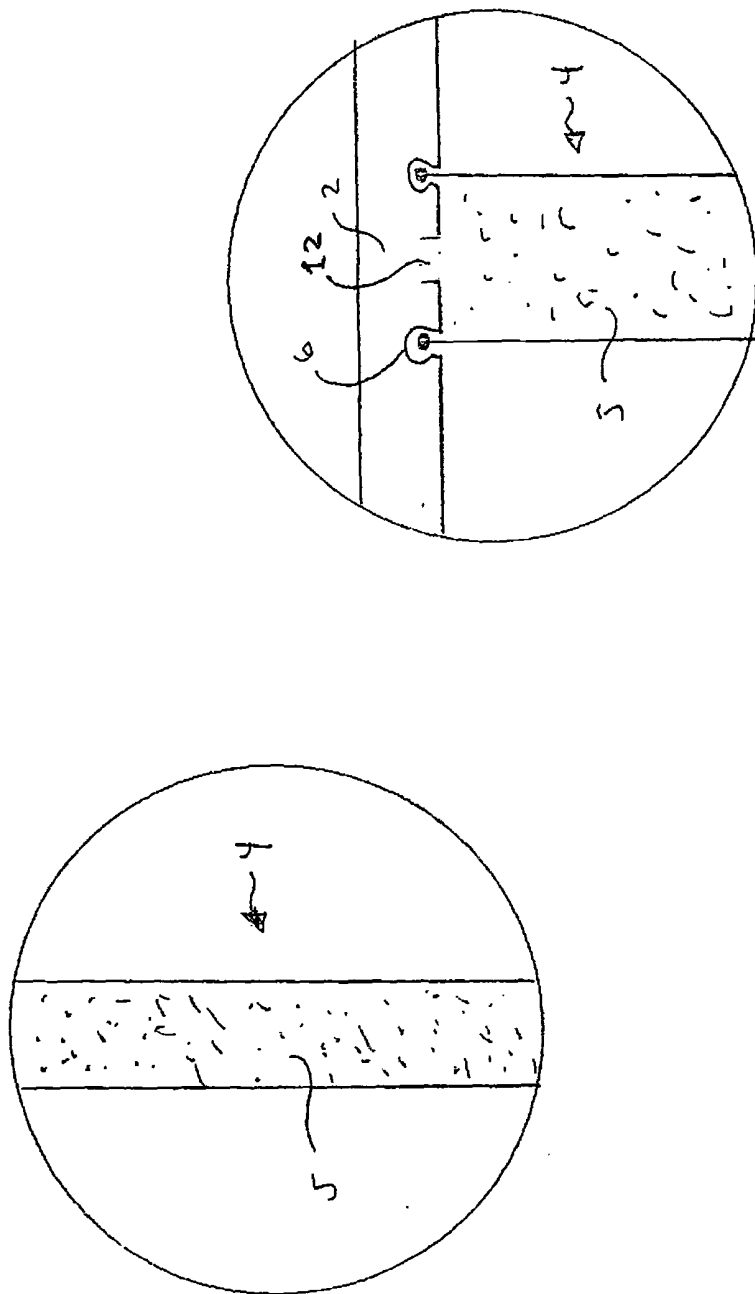


Fig. 5

REFERENCES CITED IN THE DESCRIPTION

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