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(54) **IRRIGATION BOX, DRAINAGE BOX, OR AN ATTENUATION BOX AND A SET OF TWO OF THESE BOXES**

BEWÄSSERUNGSMODUL, DRAINAGEMODUL ODER RÜCKHALTEMODUL, SOWIE BAUSATZ AUS ZWEI DIESER MODULE

MODULE D'IRRIGATION, DE DRAINAGE OU DE RETENTION, ET KIT COMPRENANT DEUX DE CES MODULES

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Description

[0001] The invention relates to an irrigation box, a drainage box, or an attenuation box for handling ground water, that can control or otherwise attenuate water which falls for instance as rain, particularly in "flash" storms or from flooding, including flooding caused by melting ice and/or snow.

[0002] EP 0 943 737 discloses an irrigation and/or drainage box which, in combination with another box or other boxes, form an irrigation and/or drainage unit or system to be placed in the ground. Such a unit or system can then withstand loads from the surrounding earth and/or loads on the ground. However, such a unit or system is not very capable of withstanding side soil loads or other side forces. For certain circumstances, it is desirable that the strength in lateral direction is improved. Such a box may also be known and used as an attenuation box.

[0003] From EP 1 416 099 grids are known for placement between two boxes which form together a unit or system, referred to as a ground water or attenuation system. The positioning of the grid where the open sides of two boxes meet enhances stability, particularly when the grids are connected with other structures which are integral parts of each box. Such systems can then provide an improved capability to withstand side soil loads or other side forces, so that the strength in lateral direction is acceptable.

[0004] Also EP 1997979 A1 discloses such a grid and describes that the grid and the boxes can be ultrasonically welded together to then end up with a single piece box.

[0005] However, the necessity of such a grid causes a number of problems. For a start, it makes the unit or system more complex, so that assembling such a unit or system could lead to fatal errors. It is possible that the placement of such a grid will be forgotten, something which is not so easily noticeable once the unit or system has been assembled. The unit or system will then not have the expected lateral strength. The placement of the grid requires additional time for the assembling. This increases labour costs. Furthermore, the production of the grid raises the costs for the entire unit or system. Finally, materials management at a construction site is needed to ensure that there is a sufficient number of grids for appropriately assembling the unit or system. The use of such a system will thus increase overhead costs.

[0006] The invention aims to solve at least one of the above problems. This is achieved by providing an irrigation and/or drainage box in accordance with claim 1.

[0007] By providing as an integral part of the box a connecting part between columns and/or a side wall, the capability of withstanding side soil loads or other side forces is improved, whilst also at least one of the prior art problems is solved. It is to be noted that in line with definitions widely used by well-established dictionaries, the word "integral" embraces "necessary to the complete-

ness or integrity of the whole, not merely attached". A box comprising as integral parts of the box certain features is thus a single-piece box, not composed or assembled from a plurality of parts into a single piece, but produced "at once" as a single piece.

[0008] Although the invention is directed to a single box, that single box has an open side which is constructed for placement of an identical open side of another box against the open side so that the single box is then in an assembled condition. The open side can be seen as being defined by an end of the at least one wall. The open side can also be seen as having a contour which allows for matching a contour of the open side of another box having an identical open side.

[0009] In a box according to the invention, a number of connecting parts is oriented perpendicular to the orientation of the remaining number of connecting parts. In such an embodiment, the strength in the lateral direction is improved not only in one lateral direction but in two lateral directions which are perpendicular to each other.

[0010] In an embodiment of a box according to the invention, the box is such that in the assembled condition the columns of one of these boxes is one-to-one connected up with the columns of the other one of these two boxes. Within the context of the present invention, this has the advantage that the additional strength in lateral direction can be "passed on" from one box to the other. Consequently, it is not necessary that each column in each box is stiffened up by the maximum number of connecting parts. It will be possible to reduce the number of connecting parts without a significant loss of lateral strength. Less connecting parts will obviously ease manufacturing, reduce the material needed for the production of such a box and overall minimize the costs.

[0011] In an embodiment of a box according to the invention, the at least one connecting part is positioned such that in the assembled condition none of the at least one connecting parts of one box has a mirror position with respect to the position of the connecting parts of the other box, the mirror plane being the plane where the open sides meet. In such an embodiment, there is per area of interface between the boxes an optimized number of connecting parts. Such a box strikes a balance between costs and improvement of strength in lateral direction. Thus, in or close to the plane where the open sides meet when the box is in an assembled condition, connecting parts of the different boxes are not in a mirrored position with respect to each other.

[0012] In an embodiment of a box according to the invention, the at least one connecting part is positioned such that in the assembled condition each of the at least one connecting part of one box has a point symmetrical position with respect to the position of the connecting parts of the other box, the point of symmetry being the centre point of the plane where the open sides meet. Thus, the at least one connecting part is positioned for obtaining a point symmetrical distribution of the at least connecting parts of two of these boxes when these are

together put in the assembled condition. Advantageously, this embodiment can be such that only one type of box needs to be produced, keeping production costs low, planning, material management, storage control, etc. easy and straightforward. Furthermore, the box can still be produced in such a way that also without placement in the assembled condition, the box has sufficient strength in all relevant directions, so that for instance, stacking of such boxes other than in an assembled condition, will not lead to deformation of such boxes under their own weight and will avoid undesirable phenomena such as creep and other forms of plastic deformation.

[0013] In an embodiment of a box according to the invention, the at least one connecting part is positioned such that in the assembled condition each of the at least one connecting part of one box is in a mirror position with respect to the position of the connecting parts of the other box, the mirror plane being the plane where the open sides meet. In this embodiment, the columns of the two boxes when connected up one-to-one, are supported in the lateral direction by double the amount of connecting parts, giving superior strength in lateral direction.

[0014] In an embodiment of a box according to the invention, at least one of the connecting parts is positioned between the base and the free ends of the at least one column. In such an embodiment, the position of the connecting parts can be optimized such that two connecting parts in mirror position (the open sides forming the mirror plane) can optimally contribute to the overall thickness of two columns which are one-to-one connected up with each other. The lateral strength and stiffness of a single box may optimally be improved in that case.

[0015] The invention is further related to a set of two boxes wherein one of the at least one connecting parts of one box is arranged to adopt a mating position with respect to one of the at least one connecting parts of the other box for reinforcing the respective parts.

[0016] The invention also relates to a set of two boxes as described above, wherein the boxes are identical and are connectable to one another through male and female connector parts.

[0017] The invention will further be explained on the basis of a drawing which shows in:

Fig. 1: schematically a box that is not according to the invention;

Fig. 2: schematically a box that is not according to the invention;

Fig. 3: schematically a box that is not according to the invention;

Fig. 4: schematically a box that is not according to the invention;

Fig. 5: schematically a box that is not according to the invention;

Fig. 6: schematically a box that is not according to the invention, and

Fig. 7: schematically an embodiment of a box according to the invention.

[0018] In the drawing, like references refer to like parts.

[0019] Fig. 1 shows an embodiment of an irrigation box, a drainage box, or an attenuation box. The box is a one-part construction, i.e. all parts are integral parts of the box 1. The box has a base 4 with openings 4a therein for passage of fluid into and/or out of the box 1. The box has four side walls 5a, 5b, 5c, 5d, each extending substantially perpendicularly relative to the base. Each side wall is provided with openings 5e therein for passage of fluid into and/or out of the box. Two side walls 5a, 5b extend along the longitudinal direction and two side walls 5c, 5d extend along a transverse direction. As shown, box 1 is block-shaped. However, it is also conceivable that the block is cylindrical in shape and that the side wall concerns one wall which is closed in itself, i.e. endless. Of course, also other shapes are possible, such as formed by side walls which extend in vertical direction and form together a triangle, a pentagon, a hexagon, an octagon, etc. The box can also be substantially L-shaped, or cross-shaped. In any case, the box 1 has an open side 6 which can be seen as defined by an end of the side walls and which is situated opposite the base 4. The open side 6 is designed such that two of these boxes 1 can be placed with the open sides 6 towards one another and then be connected to one another to adopt an assembled condition. Thus, a single box is considered to be in an assembled condition when an identical open side of another box is placed against the open side of that single box. For this purpose the open side has a contour which allows for fitting and matching to a contour of the open side of another box having an identical open side. A single box having no open side of another box placed against its open side is in an unassembled condition.

[0020] Box 1 is provided with columns 7 which extend substantially vertically from the base 4 towards the open side 6. A number of columns 7 may be positioned free from direct contact with any of the side walls 5a, 5b, 5c, 5d. Such free-standing columns are denoted by the reference 7a. However, it is also possible that one or more columns are positioned in direct contact with one of the side walls 5a, 5b, 5c, 5d. Those columns are denoted with reference 7b. Box 1 comprises connecting parts 8 as further integral parts of box 1. Such a connecting part 8 may be between one column 7a which is positioned free from direct contact with one of the side walls 5a, 5b, 5c, 5d and one column 7b which is positioned in direct contact with one of the side walls 5a, 5b, 5c, 5d. Such connecting parts are denoted by the reference 8a. However, additionally, or alternatively, such connecting parts 8 may also be between one of the side walls 5a, 5b, 5c, 5d and one column 7a which is positioned free from direct contact with one of the side walls 5a, 5b, 5c, 5d. Such connecting parts are not shown in the drawing. However, the drawing shows embodiments wherein connecting parts 8b are between two columns 7a which are each free from direct contact with side walls 5a, 5b, 5c, 5d.

[0021] In general it applies that the connecting parts 8, 8a, 8b are free from direct contact with the base 4. As

shown in Figs. 1-4 and Fig. 6, it is possible that the connecting parts 8, 8a, 8b each connect up with column 7, 7a, 7b at the free end 9 of the respective column 7, 7a, 7b. The free end 9 is considered to be the end of the column which is opposite the end that is connected up with base 4.

[0022] Fig. 5 shows a box 1 wherein the connecting parts 8, 8a, 8b are each positioned between the base 4 and the free end 9 of columns 7, 7a, 7b.

[0023] It is possible that in the assembled condition the columns 7, 7a, 7b of one of two boxes 1 are one-to-one connected up with the columns 7, 7a, 7b of the other one of two such boxes 1. This can easily be imagined for each of the embodiments shown.

[0024] Note that the free ends 9 of the columns 7, 7a, 7b of the box shown in Fig. 2 are provided with so-called male connector parts 10. This equally applies to the embodiment shown in Fig. 4. However, also note that a box 1 as shown in Fig. 1 and 5, depict so-called female connector parts 11 at the free ends 9 of the columns 7a, 7b, 7c.

[0025] It will be understood that the box shown in Fig. 2 can easily be put into an assembled condition by letting the open sides 6 of the box shown in Fig. 2 and in Fig. 3 meet and the male connectors 10 and female connectors 11 connect up. Note that as shown in Fig. 2, the connecting parts 8, 8a are oriented parallel to the transverse side walls 5c, 5d. In contrast, in the box 1 as shown in Fig. 3, the connecting parts 8, 8a, 8b are oriented parallel to the longitudinal side walls 5a, 5b. By assembling the box shown in Fig. 2 with the box shown in Fig. 3, the columns 7, 7a, 7b in each of these boxes are optimally supported and the obtained assemblage of two irrigation boxes 1 has a relatively strong lateral strength (in this context understood to be a strength considered in a direction parallel to base 4 and/or open side 6).

[0026] According to the invention, it is required to have both male connector parts 10 and female connector parts 11 in equal numbers distributed over the free ends 9 of the columns 7a, 7b,. Fig. 6 and Fig. 7 show an example of this. Note that the free ends 9 of the column 7d have partly a male connector part 10 and partly a female connector part 11. The box having the male connector parts 10 and female connector parts 11 distributed over the free ends 9 of the column 7a, 7b, is such that two identical boxes 1 can be put together in an assembled condition. An embodiment of a box suitable for that purpose is shown in Fig. 7. That box is connectable to an identical box by means of connecting the male and female connector parts 10, 11.

[0027] When two boxes as shown in Fig. 7 are available, then these can each be put in an assembled condition by rotating one of the boxes around an axis which has its axial direction parallel to a width of that box and then place the open sides against each other and connect the male connector parts 10 and the female connector parts 11. Thus, each single box is such that it is connectable to an identical box. A number of the connecting parts are

oriented perpendicular to the orientation of the remaining number of connecting parts. The columns having female connector parts are connected by connecting parts which extend in a direction perpendicular to the direction into which connecting parts connecting columns having male connection parts extend.

[0028] The box shown in Fig. 7 has at least one column which is connected by a number of connecting parts of which at least one connecting part extends in a direction that is perpendicular to the direction into which at least one other connecting part of that member extends. As shown, Fig. 7 has two such columns.

[0029] For such boxes 1, it is possible that connecting parts 8, 8a, 8b are positioned such that in the assembled condition each of these connecting parts 8, 8a, 8b of that box 1 are in a mirror position with respect to the position of the connecting parts 8, 8a, 8b of the other, identical, box 1. The mirror plane is then the plane where the open sides 6 meet. Examples of such configurations of the connecting parts 8, 8a, 8b are shown in Fig. 1 and Fig. 5.

[0030] However, it is also possible that the connecting parts 8, 8a, 8b are positioned such that in the assembled condition none of the connecting parts 8, 8a, 8b of one box has a mirror position with respect to the position of the connecting parts 8, 8a, 8b of the other, identical, box 1. Again, the mirror plane is also in this context the plane where the open sides 6 meet. An example is shown in Fig. 6.

[0031] It is further also possible that the connecting parts 8, 8a, 8b are positioned such that in an assembled position each of these connecting parts 8, 8a, 8b of one box has a point-symmetrical position with respect to the position of the connecting parts 8, 8a, 8b of the other, identical, box. In this context the point of symmetry is the centre point of the plane where the open sides 6 meet. Although the drawing does not show such an embodiment, a skilled person will have no problem in visualizing such an embodiment.

[0032] Fig. 4 shows a box 1 wherein a number of the connecting parts 8, 8a, 8b are oriented perpendicular to the orientation of the remaining number of the connecting parts 8, 8a, 8b. The Figs. 1-5 show boxes wherein each of the connecting parts 8, 8a, 8b is oriented parallel to one of the side walls 5a, 5b, 5c, 5d. In contrast, Fig. 6 shows an embodiment of a box 1 according to the invention wherein the connecting parts 8 are oriented diagonally with respect to the side walls 5a, 5b, 5c, 5d.

[0033] Although the drawing only shows boxes wherein the connecting parts 8, 8a, 8b extend in a direction parallel to base 4 and/or open side 6, for another embodiment (not shown) it is not inconceivable that at least one of the connecting parts 8, 8a, 8b is oriented diagonally with respect to the base 4.

[0034] It is also not inconceivable that one of the connecting parts 8, 8a, 8b connects at least three columns 7, 7a, 7b, as shown in Fig. 6.

[0035] Although not shown in the drawing, the disclosure is also related to a set of two boxes according to the

invention as explained with reference to various embodiments, wherein the connecting parts 8, 8a, 8b of one box 1 are arranged to adopt in the assembled condition a mating position with respect to one of the connecting parts 8, 8a, 8b of the other box, for reinforcing the respective connecting parts. Thus one box may have connecting parts having a U-shape in cross-section, and the other box may have connecting parts which fit in the U-shaped connecting parts of the other box. This would enhance the stability and stiffness of the two boxes in their assembled condition.

[0036] It will be clear that other configurations for the connecting parts are possible. Besides the U-shape in cross section other shapes are possible e.g. +, |, o, J, L, □, H, or a segment of a circle. As shown in Fig. 7, it is also possible that connecting parts between columns having female connectors are each provided with ridges. The same applies to connecting parts between columns having male connectors. Connecting parts between columns having both a male and a female connector part can be flat at the side which will in the assembled condition be in touch with the same connecting parts of another box.

[0037] The boxes as described above can be made of plastic, for instance by molding techniques.

[0038] The invention is not limited to the embodiments described above. Many variations and modifications are possible. For instance, a box according to the invention may comprise more than one connecting part between a pair of two columns and/or between a certain column and a certain part of a side wall. Although the connecting parts are in the drawing shown to be straight, it is not inconceivable that some curvature is included. The columns may be round columns, square columns, pentagons, hexagons, octagons, etc. The term "column" also embraces a part of a side wall which is locally thicker to provide the function of a column. Such a thicker part of the side wall may equally extend substantially vertically from the base toward the open side. The openings may have various shapes. In principle there is no limitation to the shape of the openings.

[0039] The side walls are not necessarily panels which extend in vertical direction. The side walls may equally be composed of bars which have, for instance, a circular or a rectangular cross section and extend in horizontal direction.

Claims

1. Irrigation box, drainage box, or attenuation box, the box being a single piece box not composed or assembled from a plurality of parts into a single piece, but produced at once as a single piece, the box comprising as integral parts of the box (1):

- a base (4) having openings (4a) therein for passage of fluid into and/or out of the box (1);

- side walls (5a, 5b, 5c, 5d) extending perpendicularly relative to the base, the side walls having openings (5e) therein for passage of fluid into and/or out of the box;

- an open side (6) which lies opposite the base, the open side (6) being designed such that two of these boxes (1) can be placed with the open sides (6) towards one another and then be connected to one another to adopt an assembled condition;

- columns (7, 7a, 7b) which extend vertically from the base (4) towards the open side (6) when the base is in a horizontal position; and

- at least one connecting part (8, 8a, 8b) between one column (7a) which is positioned free from direct contact with one of the side walls and one column (7b) which is positioned in direct contact with one of the side walls (5a, 5b, 5c, 5d), the connecting part (8, 8a, 8b) being free from direct contact with the base (4), wherein the box comprises a plurality of such connecting parts and wherein a number of the connecting parts are oriented perpendicular to the orientation of the remaining number of connecting parts, the box further having male connector parts (10) and female connector parts (11) in equal numbers distributed over the ends of the columns, wherein at least one of the columns has partly a male connector part and partly a female connector part, such that the box is connectable to an identical box to adopt the assembled condition, the columns having female connector parts are connected by connecting parts which extend in a direction perpendicular to the direction into which connecting parts connecting columns having male connector parts extend.

2. A box according to claim 1, further comprising at least one connecting part (8b) between two columns (7a) which are each positioned free from direct contact with one of the side walls (5a, 5b, 5c, 5d).

3. A box according to any one of the previous claims, wherein at least one of the connecting parts (8a, 8b, 8c) is oriented parallel to at least a part of one of the side walls (5a, 5b, 5c, 5d).

4. A set of two boxes according to any one of the previous claims, wherein one of the at least one connecting parts (8a, 8b, 8c) of one box is arranged to adopt in the assembled condition a mating position with respect to one of the at least one connecting parts (8a, 8b, 8c) of the other box (1) for reinforcing the respective connecting parts (8a, 8b, 8c).

5. A set of two boxes (1) according to any one of claims 1 to 3 wherein the boxes are identical and are connected to one another through male and female con-

nector parts (10, 11).

Patentansprüche

1. Bewässerungskasten, Entwässerungskasten oder Dämpfungskasten, wobei es sich um einen einstückigen Kasten handelt, der nicht aus einer Vielzahl von Teilen zu einem Stück zusammengesetzt oder zusammengebaut ist, sondern unmittelbar in einem Stück hergestellt ist, wobei der Kasten als integrale Bestandteile des Kastens (1) umfasst:

- einen Boden (4), der Öffnungen (4a) für den Durchlass von Flüssigkeit in den und/oder aus dem Kasten (1) aufweist;
- Seitenwände (5a, 5b, 5c, 5d), die senkrecht zum Boden ausgerichtet sind, wobei die Seitenwände Öffnungen (5e) für den Durchlass von Flüssigkeit in den und/oder aus dem Kasten aufweisen;
- eine offene Seite (6) gegenüber dem Boden, wobei die offene Seite (6) so konzipiert ist, dass zwei dieser Kästen (1) mit den offenen Seiten (6) zueinander platziert und dann miteinander zu einem zusammengebauten Zustand verbunden werden können;
- Säulen (7, 7a, 7b), die vom Boden (4) senkrecht zur offenen Seite (6) ausgerichtet sind, wenn sich der Boden in einer wagerechten Position befindet; und
- mindestens ein Verbindungsteil (8, 8a, 8b) zwischen einer Säule (7a), die ohne direkten Kontakt zu einer der Seitenwände positioniert ist, und einer Säule (7b), die in direktem Kontakt zu einer der Seitenwände (5a, 5b, 5c, 5d) positioniert ist, aufweist, wobei das Verbindungsteil (8, 8a, 8b) keinen direkten Kontakt zum Boden (4) aufweist, wobei der Kasten eine Vielzahl von derartigen Verbindungsteilen enthält und wobei eine Anzahl der Verbindungsteile senkrecht zu der restlichen Anzahl von Verbindungsteilen ausgerichtet ist, wobei der Kasten des Weiteren Stift- (10) und Buchsensteckverbinder (11) in gleicher Anzahl aufweist, die über die Enden der Säulen verteilt sind, wobei mindestens eine der Säulen teilweise einen Stiftverbinder und teilweise einen Buchsensteckverbinder aufweist, dergestalt, dass der Kasten mit einem identischen Kasten zu einem zusammengebauten Zustand verbunden werden kann, wobei die Säulen, die Buchsensteckverbinder aufweisen, von Teilen verbunden werden, die in einer Richtung senkrecht zu der Richtung verlaufen, in der Verbindungsteile zwischen Säulen mit Stiftverbindern, verlaufen.

2. Kasten nach Anspruch 1, des Weiteren mindestens

ein Verbindungsteil (8b) zwischen zwei Säulen (7a) umfassend, die jeweils ohne direkten Kontakt zu einer der Seitenwände (5a, 5b, 5c, 5d) positioniert sind.

3. Kasten nach einem der vorstehenden Ansprüche, wobei mindestens eines der Verbindungsteile (8a, 8b, 8c) zu mindestens einem Teil einer der Seitenwände (5a, 5b, 5c, 5d) parallel ausgerichtet ist.
4. Satz aus zwei Kästen nach einem der vorstehenden Ansprüche, wobei eines von mindestens einem Verbindungsteil (8a, 8b, 8c) eines Kastens so angeordnet ist, dass es im zusammengebauten Zustand auf einem von mindestens einem Verbindungsteil (8a, 8b, 8c) des anderen Kastens (1) aufliegt, um die jeweiligen Verbindungsteile (8a, 8b, 8c) zu verstärken.
5. Satz aus zwei Kästen (1) nach einem der Ansprüche 1 bis 3, wobei die Kästen identisch sind und über Stift- und Buchsensteckverbinder (10, 11) miteinander verbunden werden.

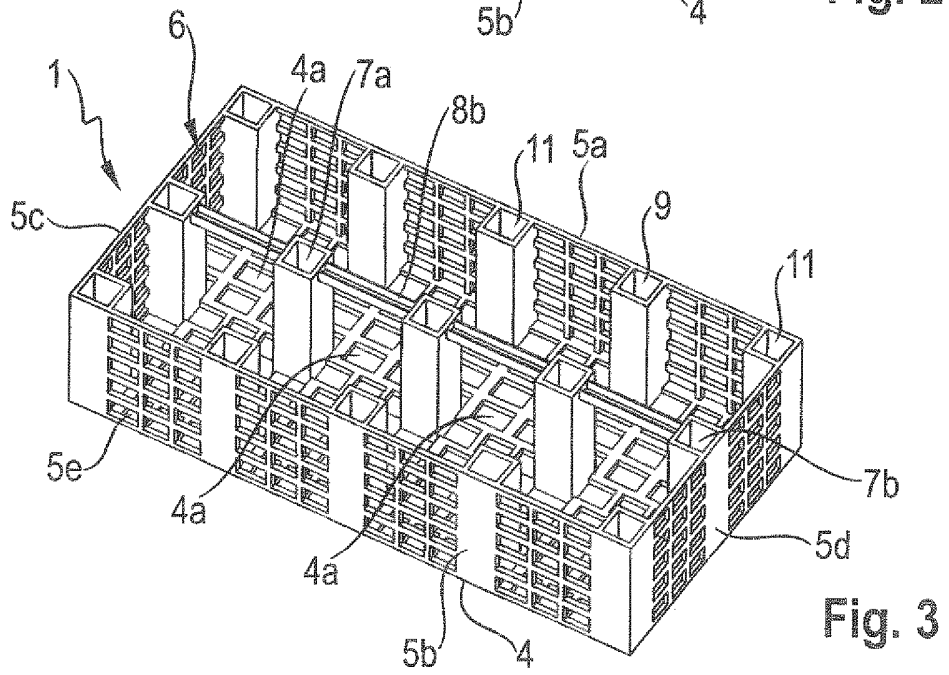
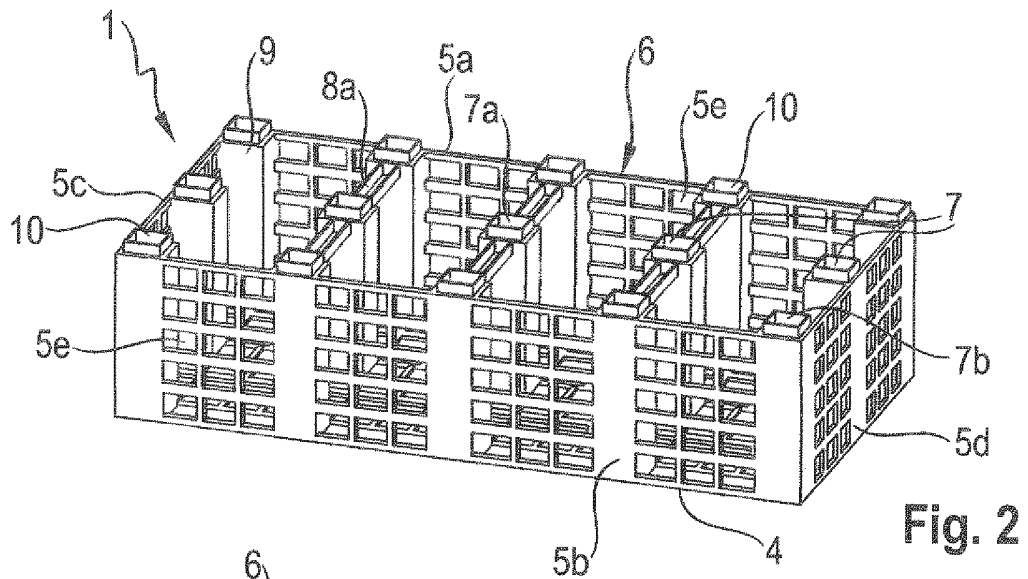
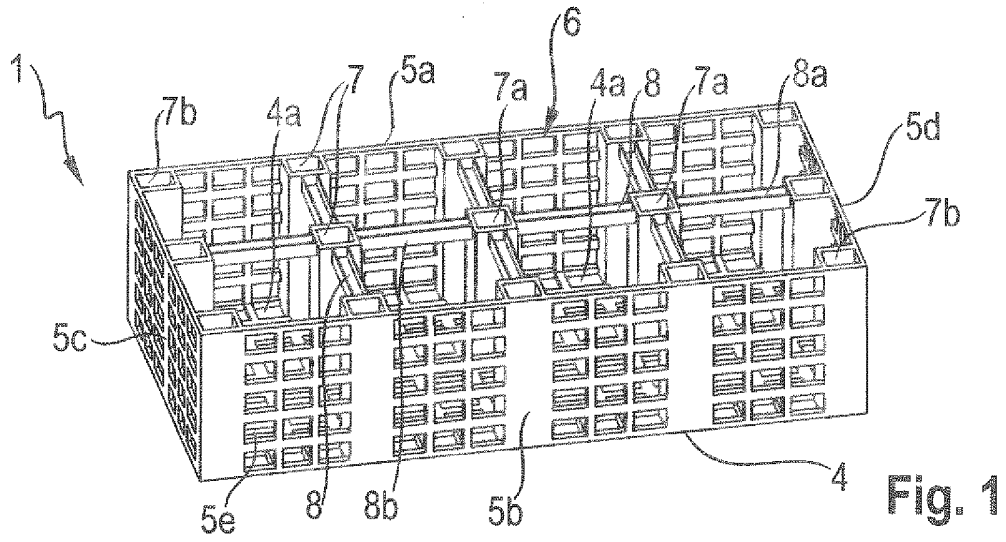
Revendications

1. Caisson d'irrigation, caisson de drainage ou caisson d'atténuation, le caisson étant un caisson d'un seul tenant non composé ou assemblé à partir d'une pluralité de parties en un seul tenant, mais produit immédiatement d'un seul tenant, le caisson comprenant en tant que parties intégrantes du caisson (1) :
- une base (4) présentant des ouvertures (4a) dans celle-ci pour le passage de fluide dans et/ou hors du caisson (1) ;
 - des parois latérales (5a, 5b, 5c, 5d) s'étendant perpendiculairement par rapport à la base, les parois latérales présentant des ouvertures (5e) dans celles-ci pour le passage de fluide dans et/ou hors du caisson ;
 - un côté ouvert (6) qui se trouve à l'opposé de la base, le côté ouvert (6) étant conçu de telle sorte que deux de ces caissons (1) peuvent être placés avec les côtés ouverts (6) l'un vers l'autre et puis être connectés l'un à l'autre pour adopter un état assemblé ;
 - des colonnes (7, 7a, 7b) qui s'étendent verticalement depuis la base (4) vers le côté ouvert (6) lorsque la base est dans une position horizontale ; et
 - au moins une partie de connexion (8, 8a, 8b) entre une colonne (7a) qui est positionnée sans contact direct avec l'une des parois latérales et une colonne (7b) qui est positionnée en contact direct avec l'une des parois latérales (5a, 5b, 5c, 5d), la partie de connexion (8, 8a, 8b) étant dépourvue de contact direct avec la base (4), dans

- lequel le caisson comprend une pluralité de telles parties de connexion et dans lequel un nombre des parties de connexion sont orientées perpendiculairement à l'orientation du nombre restant de parties de connexion, le caisson présentant en outre des parties connecteurs mâles (10) et des parties connecteurs femelles (11) en nombres égaux réparties sur les extrémités des colonnes, dans lequel au moins l'une des colonnes présente partiellement une partie connecteur mâle et partiellement une partie connecteur femelle, de telle sorte que le caisson peut être connecté à un caisson identique pour adopter l'état assemblé, les colonnes présentant des parties connecteurs femelles sont connectées par des parties de connexion qui s'étendent dans une direction perpendiculaire à la direction dans laquelle s'étendent des parties de connexion connectant des colonnes présentant des parties connecteurs mâles.
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2. Caisson selon la revendication 1, comprenant en outre au moins une partie de connexion (8b) entre deux colonnes (7a) qui sont chacune positionnées sans contact direct avec l'une des parois latérales (5a, 5b, 5c, 5d).
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3. Caisson selon l'une quelconque des revendications précédentes, dans lequel au moins l'une des parties de connexion (8a, 8b, 8c) est orientée parallèlement à au moins une partie de l'une des parois latérales (5a, 5b, 5c, 5d).
- 30
4. Ensemble de deux caissons selon l'une quelconque des revendications précédentes, dans lequel l'une des au moins une parties de connexion (8a, 8b, 8c) d'un caisson est agencée pour adopter dans l'état assemblé une position d'emboîtement par rapport à l'une des au moins une parties de connexion (8a, 8b, 8c) de l'autre caisson (1) pour renforcer les parties de connexion (8a, 8b, 8c) respectives.
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5. Ensemble de deux caissons (1) selon l'une quelconque des revendications 1 à 3, dans lequel les caissons sont identiques et sont connectés l'un à l'autre par le biais de parties connecteurs mâles et femelles (10, 11).
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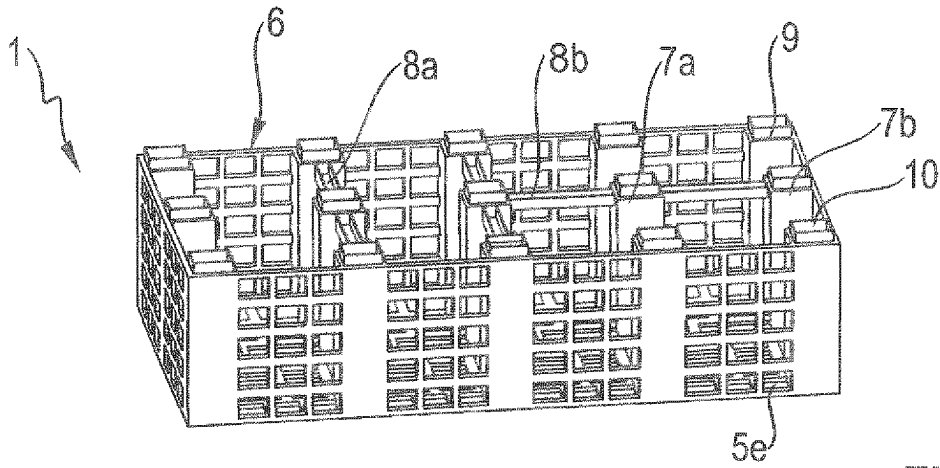


Fig. 4

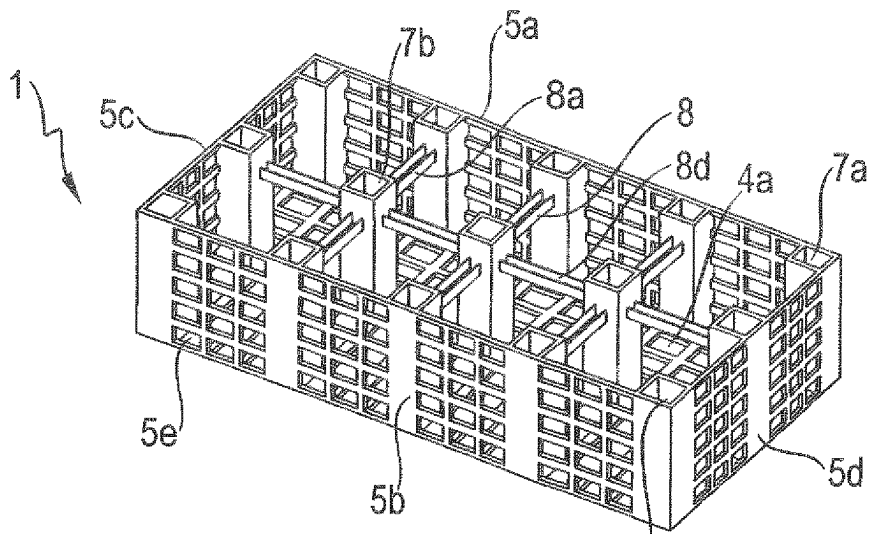


Fig. 5

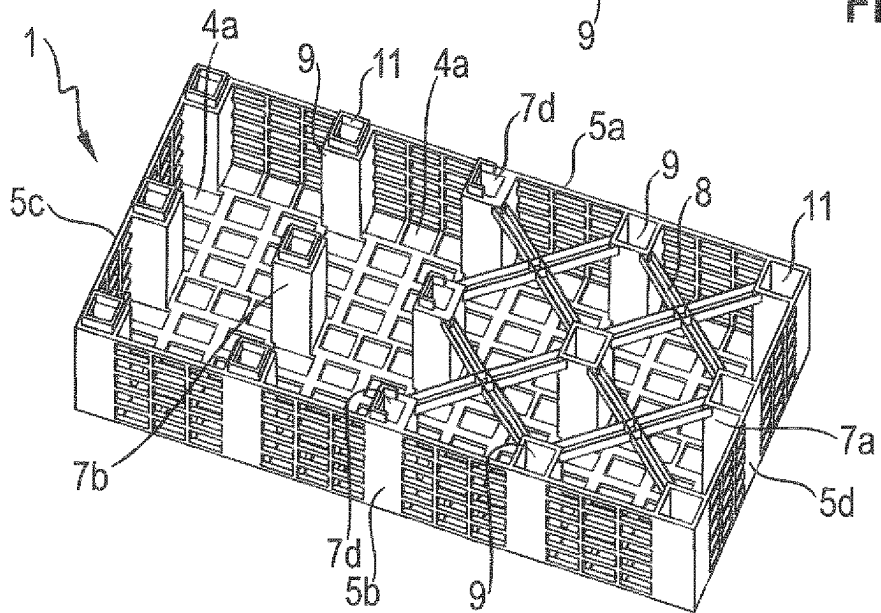


Fig. 6

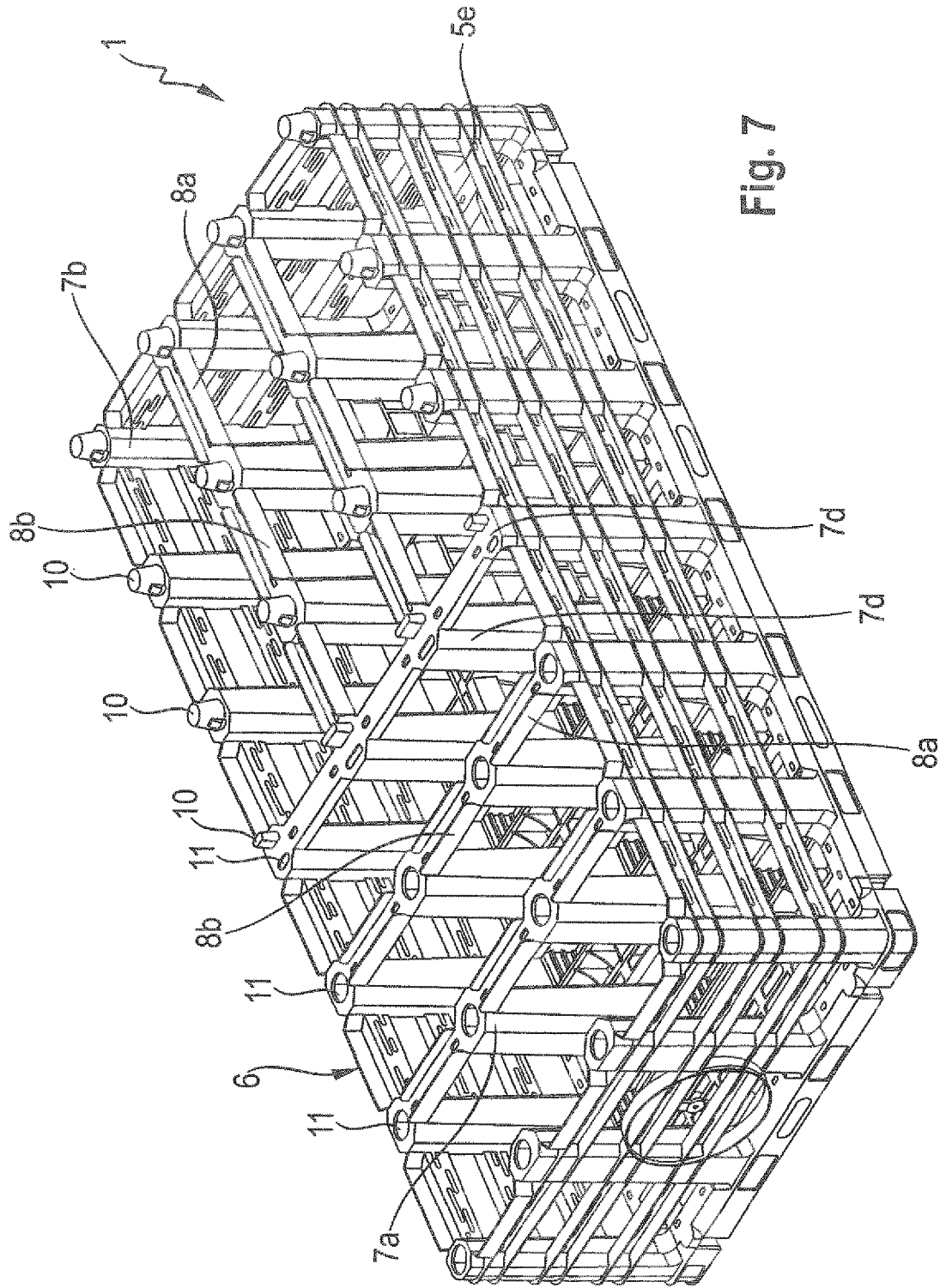


Fig. 7

REFERENCES CITED IN THE DESCRIPTION

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