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(54) **Shelter used as tent or container and with polycarbonade sheet**

(57) A shelter embodiment (1) which can be used for satisfying the emergency sheltering requirements in camp sites and disaster areas, satisfying the staff office, dorm room, changing room, WC-shower cabin and re-fectory requirements in construction sites, and satisfying military staff and equipment and similar economical,

easy, rapid and practical sheltering and/or equipment storage requirements, the carrier system of which is made of polycarbonate or equivalent flexible and resistant material with higher thermal and liquid insulation, and which is easy to be mounted, foldable and portable.

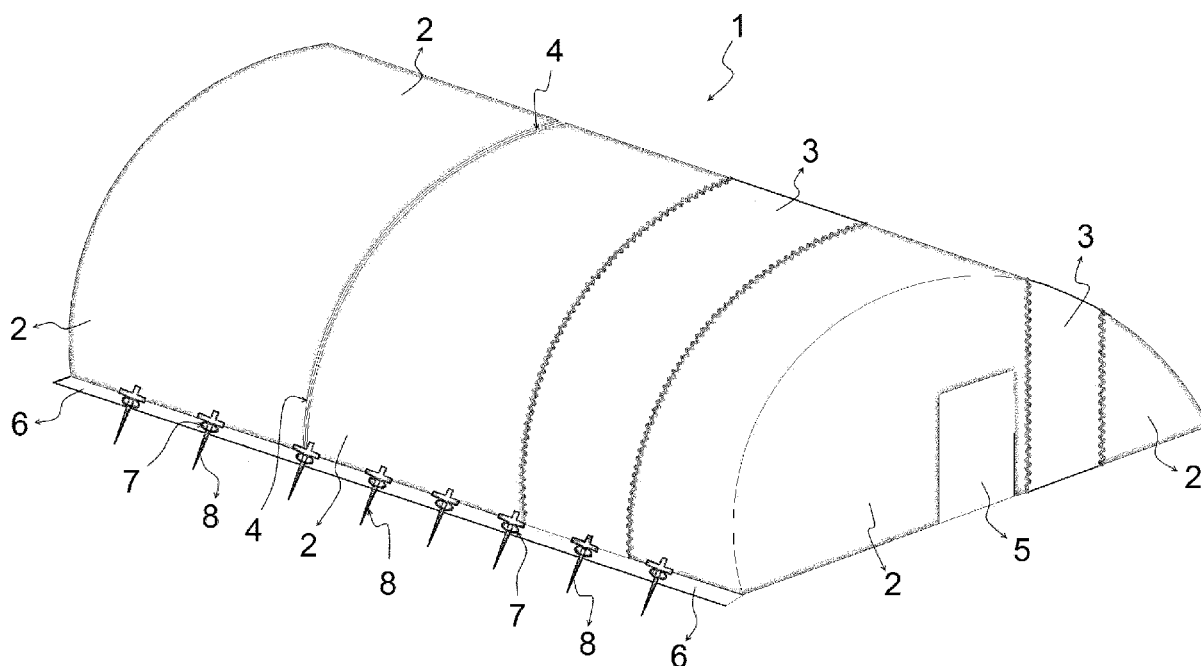


Figure 1

Description

TECHNICAL FIELD

[0001] The present invention is related to a shelter embodiment which can be used for satisfying the emergency sheltering requirements in camp sites and disaster areas, satisfying the staff office, dorm room, changing room, WC-shower cabin and refectory requirements in construction sites, and satisfying military staff and equipment and similar economical, easy, rapid and practical sheltering and/or equipment storage requirements, and is easy to be mounted, foldable, and portable.

[0002] The present invention is especially related to a new shelter embodiment that can be mounted and dismounted easily thanks to polycarbonate therein and the flexible construction members made of plastic materials, has high thermal and liquid insulation ability, and can be used for satisfying tent and container requirements.

STATE OF THE ART

[0003] In the state of art, there are various embodiments developed in order to satisfy the sheltering and/or equipment storage requirements in a rapid and practical manner. The shelters that are known and preferred most among said embodiments are tents and containers.

[0004] Tents are portable shelters that can be mounted, dismounted and carried easily and can be made of several materials such as fabric, felt, cloth, leather, etc. Some disadvantages of tent embodiments used as shelter are inadequate insulation and static values thereof. The present systems do not have the desired values in terms of both thermal and liquid insulation. Again, said tents cannot provide a structure that is strong enough in terms of statics. The mounting process of conventional tents is complex because the present embodiments consist of many pieces and the installation is required to be performed in accordance with a determined order. If the user is not experienced, the mounting process may take too long. The pieces may be lost during both mounting and demounting. Installation and use of the tent may become impossible in case of losing a small apparatus.

[0005] The containers used as shelter are included in the prefabricated steel construction systems and can be used especially for industrial purposes. The frame is created by using specially twisted metal sheets with various thicknesses. The top of the construction is coated with sheet that is corrugated and can be DKP or galvanized optionally. The general usage areas thereof are staff offices, dorm rooms, changing rooms, WC-shower cabins and, refectories in the construction sites. In addition, they are frequently used as industrial metal cabin for positioning and storing some of the equipment. Although the containers have more durable structures than tents, their production is more difficult and requires higher costs. Moreover, the transportation of said systems is difficult. Special vehicles and equipment are needed in order to trans-

port them.

[0006] There are various embodiments regarding the sheltering systems within the state of the art. An example embodiment in the literature is an easily installable tent embodiment with the application number TR 2006/01526. The published abstract section of the invention is as follows; "In order for the tent, which is for several purposes, to be mounted and dismounted easily, the tent frame consists of modules that are matching with each other and become appropriate for the tent form after fixing. After the preliminary preparation process performed on the modules according to a certain order, the tent canvas is stretched thereon manually and instant installation is achieved thanks to the ascending force applied by one person through each one of the four edges of main lower carrier frame simultaneously until the locking sound of spring locking joints. Moreover, instant dismounting process is performed thanks to the pushing force applied again onto the spring locking joints provided on the main lower carrier frame by four people."

[0007] When the utility model application, the abstract section of which is disclosed above, is analyzed, it is seen that the frame forming the carrier system of the tent consists of various rod profiles. It is required that said profiles be connected in accordance with a certain order and the carrier frame be installed. All the said processes make the installation difficult. Furthermore, as the present carrier profile consists of fine profile rods, it is not durable enough.

[0008] Another embodiment is a portable tent embodiment with the application number TR 2012/02628. The published abstract section of the invention is as follows; "The present invention is related to an ecologic and portable tent embodiment which is developed for satisfying the sheltering requirements in a rapid manner, which will enable the victims to take shelter safely in natural disaster areas, and which is coated with nonflammable and insulation fabrics."

[0009] In the tent embodiment according to the utility model application, the abstract section of which is summarized above, the carrier system is formed by many strut profiles mounted to each other by means of several connectors. Each of the struts is required to be positioned at an appropriate place during installation. Fixing the struts to each other considerably shortens the installation period. The carrier structure is not durable enough in general terms. It is difficult to demount and transport it when required.

[0010] As a result, developments are made due to long-term installation, transportation and mounting difficulties, and insulation problems of present shelter systems; therefore, new embodiments that will eliminate the abovementioned problems and offer solutions for the present systems are needed.

OBJECTS OF THE INVENTION

[0011] The present invention is related to a new shel-

tering embodiment satisfying the abovementioned requirements, eliminating all the disadvantages, and offering some additional advantages.

[0012] An object of the present invention is to provide better insulation in usage areas thanks to the shelter embodiment made of polycarbonate or plastic materials with higher heat insulation ability.

[0013] Another object of the present invention is to disclose a new shelter embodiment which can be installed in an easy and practical manner, the carrier body of which consists of a single piece, and which can be used for satisfying the tent and container requirements.

[0014] Another object of the present invention is to install the shelter embodiment in an easy and rapid manner, thereby saving on time.

[0015] Thanks to the shelter embodiment consisting of single piece, it is aimed to eliminate the risk of piece loss during installing, transporting, and storing the shelter.

[0016] As the plates forming the carrier system can be folded as a single piece successively so as to occupy minimum space, it is aimed to perform transportation and stacking processes in an easy manner.

[0017] Thanks to flexible and modular (mountable, dismountable) embodiment, the tent is aimed to be mounted and dismantled and to have a longer service life.

[0018] Another object of the present invention is to eliminate the risk of falling and visual pollution caused by the stretched ropes occurring around the tent as the tent is attached to the piles via ropes, which are penetrated at the distant points from the tent in order for conventional tents to be fixed.

[0019] The structural and characteristic features and all the advantages of the present invention will be more clearly understood thanks to the figures below and the detailed description written with reference to those figures; therefore, the evaluation needs to be done by taking said figures and the detailed description into consideration.

BRIEF DESCRIPTION OF THE FIGURES

[0020] In order for the embodiment and the advantages of the present invention to be better understood together with the additional members, it is required to be evaluated with the figures described below.

Figure 1 ; Three-dimensional view belonging to a preferred embodiment of the shelter embodiment according to the present invention.

Figure 2 ; The top profile view of the foldable and flexible carrier plate of the shelter embodiment according to the present invention in an open manner before mounting.

REFERENCE NUMERALS

[0021]

1. Shelter embodiment
2. Fabric
3. Flexible Carrier Plate
- 3.1. Right Roof Plate
- 3.2. Left Roof Plate
- 3.3. Right Bottom Plate
- 3.4. Left Bottom Plate
- 3.5. Right Lateral Plate
- 3.6. Left Lateral Plate
4. Connection and Vertical Folding Line
5. Door
6. Fixing Profile
7. Connection Hole
8. Pile
9. Zipper
10. Fixing Belts
11. Horizontal Folding Line

DETAILED DESCRIPTION OF THE INVENTION

[0022] In this detailed description, the preferred embodiments of the shelter embodiment (1) according to the present invention are described only for the subject to be understood better, without any limiting effect.

[0023] The present invention is a shelter embodiment (1) which can be used for satisfying the emergency sheltering requirements in camp sites and disaster areas, satisfying the staff office, dorm room, changing room, WC-shower cabin and refectory requirements in construction sites, and satisfying military staff and equipment and similar economical, easy, rapid and practical sheltering and/or equipment storage requirements, and is easy to be mounted, foldable and portable. The present invention is designed especially for satisfying tent and container requirements.

[0024] Figure 1 is the three-dimensional view belonging to a preferred embodiment of the shelter embodiment (1) according to the present invention. Accordingly, the shelter (1) generally has an inclined prostrate semi-cylinder form. The upper and lateral surfaces of the shelter (1), which are visible from the outside, are coated with fabric (2). Said fabric (2) contributes to sealing and thermal insulation. Moreover, the fabrics having features such as non-flammability can be used in the special usage areas. The tent (1) is attached to the ground by means of fixing profile (6). Said fixing profiles (6) are the mounting elements lying horizontally at both sides of the shelter (1). The connection holes (7) that are opened at certain intervals are provided on the fixing profile (6). The upper surface of the shelter (1), which is twisted in a semi-cylinder shape, is connected to the fixing profiles (6) by means of fixing belts (10). Moreover, the fixing profiles (6) are fixed to the ground by means of piles (8) penetrated into connection holes (7).

[0025] The flexible carrier plate (3) that is provided under the outer coating fabric (2) and the critical element of the shelter embodiment (1) according to the present invention can be seen on upper and lateral surfaces in

the Figure 1. However, in the Figure 2, the top profile view of said flexible carrier plate (3) in an opened manner before mounting is given. The flexible carrier plate (3) is designed as foldable and consists of smaller plates that can be folded successively and be transformed into tent form when opened. As can be seen in Figure 2, the flexible carrier plate (3) consists of right and upper roof plate (3.1, 3.2) forming the curved upper section of semi-cylindrical shelter (1), right and left bottom plates (3.3, 3.4) forming the bottom of the shelter (1), and right and left lateral plates (3.5, 3.6) forming the lateral surfaces of the shelter (1). Said plates (3.1, 3.2, 3.3, 3.4, 3.5, 3.6) are one-piece and form the main carrier system of the shelter embodiment (1) according to the present invention as a whole. Zipper (9) is added onto the outer surface of all carrier plates (3) in order for them to be fixed after the mounting of the structure. The zipper system (9) attaches the right and left roof plates (3.1, 3.2) to the right and left roof plates (3.3, 3.4); and the right and left lateral plates (3.5, 3.6) to the twisted lateral edges of the right and left roof plates (3.1, 3.2).

The **folding** process of the shelter embodiment (1) according to the present invention is performed as **follows**:

[0026] As can be seen in the Figure 2, the connection line (4) separating the right plates (3.1, 3.3, 3.5) and the left plates (3.2, 3.4, 3.6) from each other is also the vertical **folding** region. The lateral **folding** line (11) is provided at the region where the upper right roof (3.1) and left roof plates (3.2) are connected with the bottom plates (3.3, 3.4). The right lateral (3.5) and left lateral plates (3.6) forming the lateral surface of the shelter (1) also can be folded inwards. During **folding** process, the right and left bottom plates (3.3, 3.4) are firstly folded onto the right and left roof plates (3.1, 3.2) by means of lateral **folding** line (11). Then, the right and left lateral plates (3.5, 3.6) forming the lateral surface are folded inwards. Finally, the right folded plates (3.1, 3.3, 3.5) are folded onto the left folded plates (3.2, 3.4, 3.6) through the connection line (4) and thus, folding process is completed. After being folded, the sizes of the shelter (1) are considerably lowered.

The mounting process of the shelter embodiment (1) according to the present invention is performed as follows:

[0027] Firstly, the folded shelter (1) is opened as in the Figure 2. The right roof plate (3.1) and the left roof plate (3.2) are twisted thanks to flexibility thereof and leaned against the fixing profile (6). Then, the fixing belts (10) are fitted into the connection holes (7) on the fixing profile (6) and they are knotted. Following said process, the zipper (9) on the right and left roof plates (3.1, 3.2) and the zipper (9) on the connection profile (6) are drawn and the roof and bottom part of the shelter (1) are mounted. Thus, roof plates (3.1, 3.2) twisted between the two fixing pro-

files (6) take semi-cylindrical form and the area satisfying the sheltering requirement occurs under said form. Then, the right and left lateral plates (3.5, 3.6) provided in an opened and prostrated manner at both sides are lifted up and both sides of the shelter (1) are closed; the zippers (9) at said sections are drawn and the mounting in this region is completed. An entrance door (5) into the shelter (1) is provided on one of the lateral plates (3.5, 3.6). Entrance into /exit from the shelter (1) is ensured thanks to said door (5). The piles (8) are penetrated into the holes (7) on the connection profile (6) in order for the plates (3.1, 3.2) fixed by being attached to the connection profile (6) by means of fixing belts (10), to be fixed onto the ground. Therefore, the mounting of the shelter (1) is completed.

[0028] The flexible carrier plate (3) forms the carrier system in the shelter (1) according to the present invention. Said carrier plate (3) is produced by using polycarbonate material chosen preferably from the thermoplastic group. The processing, molding and thermal forming of the polycarbonates are easy and this kind of plastics is widely used in modern production industry. They are flexible coating materials that can be used for filling all kinds of openings (skylight, vault, tube tunnel, dome, etc.) in the construction industry. They have higher heat insulation and resistance levels. In this respect, the corrugated polycarbonate plates (3.1, 3.2, 3.3, 3.4, 3.5, 3.6) used in the carrier system belonging to the shelter embodiment (1) provide great advantage in terms of both thermal and liquid insulation. Again, said plates (3) create a considerably resistant structure. Therefore, the tent (1) is enabled to have a structure that has longer service life, can be opened and closed several times, and is flexible. Although polycarbonate material is used as structure material of the flexible carrier plate (3) in the tent (1) according to the present invention, plastic materials with similar features and insulation may also be used. The top of the flexible carrier plates (3) forming the carrier system of the tent (1) is coated with the coating fabric (2). The outer surface coating fabric (2) keeps the plates (3) together and contributes to thermal and liquid insulation of the tent (1).

[0029] The connection line (4) interconnects the outer surface coating fabric (2) and the carrier plastic plate (3) under the fabric (2) and creates the folding line. Here is the region serving as corrector in terms of flexibility.

[0030] In the shelter embodiment (1) according to the present invention, static fixing profiles (6) and the piles (8) enable the structure to be fixed onto the ground in a steady manner. The most important advantage achieved thanks to said embodiment is that the risk of falling and visual pollution caused by the stretched ropes occurring around the tent as the tent is attached to the piles via ropes, which are penetrated at the distant points from the tent in order for conventional tents to be fixed, are eliminated. Moreover, the fixing profiles (6) guide the knotting of fixing belts (10) during the mounting of the shelter (1) and the structure while the belts (10) are being

pulled, and serve as collector.

[0031] The shelter embodiment (1) according to the present invention can be used in the places requiring both tent and container. For example, they can be used instead of present metal or plastic containers because they can be mounted in a rapid and practical manner for satisfying the sheltering requirements of wardens and/or workers in the construction sites, and they have better statics and insulation. The shelter embodiment (1) according to the present invention is more economical and easier to be mounted, demounted, and transported when compared to present container embodiments.

Claims

1. A shelter embodiment (1), which can be used for satisfying the emergency sheltering requirements in camp sites and disaster areas, satisfying the staff office, dorm room, changing room, WC-shower cabin and refectory requirements in construction sites, and satisfying military staff and equipment and similar economical, easy, rapid and practical sheltering and/or equipment storage requirements, the carrier system of which is produced of polycarbonate and equivalent flexible and resistant material with higher thermal and liquid insulation, and which is easy to be mounted, foldable and portable, **characterized in** comprising flexible carrier plate (3) that is produced as single-piece and foldable, of polycarbonate and similar flexible plastic materials, forms the carrier system of the shelter (1), and has higher thermal and liquid insulation level.
2. Shelter embodiment (1) according to Claim 1, **characterized in** the flexible carrier plate (3) which can be folded successively comprising;
 - right and left roof plates (3.1,3.2) forming the upper section of the structure by being twisted in a semi-cylindrical form,
 - right and left bottom plates (3.3,3.4) forming the bottom of the structure,
 - right and left lateral plates (3.5,3.6) closing the openings at the sides of the right and left roof plates (3.1,3.2) taking semi-cylindrical form.
3. Shelter embodiment (1) according to Claim 1, **characterized in** comprising; at least one fixing profile (6) mounted at the ends of the right and left roof profiles (3.1,3.2), which are in contact with the ground, and enables the structure to be fixed to the ground by means of piles (8).
4. Shelter embodiment (1) according to Claims 1 to 3, **characterized in** comprising; at least one connection hole (7) provided on the fixing profile (6), enabling the fixing belts (10) to be knotted and the piles (8) to be penetrated into the ground.
5. Shelter embodiment (1) according to Claim 1, **characterized in** comprising; connection line (4) enabling the right (3.1,3.3) and left plates (3.2,3.4) forming the flexible carrier plate (3), to be kept together and be folded successively.
6. Shelter embodiment (1) according to Claim 1, **characterized in** comprising; horizontal **folding** line (11) enabling the bottom plates (3.3,3.4) and roof plates (3.1,3.2) to be folded successively.
7. Shelter embodiment (1) according to Claim 1, **characterized in** comprising; fixing belts (10) enabling the roof plates (3.1,3.2) forming the sheltering area of the structure by being twisted, to be knotted onto the fixing profile (5).
8. Shelter embodiment (1) according to any one of the preceding claims, **characterized in that** it can be used for satisfying tent and container requirements.
9. Shelter embodiment (1) according to any one of the preceding claims, **characterized in** comprising; the semi-cylindrical body formed by twisting the upper roof plates (3.1,3.2) can be produced in different forms by means of twisting, bending and adding in various shapes.

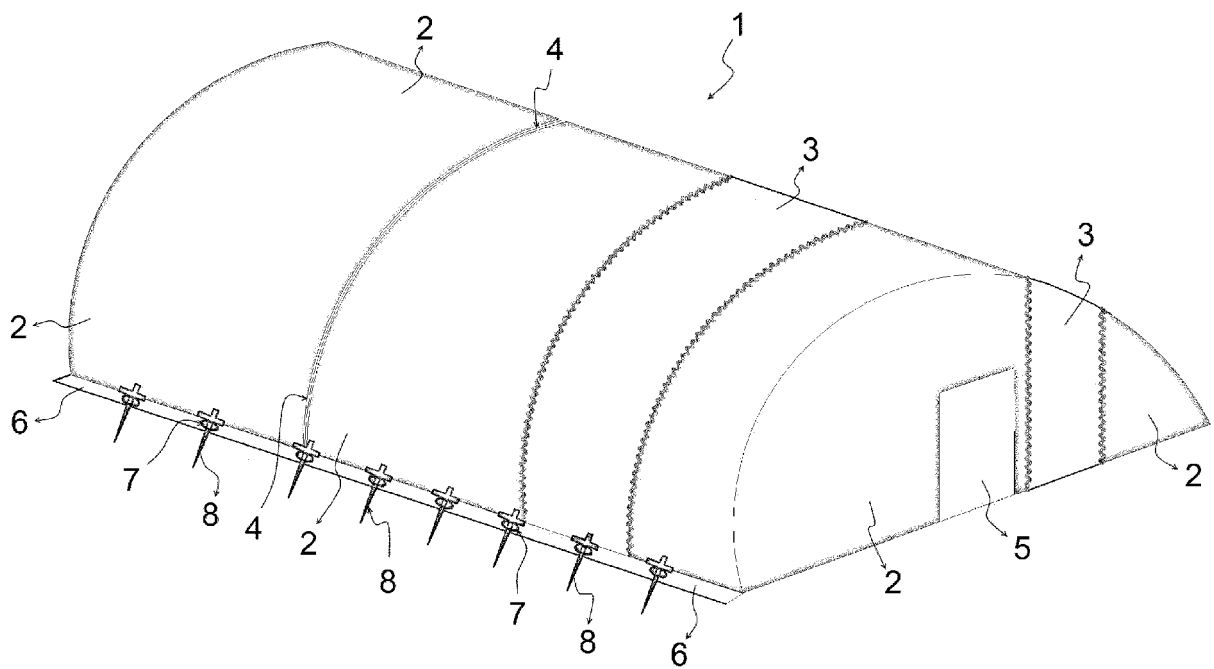


Figure 1

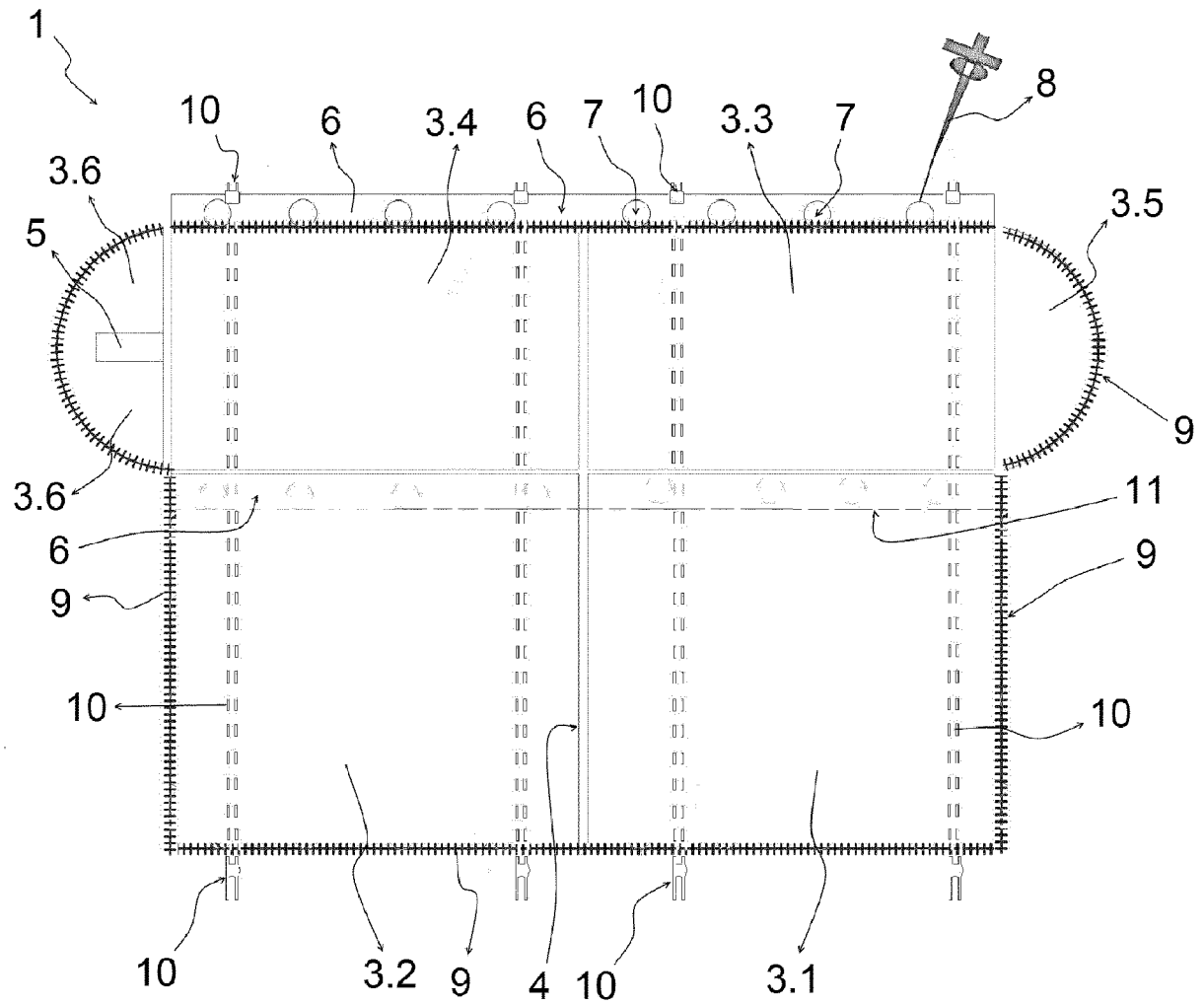


Figure 2

REFERENCES CITED IN THE DESCRIPTION

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