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A structure, assembly of a structure and at least one plant pot, building blocks for or of the structure, a method of building the structure and an inserting device.

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The present disclosure relates to a structure, wherein plant pots and potentially plants in the plant pots can be accommodated; an assembly of the structure and at least one plant pot; building blocks for or of such a structure; and a method of building the structure; and an inserting device in particular for insertion of a wick into a plant pot before accommodation thereof in a building block of such a structure. The structure comprises building blocks; and couplings arranged to couple the building blocks, wherein at least one of the building blocks comprises: at least one plant pot accommodation, which is designed to accommodate a plant pot inserted therein; and a liquid reservoir. The plant pots may comprise a wick, and the building blocks may be stacked or coupled in a staggered configuration.

**A STRUCTURE, ASSEMBLY OF A STRUCTURE AND AT LEAST ONE PLANT POT,
BUILDING BLOCKS FOR OR OF THE STRUCTURE, A METHOD OF BUILDING THE
STRUCTURE AND AN INSERTING DEVICE**

5 The present disclosure relates to a structure, wherein plant pots and potentially plants in the plant pots can be accommodated. To the best knowledge of the inventors of the present invention, no such structure is known. Additionally, the present disclosure also relates to an assembly of the structure and at least one plant pot, building blocks for or of such a structure and the method of building the structure, as well as an inserting device, in particular for manual
10 insertion of a wick into a plant pot before accommodation thereof in a building block of such a structure.

 Users or inhabitants of buildings can put plant pots on a structure or a wall. In such a case, the bottom of the plant pot is the only reservoir for liquids for nourishment of the plants. Consequently, it is known to occur that plants die for lack of water. Further, a wall is still in its
15 entirety visible, whilst people working in a space often feel a need to be around plants during the day, where such a need can hardly be fulfilled by arranging a limited number of plants on top of a structure, such as a brick wall. Consequently, there is a need for an enhanced or improved structure, which can contribute to fulfilling this need, and at the same time reduce the amount of care that the plants require in terms of nourishment and/or liquids.

20 To this end, according to the present disclosure, several aspects of solutions to this combined problem are provided. In particular, the present disclosure provides a structure, comprising: building blocks; and couplings arranged to couple the building blocks, wherein at least one of the building blocks comprises: at least one plant pot accommodation, which is designed to accommodate a plant pot inserted therein; and a liquid reservoir. In such a structure, plant pots can
25 be arranged in or accommodations and thus be hidden from view. At the same time, leaves and branches of the plants can extend in front of the structure, hiding the structure itself also from view. Because the building blocks of the structure comprise reservoir is, in particular at each of a plurality of heights an additional reservoir is provided in or of the building blocks for nourishment of the plants, which may therefore be arranged at a number of heights along the structure and still
30 be close to additional nourishment in the reservoir is, provided in the building blocks. Although reference is made here to additional nourishment, liquids and potentially also additives therein can completely replace the need for watering the plants in the associated pots, such that the reference to additional nourishment should be interpreted hearing to comprise also the complete replacement of nourishment through what arena of plants in pots.

A structure according to the present disclosure may fulfil a long felt need, for which no adequate solution has previously been proposed, to the best knowledge of the inventors of aspects in the present disclosure, at least not without endangering life of the plants, for which reason is the reservoirs play an important role.

5 Structures according to the present disclosure can be provided in a plurality of preferred embodiments, some of which will be discussed in detail herein below through reference to the appended drawing, and/or may be defined in the appended dependent claims of the present disclosure. It should be emphasised that such preferred embodiments are by no means to be interpreted as restrictive on the scope of protection according to the present disclosure.

10 For instance, in a preferred embodiment, the structure may be such that at least one of the building blocks is associated with more than one of the couplings, and superposed building blocks in the structure are coupled in a staggered configuration relative to an upward direction. Consequently, a sturdy structure can be provided, and supports, brackets or frames can be avoided, whereby structures according to the present disclosure can be constructed in isolation, without
15 external aid and/or any assisting means for keeping the structure up right and preventing it from toppling over, to which in particular also an angled embodiment of the structure according to the present disclosure may contribute.

In an additional or alternative preferred embodiment, the structure may be such that the couplings are integrated into the building blocks. Consequently, a very elegant and simple
20 configuration of the building blocks can be provided, and even with multiple couplings per building block, the staggered construction of the immediately above preferred embodiment can be provided. In such an embodiment, the structure may be such that at least one of the building blocks comprises at least one depression in a bottom thereof, said at least one depression forming at least a part of the reservoir and one of the couplings. Consequently, a combined functionality of such a
25 depression, forming both at least a part of the reservoir and one of a plurality of couplings, may be provided to further enhance the simplicity of the building blocks while achieving all the previously referred to benefits and inventive effects. Further, the structure may be such that the at least one of the building blocks comprises two or more depressions. In such a further detailed embodiment, the two or more depressions, each forming a coupling, provided to reservoirs as well as allowing the
30 staggered configuration of the resulting structure, comprising the multitude were plurality of building blocks.

In an additional or alternative preferred embodiment, the structure may further comprise at least one bottom building block at a bottom in the structure, which comprises a liquid reservoir without a plant pot accommodation. Consequently, the reservoir in the bottom building block of
35 the structure may form a container to hold excess water, which may be drained from or overflow

from building blocks higher up in the structure, thereby preventing plants from drowning in liquids contained in the reservoir of each of the building blocks.

In an additional or alternative preferred embodiment, the structure may further comprise: at least one top building block at a top in the structure, which comprises a liquid reservoir without a plant pot accommodation in a side wall thereof; and a lid comprising at least one plant pot accommodation. Notwithstanding such an embodiment, top building blocks may comprise plant pot accommodation is both inside walls and in a top wall thereof. The charm of the referred to and/or the alternative embodiments may be that essentially a unitary design of the building blocks can be provided, where a top row of building blocks can each have a lid or the like to close off the interior of the building blocks and the reservoir is accommodated therein, and still provide a top role of plants as well, of which the plant pots can be arranged in accommodations in the lids, regardless of whether or not also accommodations are arranged inside walls of such building blocks.

In an additional or alternative preferred embodiment, the structure may further comprise: an insert, which is adapted on the one hand to the plant pot accommodation and on the other hand to one of a plurality of plant pots intended to be inserted in the plant pot accommodation. In such an embodiment, a plurality of differently sized plant pots can be inserted into plant pot accommodations where surrounding space within the accommodations can be closed off by the inserts, which can consequently also be designated to form adapters and close a space between a diameter of a plant pot and the maximum amount of room for a plant pot provided in accommodations of the building blocks. In such an embodiment, the structure may be such that the insert comprises a holder for a plant pot, defining the orientation thereof in or relative to the structure, and a wall segment for augmenting a side wall portion of a side wall of the building block containing the plant pot accommodation. The accommodation itself may define the orientation of the plant pot and consequently also of a plant associated with such a plant pot, but allowing the insert to define the orientation of the plant pot and the associated plant therein relative to the upright orientation of the structure provides additional amount of freedom in use for owners or users of such a structure, to freely select a desired insert with an appropriate orientation for the plant pot and the plant therein, relative to the structure, rather than being confined to a predetermined orientation, which may be fixed by the shape and design of the accommodation when the plant pots are to be inserted into accommodations without an insert there between.

In an additional or alternative preferred embodiment, the structure may further comprise: an insert, wherein the at least one building block comprises the plant pot accommodation at an essentially sideways or oblique orientation relative to an upward orientation of the structure. In such a preferred, non-limiting embodiment, the plant pot accommodation is pre-oriented, and an

insert, if provided, may define a slightly deviating tilt or orientation of the inserted plant pot relative to the orientation of the resulting structure.

In an additional or alternative preferred embodiment, the structure may further comprise: a liquid throughput system. Such a liquid throughput system may simply consist of means for
 5 supplying water, potentially with additives, or any other desirable liquid, into a top row of building blocks for the water to trickle down through lower lying rows of building blocks and provide nourishment to plants at a multitude of heights relative to the structure. In such an embodiment, the structure may further exhibit the feature of a feedback to form a liquid circulation system in combination with the throughput system. For example, water trickling down into reservoir is of a
 10 lower lying rows of building blocks can be circulated back up to reservoirs of higher lying rows of building blocks in the structure. Consequently, a need for supplying additional amounts of water can be further minimised. In such an embodiment, at least comprising a liquid throughput system and potentially also a feedback option, the structure may be such that a liquid supply is associated with at least one building block at or near a top of the structure, or that at least one of the building
 15 blocks with at least one underlying building block in the structure comprises an overflow at or above the reservoir to the underlying building block in the structure. This latter feature allows for the trickling down of water or other liquid from higher building blocks in the structure to lower building blocks.

In an additional or alternative preferred embodiment, the structure may further comprise:
 20 an electrical power supply, wherein at least one of the building blocks comprises a light armature or a connector of the light armature. Thereby, simultaneously a functionality can be achieved to provide lighting to the room in which such a structure is arranged, which accommodates plant pots and plants.

In an additional or alternative preferred embodiment, the structure may further be such
 25 that: at least one of the building blocks has a modular configuration. Building blocks at different heights or at different locations along width of the structure may have different dimensions. By providing a modular configurations of building blocks, numbers of separately required complete building blocks can be minimised and necessary building blocks for achieving a desired size or shape of the structure can be constructive or configure at the location, where the structure is to be
 30 arranged or erected.

In an additional or alternative preferred embodiment, the structure may further be such that: at least one of the building blocks comprises an alignment, configured to orient a superposed building block during assembly of the building blocks relative to the building block with the alignment. In particular, such an alignment can be provided at lower lying building blocks in order
 35 to secure a sturdy and upright base for constructing the structure from the separate building blocks,

after achieving such a sturdy base. In such an embodiment, the structure may further exhibit the feature that the alignment comprises a rod, which is insertable in a recess and wherein the rod extends, in an assembled state in an upright direction. This is an example of a relatively simple realisation of the above referred to alignment.

5 In an additional or alternative preferred embodiment, the structure may further be such that: the building blocks comprise building blocks having a shorter length in a direction of the width of the structure and building blocks having a longer length in said direction. Such shorter building blocks can fill voids at upper right side edges of the structure, when wider building blocks are constructed in a staggered manner for forming the structure.

10 In an additional or alternative preferred embodiment, the structure may further be such that: the structure defines a wall, comprising angled wall portions and/or at least one corner. With angled portions and/or at least one corner, sturdiness of a base defined by the bottom of the structure is enhanced and the risk of the structure toppling down is considerably reduced.

The present disclosure further also relates to an assembly of a structure in one or more than
15 one or another of the above referenced embodiments and at least one plant pot arranged in the plant pot accommodation of the at least one building block. Such assemblies may be configured by manufacturers, owners or end users, and in such assemblies many of the inventive effects and/or benefits of embodiments of the present disclosure reveal themselves, such as the decreased need for liquid or water supply per plant pot, and being able to impart an impression of a natural
20 surroundings to users of the space, in which the assembly is constructed, arranged or erected.

In an additional or alternative preferred embodiment, the assembly may be such, that: the at least one plant pot comprises a wick, which wick extends from an interior of the plant pot to the liquid reservoir of the at least one building block, in which the plant pot is accommodated. Thereby it is prevented that a bottom of the plant pot needs to be submerged in water or other liquid,
25 contained in a reservoir of the building block, and a Wick allows water or other liquid to be drawn up into the plant pot, without risk of rot to the roots of the plant in the plant pot or the risk of decomposition of the substrate, which may occur when a bottom of the plant pot is submerged in water. Also, so-called drowning of plants in the plant pots can be prevented by the regulated water supply of water and/or other liquid through a wick. In such a preferred embodiment with a wick, an
30 assembly may further be such, that the wick is engaged by an inserting device, having an elongate body, and engagement at an end of the body for selectively engaging the wick, and a stop, wherein the body is configured to be inserted through a hole in the plant pot from the end of the body engaging the wick and the stop has dimensions larger than the hole in the plant pot. Such an inserting device can be arranged manually or in an automated fashion. The inserting device
35 preferably engages the wick at one end, which one end and is intended to be inserted as deeply as

possible into the substrate, that is held within the plant pot, such that drawn up water or other liquid can be provided as deeply as possible to the interior of the plant pots. The stop head may be provided at an opposing side of the elongate body, to limit the depth, to which the inserting device can be inserted into a plant pot through a hole thereof. Further, in such an embodiment of the assembly comprising a wick and an inserting device, such an embodiment may further be such that at least one flexible leg is connected to the body, which is configured to normally extend obliquely away from the body in a direction from the end engaging the wick towards the stop. Such a flexible leg may define an anchor or lock, where a bottom containing the whole, through which the inserting device is inserted into the plant pot, is locked between the stop head and the flexible leg of the inserting device after having inserted the inserting device through the hole in the bottom of the plant pot. In such an embodiment, preferably, the assembly exhibit the feature that the at least one flexible leg is configured to deflect against the body during insertion of the device into or through the hole of the plant pot, and the body at least locally at the leg is configured to exhibit a combined thickness with the leg to be inserted through the hole in the plant pot. Consequently, the elongate body of the inserting device is capable of being passed through the hole in the bottom or any other portion of the plant pot, practically irrespective of the size of the hole in the plant pot, where after a desired orientation of the wick is provided through appropriate locking of the inserting device in or at the hole in the plant pot.

In an embodiment of an assembly according to the present disclosure, containing the inserting device, it may be beneficial that at least a portion of the inserting device comprises a fertilizer material. Such a fertiliser material can be compressed or formed otherwise in the shape of a rod, which can be carried by the inserting device, or can be formed or compressed into another shape or form, even to the extent, were such fertiliser material can form a part of the actual inserting device itself, preferably at least the tip or end thereof, which is to be inserted most deeply into the interior of the plant pot.

The present disclosure also relates to a building block on its own, where such a building block is configured to be employed in an above references structure or assembly according to the present disclosure.

Further, the present disclosure also relates to a method of building an above referenced embodiment of a structure from above referenced embodiments of building blocks, according to the present disclosure. Such a method can be such as to comprise stacking at least two building blocks, inserting at least one plant pot in at least one of the building blocks, and supplying liquid into the reservoir.

Preferably, the method according to the present disclosure may also be such, that the stacking comprises staggering the building blocks.

Further, the method according to the present disclosure may be such, that the inserting of the at least one plant pot into the at least one of the building blocks comprises inserting a wick into the plant pot and extending the wick from the interior of the plant pot to and into the liquid in the reservoir.

5 Finally, the method according to the present disclosure may further be such that inserting the wick into the interior of the plant pot comprises providing an inserting device and inserting the inserting device into a plant pot through a plant pot hole.

10 The present disclosure further also relates to an inserting device, which is configured to engage a wick, the device having an elongate body, and engagement at an end of the body for selectively engaging the wick, and a stop, wherein the body is configured to be inserted through a hole in a plant pot from the end of the body engaging the wick and wherein the stop has dimensions larger than the hole in the plant pot.

15 In a preferred embodiment, such an inserting device according to the present disclosure may be such, that at least one flexible leg is connected to the body, which is configured to normally extend obliquely away from the body in a direction from the end engaging the wick towards the stop.

20 In a further preferred embodiment having a flexible leg, the inserting device may be such, that the at least one flexible leg is configured to deflect against the body during insertion of the inserting device into or through the hole of the plant pot, and the body at least locally at the leg is configured to exhibit a combined thickness with the leg to be inserted through the hole in the plant pot.

In a further preferred embodiment having a flexible leg, the inserting device may be such, that at least a portion of the inserting device comprises a fertilizer material.

25 In a further preferred embodiment having a flexible leg, the inserting device may be such, that the fertilizer material is compressed to a shape and form, corresponding with at least one of the elongate body, the engagement and the at least one leg.

30 Following the above general identification of embodiments of the present disclosure, below are more detailed description is provided of these and/or other embodiments of the present disclosure, referring to the appended drawing, exhibiting more or less preferred embodiments, of which it should be noted that the scope of protection is by no means limited to any of the more or less preferred embodiments described below in particular, but that the limits and bounds to the scope of protection are defined in the appended claims and then only in the independent claims thereof. Further, in the following description the same or similar reference numbers can be employed for the same, similar or comparable components, elements or aspects of distinct
35 embodiments of the present disclosure. In the appended drawing:

Figure 1 shows an assembled wall forming the structure according to the present disclosure, comprising building blocks and accommodations for plant pots;

Figure 2 shows a cross-sectional view exhibiting the interior of the wall of figure 1 and additionally showing further features, which may optionally be provided with the wall of figure 1;

5 Figure 3 exhibits a method of constructing up wall according to figure 1 from building blocks in an alternative embodiment of the building blocks which are in themselves are also subject of the present disclosure;

Figures 4 – 6 exemplify alignments, for staggered or straight stacking of building blocks on top of a bottom row of building blocks;

10 Figures 7 and 8 exhibit assembly of a building block in combination with inserts and plant pots comprising wicks and an assembly of an insert and a plant pot for introduction thereof into an accommodation for a plant pot of a building block;

Figure 9 shows the resulting configuration or assembly of a building block having a larger width than the one of figure 8 after assembly with inserts and plant pots, and exhibiting in more
15 detail a number of depressions forming couplings for linking the exhibited building block with at least one but preferably more than one undermining building block, which may be similar to the one of figure 9,

Figure 10 exemplifies a building block for a top role of a structure according to the present disclosure, additionally comprising a lid or closure with its own accommodations for arranging
20 plant pots therein;

Figure 11 exemplifies an inserting device, of which a head is shown in figure 7; and

Figure 12 shows a detail of a head of the inserting device of figure 11;

Figure 13 shows an alternative embodiment of an inserting device, resembling the one of figures 11 and 12, but exhibiting additional features to allow insertion of a stick of fertiliser
25 material deep into a plant pot, whilst at least a portion of the inserting device itself could in an alternative embodiment also be made of compressed fertiliser material to simultaneously insert a wick into the plant pot, as well as fertiliser;

Figure 14 shows an alternative embodiment of an inserting device in which a fertiliser stick is accommodated in the elongate body of the device;

30 Figure 15 shows an alternative structure;

Figure 16 shows an open or sectional side view of a high building block in or of the structure of figure 15; and

Figure 17 shows a frontal view of an alternative wall-like structure, comprising a special high building block for defining a crevice, where figure 18 shows the special high building block
35 in a perspective view.

In figure 1, a structure in the form of a wall 1 is shown. The wall 1 comprises a top row 2 of building blocks 6, which are closed with lids 3, intermediate rows 4 of building blocks 6, and a bottom row 5 of building blocks 6, which bottom row 5 is equipped with alignments 7 for straight assembly of overlying rows 2, 4 of building blocks 6. A method of assembling the building blocks will be described in more detail in relation to figure 3. The alignments 7 will be describe in more detail herein below, in conjunction with figures 4, 5 and 6. Said alignments 7 optionally constitute water level indicators.

In particular the lids 3 and side walls of the building blocks 6 in the intermediate rows 4 of building blocks 6 comprise accommodations 9, which have been designed to enable plant pots 8 to be inserted therein. Optionally, inserts 10 may be provided to enable adaptation of the shape and form of accommodations 9 to the shape and form of plant pots 8 intended to be actually accommodated in the accommodations 9. The provision of inserts 10 to be introduced into accommodations 9 for adaptation thereof to the size and shape of plant pots 8 will be referred to in more detail herein below, referring to figures 7 and 8.

It should be clear from the representations of figures 1 and 2 that different sizes in a width direction relative to the wall 1 of the building blocks 6 are provided, to enable straight sides of the wall 1. This is further clarified through comparison of the shorter width building blocks 6 in figures 7 and 8 on the one hand and the wider width building blocks six in figure 9.

Building blocks 6 in the top row 2 of building blocks 6 in the wall 1 are covered by lids 3, where lids 3 also comprises accommodations 9, wherein plant pots may be accommodated. Further, figure 10 exhibits a water supply 11 and/or a pump enabling water circulation from lowermost building blocks 6 in lower row 5 to uppermost building blocks 6 in upper row 2.

In figure 2, exhibiting a cross-section of a wall 1, formed from building blocks 6, the provision of the pump 12 for a circulation of fluid from lowermost building blocks to uppermost building blocks 6 is shown, with the need to provide electrical power for the pump 12. Likewise, a lighting fixture or armature 13, comprising a land 14, may require the provision of electrical power. The pump 12 and the circulatory system associated with it may be integrated into the wall or extend along the outside thereof. The electrical lighting fixture or armature 13 can be attached to a side of the wall 1.

Building blocks 6 in the wall 1 of figures 1 and 2 are stacked in a staggered configuration. This provides sturdiness to the wall 1, which may be constructed to extend to a considerable height. Likewise, as indicated in dashed lines, the wall may extend around a corner. For the staggered configuration and straight sides of the wall 1, building blocks 6 having distinct lengths or widths may be provided. As depicted in figures 1 and 2, two distinct lengths or widths of building blocks six can be employed.

All of the building blocks 6 in the wall 1 are inter-coupled. This is achieved by depressions 15 in the bottom of each building block, or at least in the bottom of each wider or a longer building block 6. As a consequence, each depression 15 forms simultaneously a reservoir for accommodation of water and/or other liquid, potentially augmented with nutrition or the like, and a coupling to connect an overlying building block with two or more of underlying building blocks. More in particular, an outer circumference of a depression 15 in a bottom of an overlying building block 6 may snugly fit within an open top side of an underlying building block, thus forming a coupling between the overlying building block and the underlying building block.

In figures 1 and 2, the shorter or less wide building blocks 6 have two depressions 15 in bottoms thereof. The wider or longer building blocks 6 comprise for depressions 15 in bottoms thereof. The shorter building blocks having two depressions can be coupled to at most two underlying building blocks 6. The wider or longer building blocks having four depressions 15 in bottoms thereof, allowing coupling to at most three shorter underlying building blocks or at most two longer underlying building blocks. The building blocks having depressions are shown in most detail in figure 2, as figure 2 depicts a cross-sectional view allowing a view of the interior of the wall 1 in figure 1.

Figure 2 also reveals that posts 22 can be provided in the interior of building blocks, forming additional supports for overlying building blocks 6 in addition to superposition of the building blocks 6 in distinct rows 2, 4 and 5 in figure 1 or the wall 1. These posts 22 can be arranged in or on rings 39 on or in bottom of the building blocks 6, 16 in figures 8, 9, and 10, which rings 39 surround a passage, through which water in any one building block can flow or trickle down into an underlying building block 6, 16. Consequently, a level of water or other fluid in any one of the building blocks can never be higher than an upper edge of the rings 39, thereby securing that building blocks 6, 16 do not contain an excess amount of water which could result in too much moisture for the substrate in the plant pots 8 or even for the roots of the plants therein. When posts 22 are arranged in or on rings 39, a passage for the water to trickle or flow down into an underlying building block is left open at a base of the posts 22. Alternatively or additionally, posts 22 can contain holes or openings 40, as shown in figure 8.

Plant pots 8 are provided in accommodations 9, which may be in side walls of building blocks 6 or in lids 3. An orientation of each of the plant pots 8 can be determined by the accommodations 9 or by inserts 10, to be described in more detail herein below. In any case, the plant pots can be held up right in the accommodations, such as in the top row 2 of building blocks, or under an angle relative to a vertical direction, as in the side walls of the intermediate rows 4 of building blocks 6. The orientation of inserted plant pots 8 may be determined by provisions to the

accommodations or by the shape and form thereof, or by the nature, shape or form of the inserts
10.

Figure 3 depicts a different type of building blocks 16, having two depressions 15 in
bottoms thereof, next to one another in a direction transverse to the lengthwise direction of the wall
of figure 3. Likewise, a combination of neighbouring depressions 15 in combination and transverse
5 to a direction of the wall can be inserted into an open top of the single underlying building block
16 to engage and clampingly couple said building block to an underlying one. The clamping
mechanism is much the same or at least comparable with Lego toys, but in an upside down
configuration with the depressions 15 forming liquid reservoirs.

Figure 3 further clarifies the manner in which staggered construction of the building blocks
in separate overlying and underlying layers or rows is or can be achieved. Therein, building blocks
in an overlying layer or row are stacked on at least two underlying building blocks to achieve the
staggered configuration.

Figures 4, 5 and 6 show alignments 7, which can be used for stacking a first intermediate
row 4 of building blocks 6, 16 on top of a bottom row 5. To this end, the building blocks 17 in the
bottom row 5 comprise a recess 18 for accommodating a shaft 19. By using opposing shafts
relative to the dimensions and form of the wall, envisaged to be constructed and forming an
exemplary embodiment of a structure, the first above intermediate row 4 of building blocks will be
confined between the shafts 19. Thereby further construction or stacking of layers or rows of
20 building blocks can be stabilised. It should be noted that further stabilisation of the resulting wall
can be achieved, for instance by creating a corner, as depicted in dashed lines in figure 1.

The shafts 19 of the alignments 7 in figures 4, 5 and 6 may comprise arms 20, to be
inserted into a clamp block 21. Thereby, the shafts 19 can be held in place.

The clamp blocks 21 may be floats, for example a simple foam block, and the shafts 19
25 may be movable up and/or down in the recesses 18 with the arms 20 extending through a passage
in the wall at the recess 18, preferably without hindrance caused by friction or the like, but still
providing sturdy support in a sideways direction to overlying layers, rows or levels of building
blocks. In such an embodiment with a float/foam block 21, the height of the shafts 19 can provide
an indication of a water level inside the building block, which may also be embodied in higher
30 rows or levels. Thus a water level indicator can be provided, to have a dual function for aligning
above constructed layers or levels of the structure and for providing an indication of water levels
inside the building block(s).

Figure 7 exhibits, that plant pots 8 can be provided with wicks 23. These wicks may be
inserted into the interior of plant pots 8, using inserting devices 24, which are described in more
35 detail herein below, in relation to figures 11 – 13.

Each plant pot 8 can be arranged in an insert 10. The insert 10 can form an adapter to bridge shape and dimensions of an accommodation 9 and an actual size in terms of a diameter or other shape of a plant pot 8. The insert 10 may comprise a ring 26, which may be interchangeable, and should be chosen in correspondence with a size or diameter of plant pot 8. A position of the ring 26, which may be rotationally arranged in the insert 10, will then define an orientation of the plant pot 8, when inserted into the ring 26 with the insert 10 in the accommodation 9. Inserts 10 may further comprise a front plate 27 to enhance the impression of a closed wall with only plants extending out of the wall. Additionally or alternatively, inserts 10 may comprise clamps 25 for securing the inserts 10 in accommodations 9 in side walls of the building blocks 6, 16.

Figures 7 and 8 also show, that ring 26 can be provided with a hook 47 to more securely engage a portion of the plant pot 8, for instance an edge 28 thereof. In figure 9 essentially shows a similar configuration as that figures 7 and 8 in an assembled state, but for a wider or longer building block 16.

Figure 10 schematically shows a sub assembly of a building block and a lid 3 for a top layer or row 2 of building blocks in the configuration of figure 1, 2 or 3. A lid 3 can be lowered directly onto a building block, after which pots 8 can be inserted into the accommodations 9 in the lid 3. Normally, it will be desired that plants in the top of the structure will be upright. If no adaptation between a diameter of the plant pot 8 and a size of an accommodation 9 is necessary, then no insert 10 may be arranged in said accommodation 9. Plant pots can then be lowered directly into accommodations 9. However, adapter rings (not shown) may still be useful to bridge a difference in diameter of a plant pot 8 and an accommodation 9. Further it is not to be excluded that plants in pots 8 are inserted in accommodations 9 to have an orientation under an angle relative to upright, for which the accommodations themselves can be adapted or adapting inserts can be used, much like the ones employed in the side walls of the building blocks 6, 16, as described above.

Further, figure 10 exhibits supply of water through a mains supply 11 and/or as a part of the circulatory system containing pump 12. The mains water supply 11 may comprise a tap 29 and a hose 30 extending from the tap 29 to the interior of the building block for the top row 2 of the structure.

Additionally, figures 15 and 16 exhibit an embodiment of the structure 43 according to the present disclosure, wherein a crevice 44 is created by inserting a high building block 45. The high building block 45 is also shown in figure 16 in more detail. The high building block 45 comprises a recess 15 at the bottom thereof, as well as optionally separating plates 46, where the recess 15 in the bottom of the high building block 45 and the separating plates 46 all comprise a ring 39 like the one, described in connection with other embodiments, to prevent excessive high levels of liquid or

water at each of the accommodations 9. Water can thereby spill over, trickle-down or flow into a lower space within the high building block 45 or to a lower lying building block underneath recess 15. As an alternative for or in addition to the separating plates 46, plant pots accommodated in higher accommodations 9 of the high building block 45 can be provided with longer wicks 23.

5 The crevice 44 can be provided with an illumination, preferably in a downward orientation or sideways orientation, within the crevice 44.

 In a preferred embodiment, the width or length of each building block could correspond with the number of accommodations 9 therein. For instance wider or longer building blocks in structure 43 have three accommodations 9 next to one another. Shorter building blocks have a
10 single accommodation 9 therein. Consequently, the crevice 44 may have a width corresponding with dimensions associated with a single accommodation, where a larger, wider or longer of the building blocks can bridge over the crevice 44. Widths or lengths of building blocks may be correlated to numbers of accommodations or defined in relation to transfers dimensions of the thickness of the structure, or by any other means or definitions. By providing an ample spectrum of
15 different types and kinds of building blocks it should be self evident that a high degree of versatility can be achieved and owners or users of such structures as a consequence have a large degree of freedom with respect to an actual configuration, that they can construct from the building blocks to form a structure according to the present disclosure.

 Additionally or alternatively – as shown in figures 17, 18 - a special building block 49 may
20 be employed in a structure 48 to define an alternative type of crevice 44. The special building block 49 is in fact a high version of a single width building block having a high accommodation 9, and similar depressions 15 as in previously described embodiments, acting as couplings to couple the high building block 49 with a building block in an underlying row or layer. The recesses fit snugly in open top sides of underlying building blocks, whereby stacked building blocks can be
25 coupled.

 In relation to figure 7 it was indicated, that an inserting device 24 could be employed for inserting a wick 23 into an interior of a plant pot 8.

 A first example of such a inserting device 24 is shown in figures 11 and 12, and a second example of an inserting device 32 is depicted in figure 13. Inserting devices 24, 32 comprise an
30 elongate body 31 with a clamp or jaw 33 at one end, and a stop head 34 at an opposing end of the elongate body 31. A wick 23 can be introduced into the clamp or jaw 33 to be engaged therein. The stop head 34 may comprise a similar clamp or jaw 35 to engagingly accommodate a wick 23. Consequently, such a wick 23 can be accommodated between the clamps or jaws 33 and 35. The stop head 34 preferably has transverse dimensions relative to the lengthwise direction of elongate
35 body 31, which dimensions are sufficiently large to prevent the stop head 34 from being pressed

through a hole in a plant pot 8. Consequently, in an assembled state, such a stop head 34 will abut against a bottom or side wall of a plant pot 8 after elongate body 31 of inserting device 24, 32 has been inserted through such a hole in such a plant pot 8. To prevent the inserting device from being retracted out of the plant pot, or falling out of the plant pot, resilient legs 36 are provided on the elongate body 31. These resilient legs 36 are oriented such that these diverge from a connection point with the elongate body 31 towards stop head 34. When the elongate body 31 is pressed through a hole in a plant pot, resilient or flexible legs 36 will be deflected to align with the elongate body, as a consequence of which the inserting device 24, 32 will be able to entirely pass through hole in the plant pot, until the stop head 34 abuts against the plant pot. After having reached such a position, the flexed or flexible legs 36 will revert back to the position, that is depicted in figure 12 opposite the stop head relative to the surrounding material of the plant pot around the hole through which the inserting device 24, 32 is inserted into the plant pot. By appropriate the mentioning of the resilient legs, of which at least one should be provided, and of the stop head, inserting devices of the type defined in the appended independent claims can be employed for up to or more than 90% of all hole diameters in plant pots, irrespective of the plant pot diameters and also practically irrespective of thickness of material layers, from which such plant pots are manufactured, which latter consideration is addressed by inappropriate selection of distance between stop head 34 and the free end of resilient or flexible legs 36.

With a wick 23 engaged by jaws or clamps 33 and 35, such a wick 23 will automatically be inserted together with the inserting device. Inserting the inserting device 24, 32 into the plant pot can be accomplished manually or in an automated fashion. It is further noted, that a portion of the elongate body 31 or of the clamp or jaw 33 can be produced out of fertilising material. Such material is known to be compressible to practically any useful shape. Compression of such fertilising material is considered useful to regulate the rate, at which the fertilising material is freed into the substrate or soil that is inside the interior of the plant pot. By creating an inserting device, which is at least partially manufactured from such fertilising material, introduction of a wick 23 into the interior of a plant pot can securely be accomplished, after which some of the material of the inserting device 24, 32 can be allowed to disintegrate, for example is made of fertilising material. Alternatively, the configuration of figure 13 can be employed, where a stick of fertilising material 37 can be inserted into a holder 38, forming an extension of the elongate body 31 of the inserting device 24, 32, while maintaining the function of the clamp or jaw 33 for engaging a portion of the wick 23.

In figure 14 an alternative embodiment of an inserting device 40 according to the present disclosure is shown, which, like the embodiments of figures 11 – 13, comprises an elongate body 31 and a clamp or jaw 33 at one end of the elongate body, and a stop head 34 at an end of the

elongate body 31 opposite the clamp or jaw 33. The elongate body 31 itself comprises a recess or slit 42, into which a stick 41 of fertiliser material can be inserted in the direction of the arrow in figure 14. Also in the embodiment of figure 14, a wick 23 can be engaged by the clamp or jaw 33, extend along the elongate body 31 and alongside the stick 41 of fertiliser material towards stop head 34 and be engaged in the clamp or jaw 35 in the stop head 34. Thereby, some tensioning can be imparted on the string or wick 23, although this is not required.

It should be noted, that preferably all of the plant pots in any of the structure is depicted in any of the figures are provided with Wicks, which are preferably inserted into the interior of the plant pots using the inserting devices 24, 32. However alternative manners of introducing wicks 23 may also be contemplated. This is only a minor example of the many different additional and alternative embodiments that could and would be contemplated by the skilled person upon learning embodiments of the present disclosure. From this, it is apparent that the scope of protection for the embodiments of the present disclosure is by no means restricted to the actually shown and/or described embodiments, but corresponds with the features that are defined in assembly in the appended independent claims.

CONCLUSIES

1. Een structuur, omvattende:

- bouwblokken; en koppelingen, welke zijn geconfigureerd om de bouwblokken te koppelen,
- waarbij tenminste een van de bouwblokken omvat: tenminste een accommodatie voor een planten pot, welke is geconfigureerd voor het accommoderen van een hier in te plaatsen planten pot; en een vloeistofreservoir

2. De structuur volgens conclusie 1, waarbij tenminste een van de bouwblokken is geassocieerd met meer dan een van de koppelingen, en op elkaar gestapelde bouwblokken in de structuur zijn gekoppeld in een verspringende configuratie ten opzichte van een opwaartse richting.

3. De structuur volgens conclusie 1 of 2, waarbij de koppelingen zijn geïntegreerd in de bouwblokken.

4. De structuur volgens conclusie 3, waarbij tenminste een van de bouwblokken tenminste een depressie omvat in een bodem daarvan, waarbij de tenminste ene depressie tenminste een deel van het reservoir en een van de koppelingen vormt.

5. De structuur volgens conclusie 4, waarbij de tenminste ene van de bouwblokken twee of meer depressies omvat.

6. De structuur volgens een willekeurige of meer dan een van de voorgaande conclusies, verder omvattende: tenminste een onderste bouwblok bij een onderzijde van de structuur, welke een vloeistofreservoir omvat zonder accommodatie voor een plantenpot.

7. De structuur volgens een willekeurige of meer dan een van de voorgaande conclusies, verder omvattende: tenminste een bouwblok, bij voorkeur bij een bovenzijde in de structuur, dat een vloeistofreservoir omvat, zonder accommodatie voor een plantenpot, in een zijwand daarvan.

8. De structuur volgens een willekeurige of meer dan een van de voorgaande conclusies, verder omvattende: tenminste een bovenste bouwblok bij een bovenzijde in de structuur, welke open is bij een bovenzijde daarvan; en een deksel, dat tenminste een accommodatie voor een plantenpot omvat, om de open bovenzijde daarvan af te dekken.

9. De structuur volgens een willekeurige of meer dan een van de voorgaande conclusies, verder omvattende: een inzetstuk, dat is enerzijds is aangepast aan de accommodatie voor de plantenpot en anderzijds aan een van een aantal plantenspotten, welke zijn bedoeld om te worden geplaatst in de accommodatie voor de plantenpot.

10. De structuur volgens conclusie 9, waarbij het inzetstuk een houder omvat voor een plantenpot, welke de oriëntatie daarvan definieert in of ten opzichte van de structuur, alsmede een wandsegment ter aanvulling van een zijwanddeel van een zijwand van het bouwblok, dat de accommodatie voor de plantenpot omvat.

11. De structuur volgens een willekeurige of meer dan een van de voorgaande conclusies, verder omvattende: een inzetstuk, waarbij het tenminste ene bouwblok de accommodatie voor de plantenpot omvat onder een in hoofdzaak zijdelingse of schuine oriëntatie ten opzichte van een opwaartse oriëntatie van de structuur.

5 12. De structuur volgens een willekeurige of meer dan een van de voorgaande conclusies, verder omvattende: een doorvoersysteem voor vloeistof.

13. De structuur volgens conclusie 12, omvattende een terugvoer om een vloeistof circulatiesysteem te vormen in combinatie met het doorvoersysteem.

10 14. De structuur volgens conclusie 12 of 13, waarbij een toevoer voor vloeistof samenhangt met tenminste een bouwblok bij of nabij een bovenzijde van de structuur.

15. De structuur volgens conclusie 12,13 of 14, waarbij tenminste een van de bouwblokken met ten minste een ondergelegen bouwblok in de structuur een overloop omvat bij of boven het reservoir naar het ondergelegen bouwblok in de structuur.

15 16. De structuur volgens een willekeurige of meer dan een van de voorgaande conclusies, verder omvattende: een elektrische voedingsbron om waarbij tenminste één van de bouwblokken een licht armatuur of een verbinding van het licht armatuur omvat.

17. De structuur volgens een willekeurige of meer dan een van de voorgaande conclusies, waarbij tenminste een van de bouwblokken een modulaire configuratie heeft.

20 18. De structuur volgens een willekeurige of meer dan een van de voorgaande conclusies, waarbij tenminste een van de bouwblokken een uitlijning omvat, welke is geconfigureerd om een op geplaatst bouwblok te oriënteren tijdens het samenstellen van de bouwblokken ten opzichte van het bouwblok met de uitlijning.

25 19. De structuur volgens conclusie 18, waarbij de uitlijning een stang omvat, die in te brengen is in een uitsparing, en waarbij de stang zich in een samengestelde toestand in een opwaartse richting uitstrekt.

20. De structuur volgens conclusie 19, waarbij de stang op en neer beweegbaar is in de uitsparing, en is verbonden met een drijver inrichting, door een wand van een bijbehorende van de bouwblokken heen, om een indicator van het waterniveau te vormen.

30 21. De structuur volgens een willekeurige of meer dan een van de voorgaande conclusies, waarbij de bouwblokken omvatten: bouwblokken met een kortere lengte in een breedte richting van de structuur en bouwblokken met een langere lengte in deze richting.

22. De structuur volgens een willekeurige of meer dan een van de voorgaande conclusies, waarbij de structuur een wand vormt, omvattende gekookte wand delen en/of tenminste een hoek.

35 23. Samenstel van een structuur volgens een willekeurige of meer dan een van de voorgaande conclusies met tenminste een plantenpot, welke is aangebracht in de accommodatie voor de plantenpot van het tenminste ene bouwblok.

24. Het samenstel volgens conclusie 23, waarbij de tenminste ene plantenpotten een lont omvat, welke lont zich uitstrekt vanuit een binnenste van de planten pot naar het vloeistofreservoir van het tenminste ene bouwblok, waar in de plantenpot is geacommodeerd.

25. Het samenstel volgens conclusie 24, waarbij de mond is aangegrepen door een
5 inbrengapparaat met een langgerekt lichaam en een aangrijpen in bij een uiteinde van het lichaam voor het selectief aangrijpen van de mond, en een stop, waarbij het lichaam is geconfigureerd om ingebracht te worden door een gat in de planten pot heen vanaf het uiteinde van het lichaam, dat de lont aangrijpt, en waarbij de stop afmetingen heeft, die groter zijn dan het gat in de planten pot.

26. Het samenstel volgens conclusie 25, waarbij tenminste een flexibel been is verbonden
10 met het lichaam, welke is geconfigureerd om normaal schuine weg uit te strekken vanaf het lichaam in een richting vanaf het uiteinde, dat de lont aangrijpt, naar de stop.

27. Het samenstel volgens conclusie 26, waarbij het tenminste ene flexibele been is geconfigureerd om weg te buigen tegen het lichaam gedurende het inbrengen van de inrichting in of door het gat in de planten pot om aan en waarbij het lichaam tenminste lokaal bij het been is
15 geconfigureerd om een gecombineerde dikte met het been te vertonen, om ingebracht te worden door het gat in de planten pot heen.

28. Het samenstel volgens een willekeurige of meer dan een van de voorgaande conclusies 25-27, waarbij tenminste een deel van de inbreng inrichting een mestmateriaal omvat.

29. Een bouwblok, geconfigureerd om toegepast te worden in een structuur volgens een
20 willekeurige of meer dan een van de voorgaande conclusies 1-22.

30. Het bouwblok volgens conclusie 29, waarbij het bouwblok is ontworpen in een op zichzelf staande configuratie.

31. Een werkwijze van het bouwen van een structuur volgens een willekeurige of meer dan een van de voorgaande conclusies 1-22, omvattende het stapelen van tenminste twee bouwblokken,
25 het inbrengen van de tenminste ene planten pot in tenminste een van de bouwblokken en het verschaffen van vloeistof in het reservoir.

32. De werkwijze volgens conclusie 31, waarbij het stapelen omvat: het verspringend configureren van de bouwblokken.

33. De werkwijze volgens conclusie 31 of 32, waarbij het inbrengen van de tenminste ene
30 plantenpotten in de tenminste ene van de bouwblokken omvat: het inbrengen van een lont in de planten pot en het uitstrekken van de lont vanuit het inwendige van de planten pot naar en in de vloeistof in het reservoir.

34. De werkwijze volgens conclusie 33, waarbij het inbrengen van de lont in het inwendige van de plantenpot omvat: het verschaffen van een inbreng inrichting volgens een willekeurige of
35 meer dan een van de conclusies 26-29.

35. Een inbreng inrichting, welke is geconfigureerd voor het aangrijpen van een lont, welke inrichting een langgerekt lichaam omvat met een aangrijpen in bij een uiteinde van het lichaam voor het selectief aangrijpen van de lont en een stop, waarbij het lichaam is geconfigureerd om ingebracht te worden door een gat in een plantenpot heen vanaf het uiteinde van het lichaam, 5 waar de lont is aangegrepen, en waarbij de stop afmetingen heeft, die groter zijn dan het gat in de plantenpot.

36. De inbreng inrichting volgens conclusie 35, waarbij tenminste een flexibel been is verbonden met het lichaam, dat geconfigureerd is om normaal schuin weg te lopen vanaf het lichaam in een richting vanaf het einde, waar de lont is aangegrepen, naar de stop.

10 37. De inbreng inrichting volgens conclusie 36, waarbij het tenminste ene flexibele been is geconfigureerd om weg te buigen tegen het lichaam aan, gedurende het inbrengen van de inbreng inrichting in of door het gat van de plantenpot heen, en waarbij het lichaam tenminste lokaal bij het been is geconfigureerd om een gecombineerde dikte met het been te vertonen om ingebracht te worden door het gat in de plantenpot heen.

15 38. De inbreng inrichting volgens een willekeurige of meer dan een van de voorgaande conclusies 35 - 37, waarbij tenminste een deel van de inbreng inrichting mest materiaal omvat.

39. De inbreng inrichting volgens conclusie 38, waarbij het mestmateriaal is gecompriemd in een vorm en vormgeving, die overeenkomen met ten minste een van het langgerekte lichaam, de aangrijping, en het tenminste ene been.

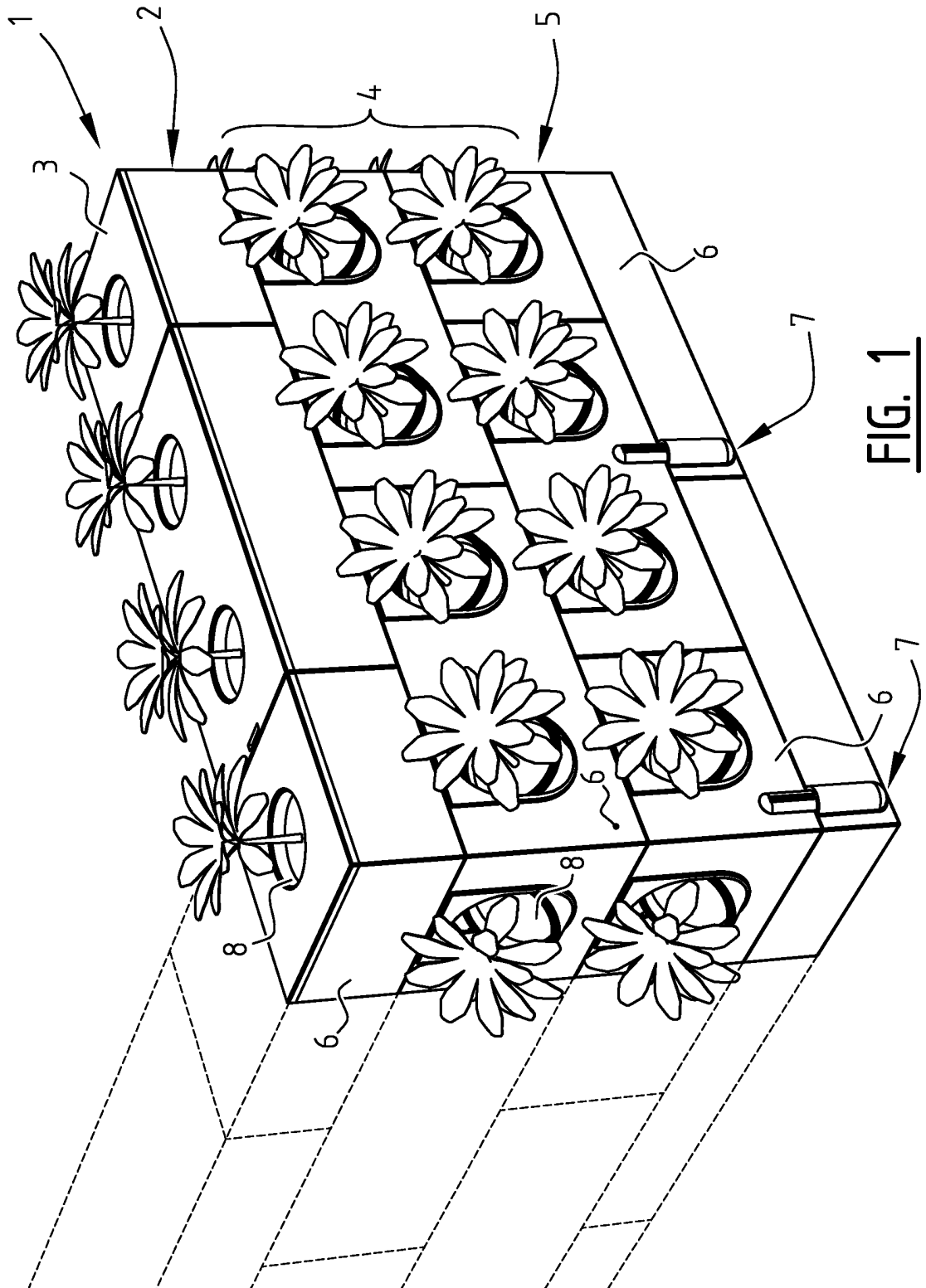
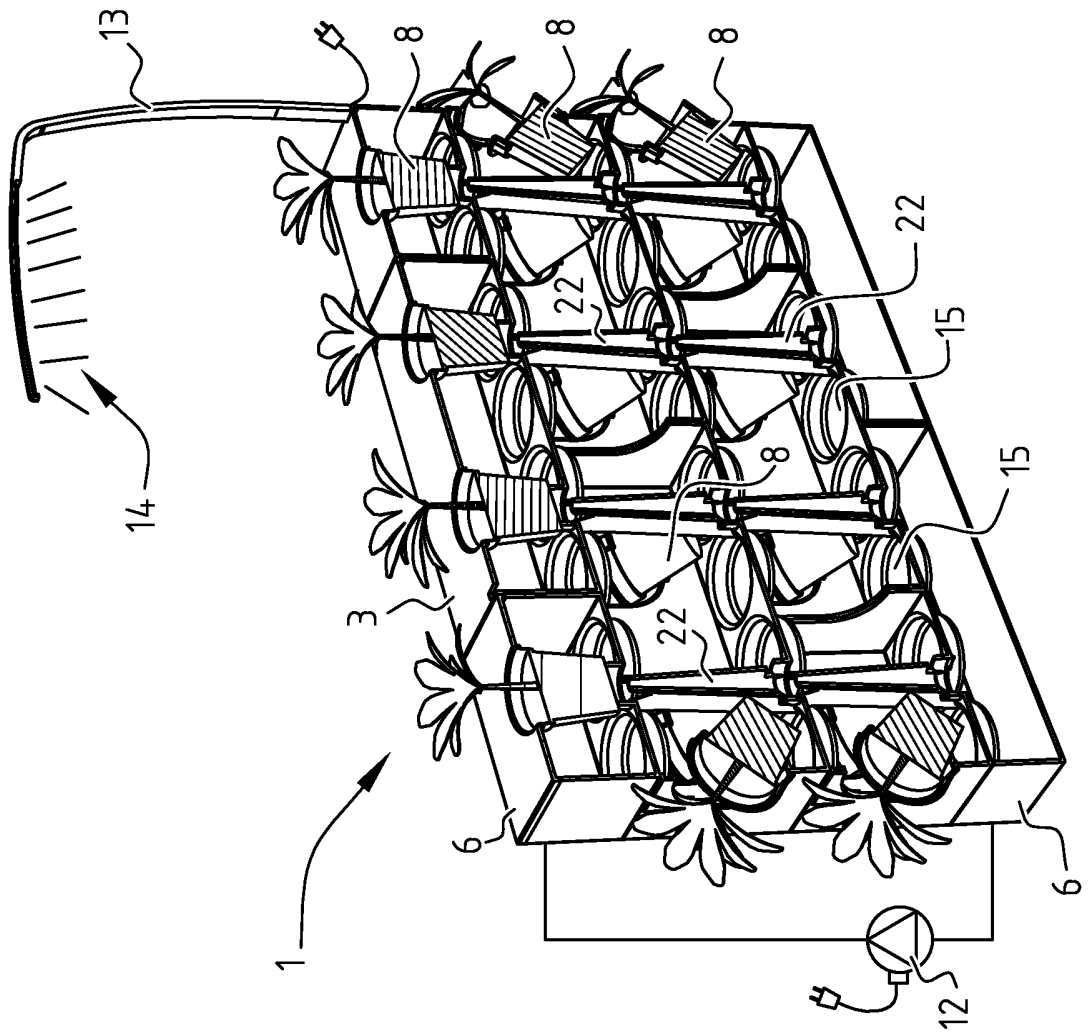


FIG. 2

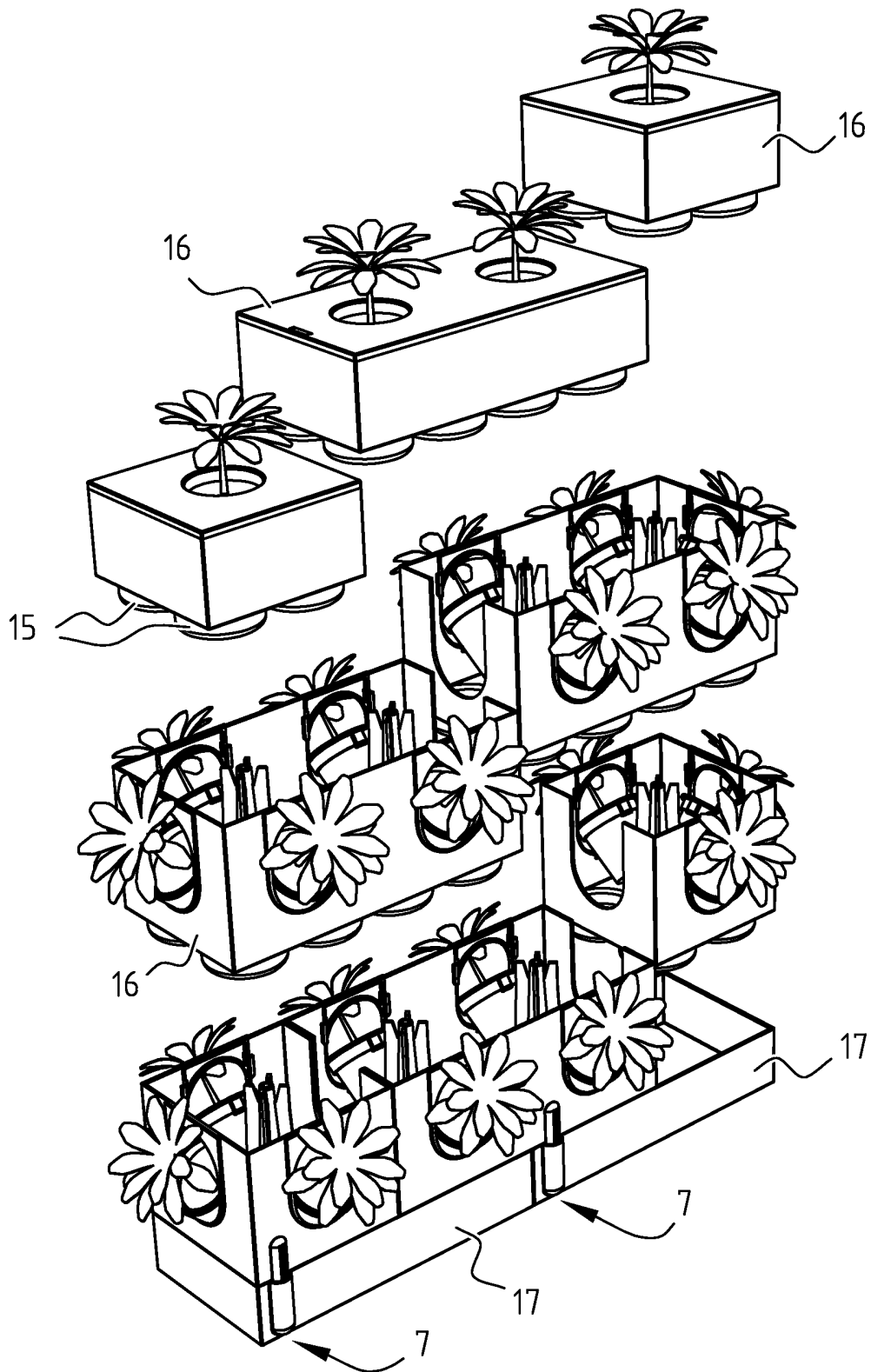
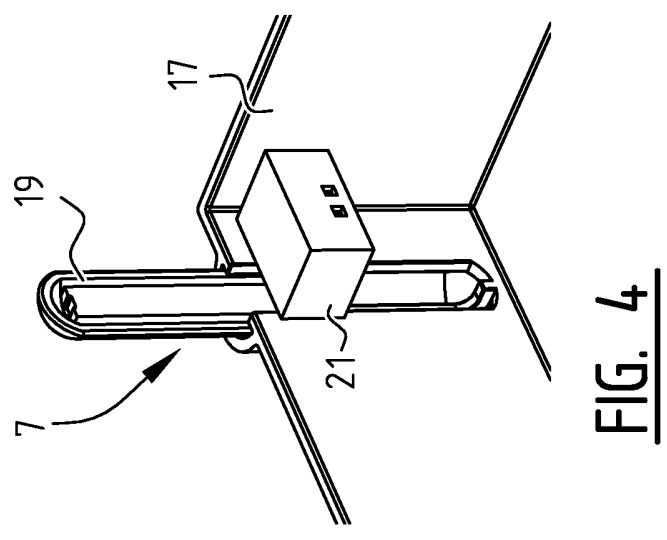
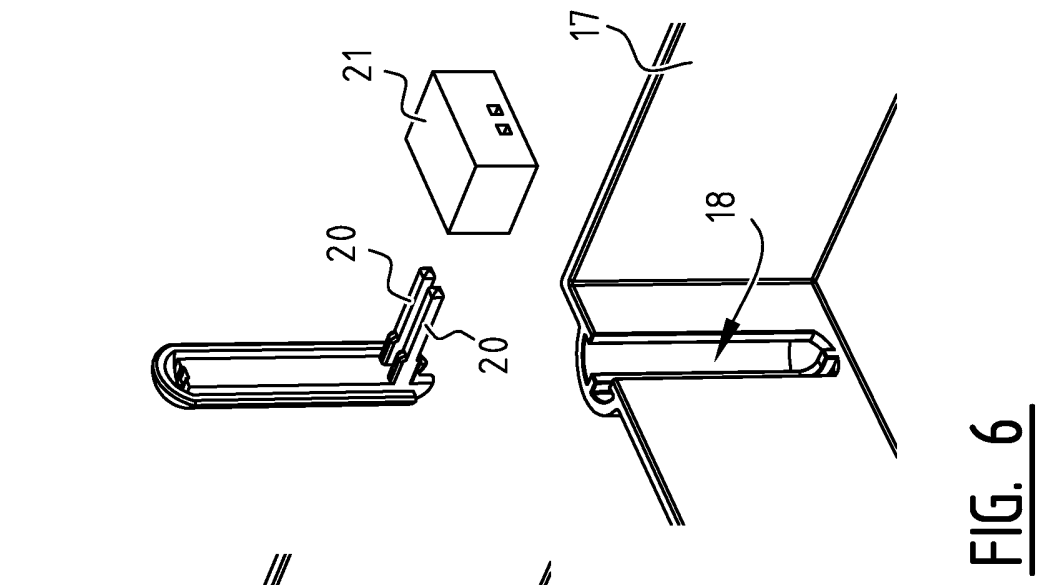
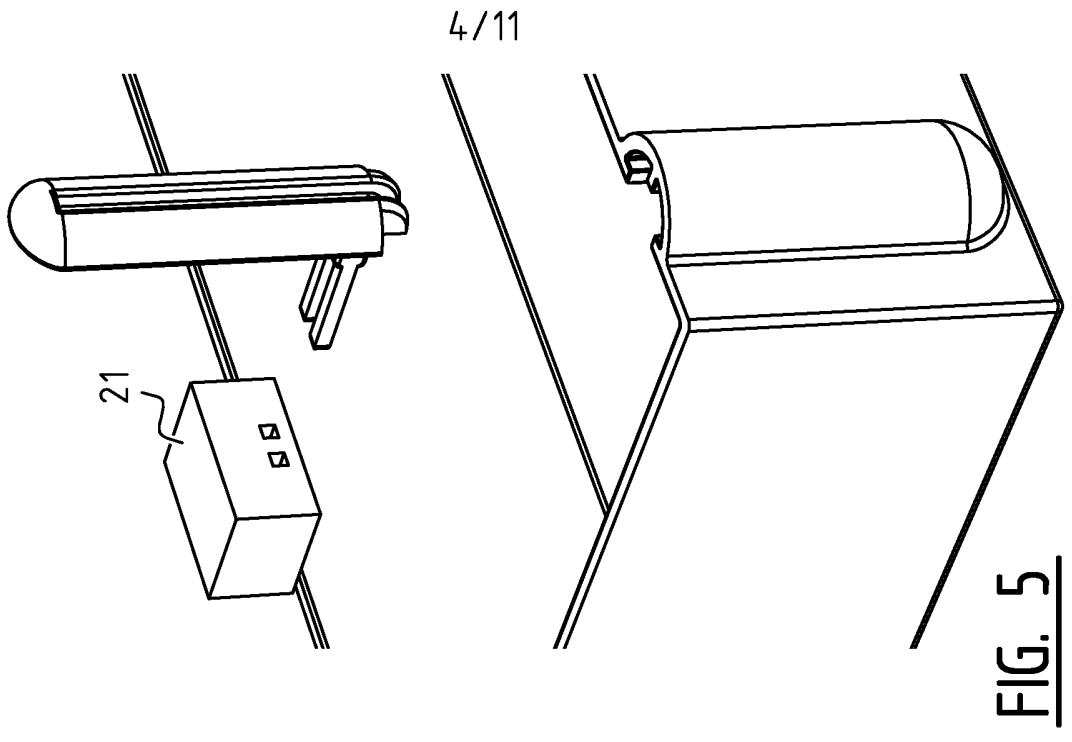


FIG. 3



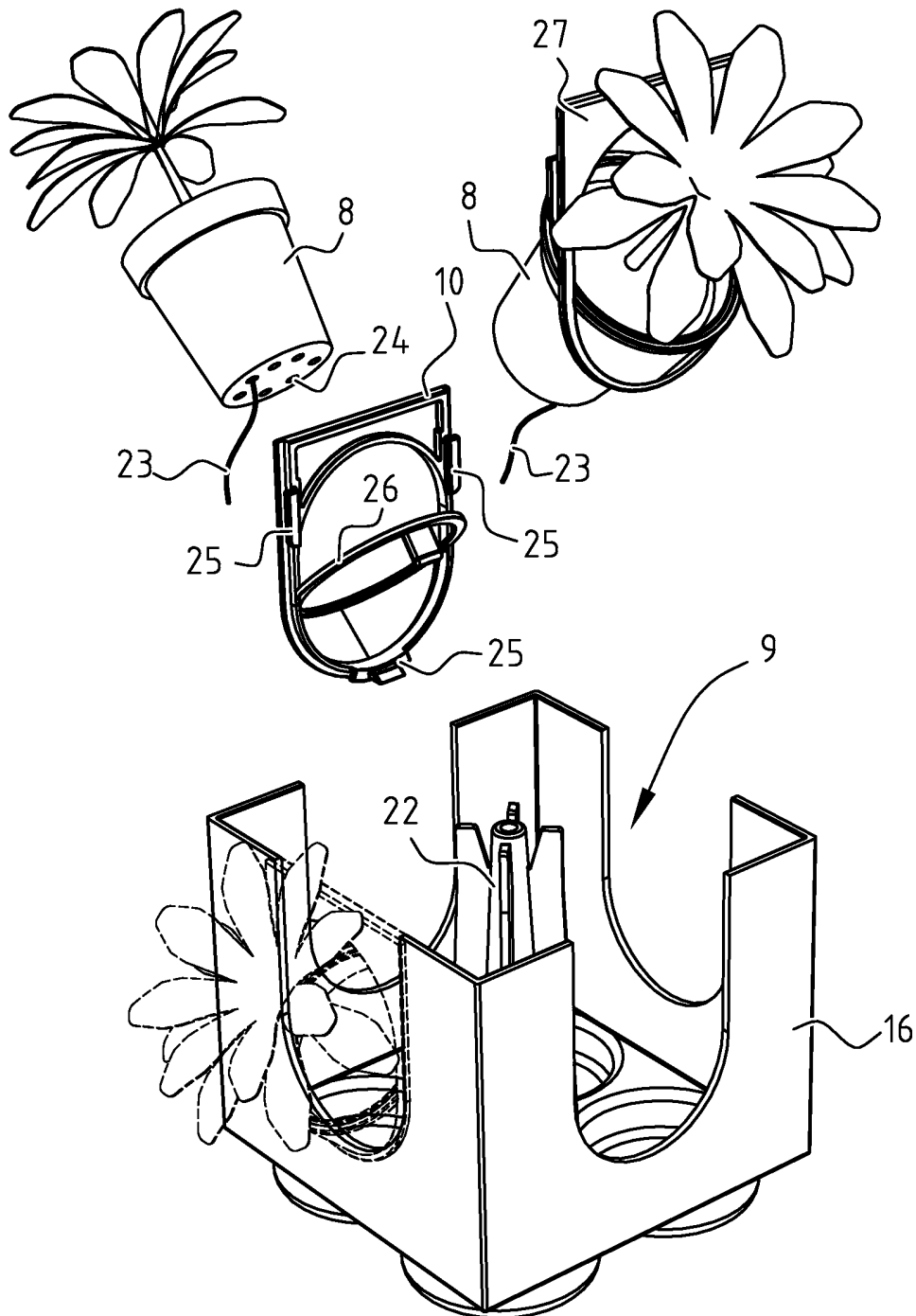
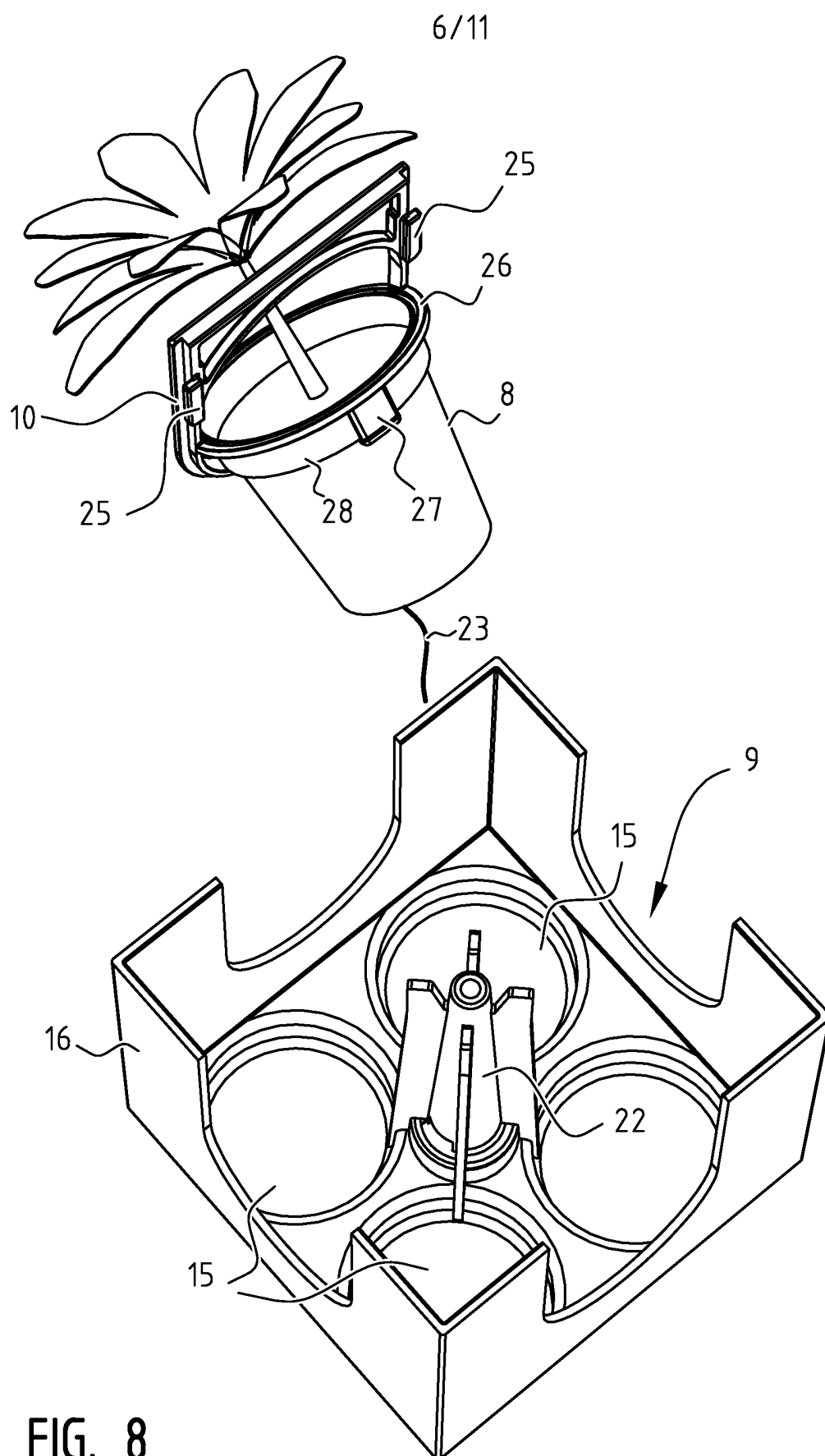


FIG. 7



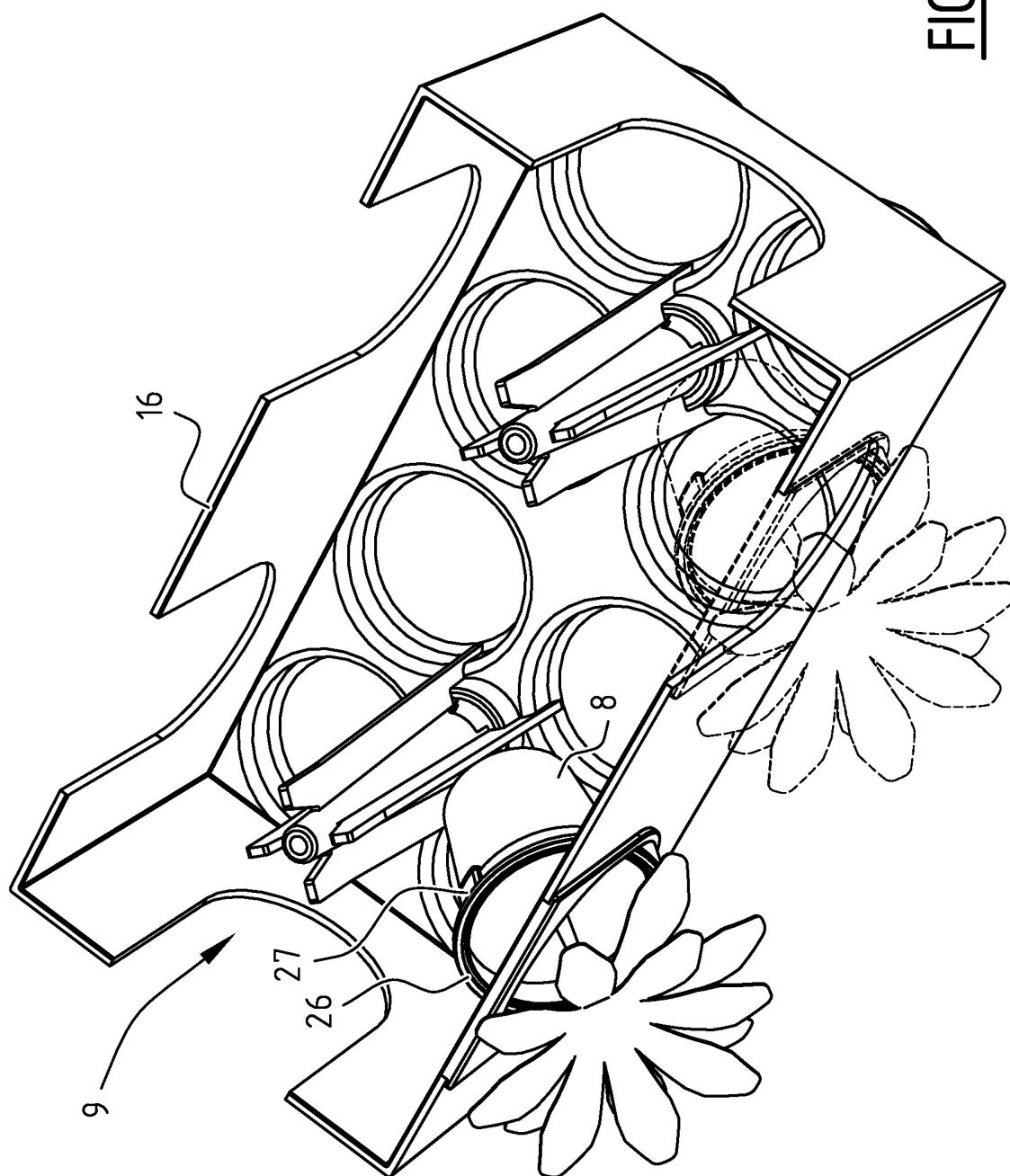


FIG. 9

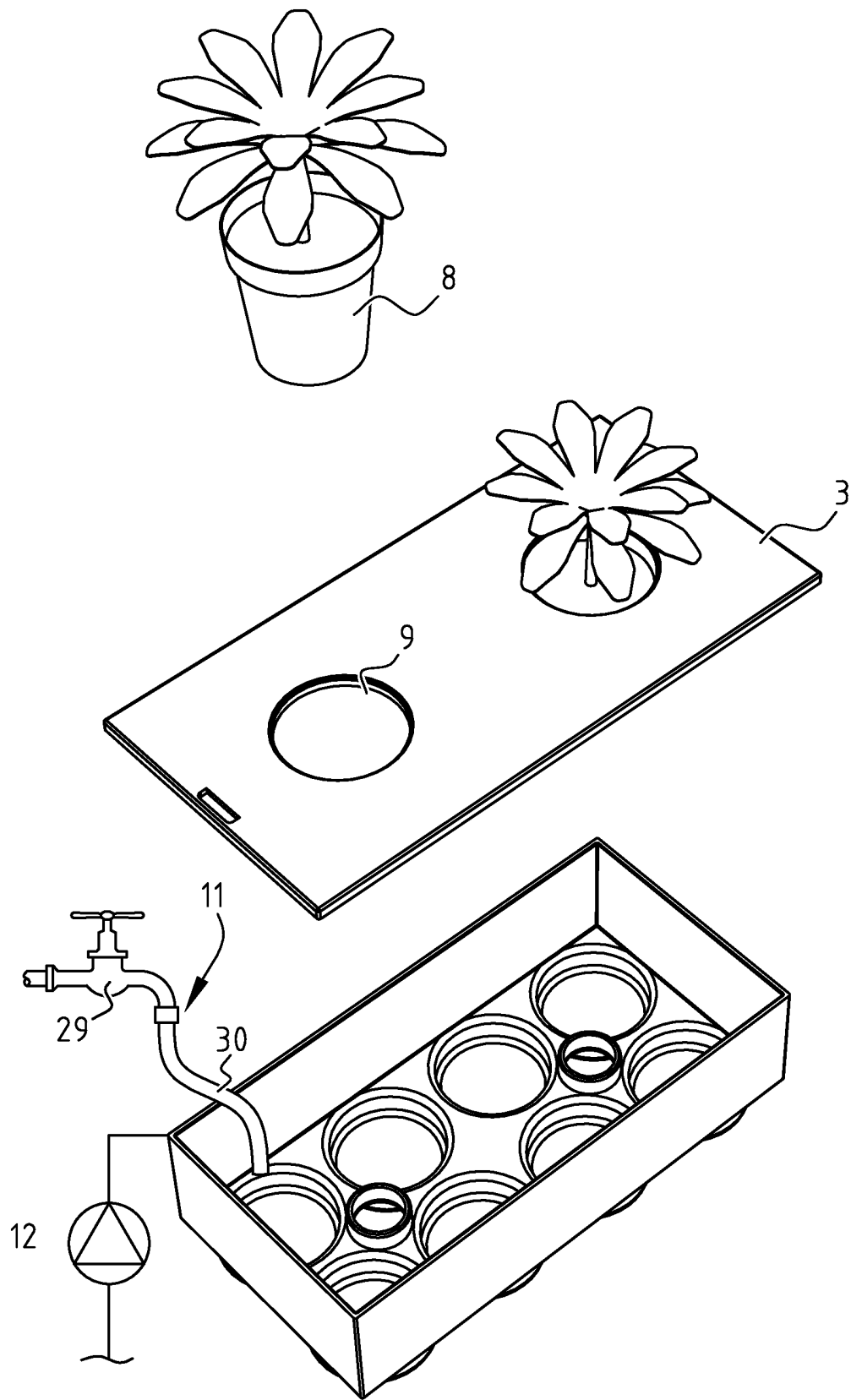
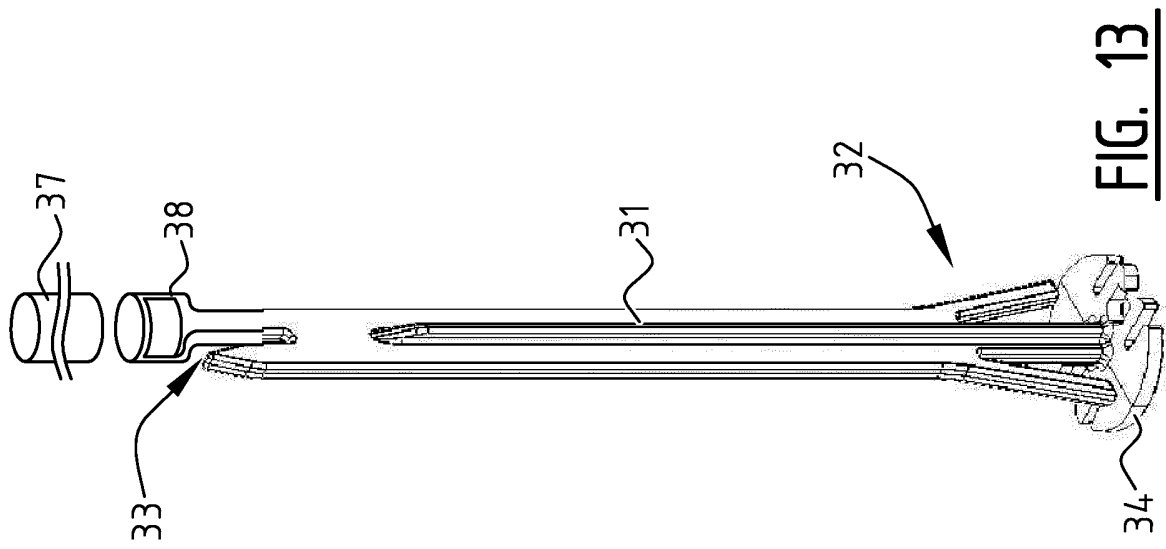
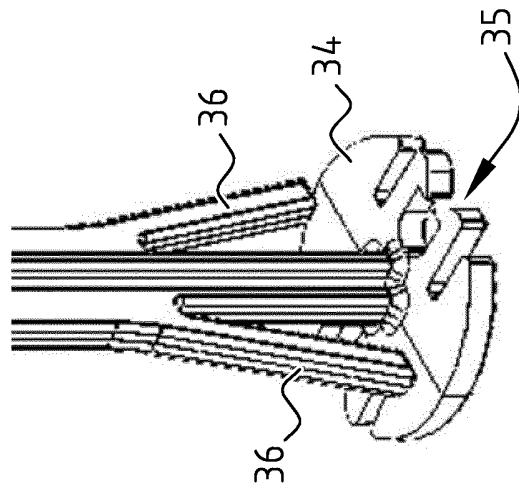
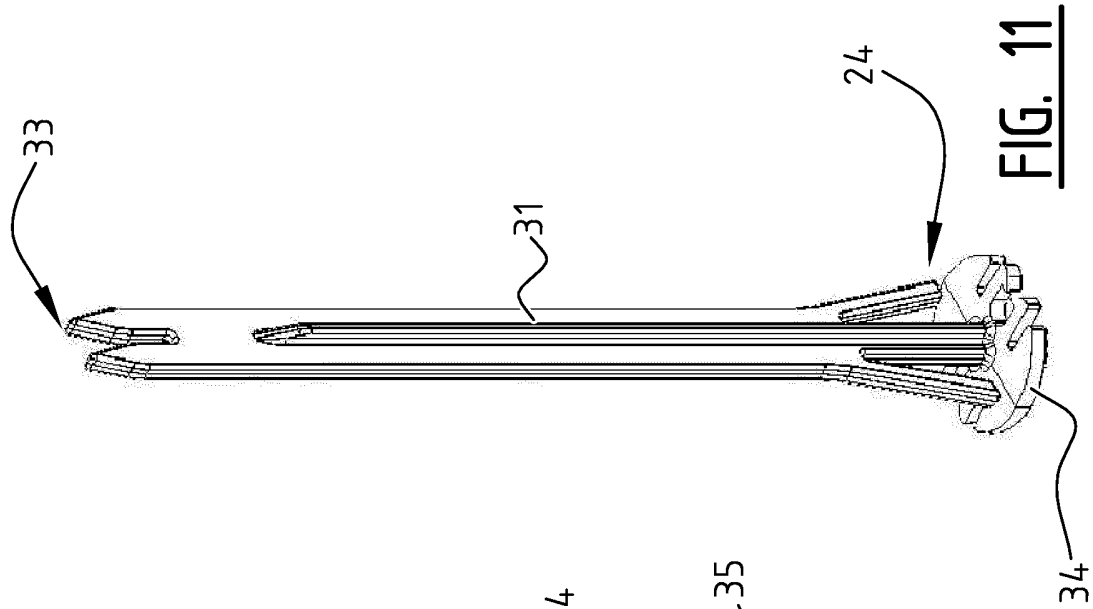


FIG. 10



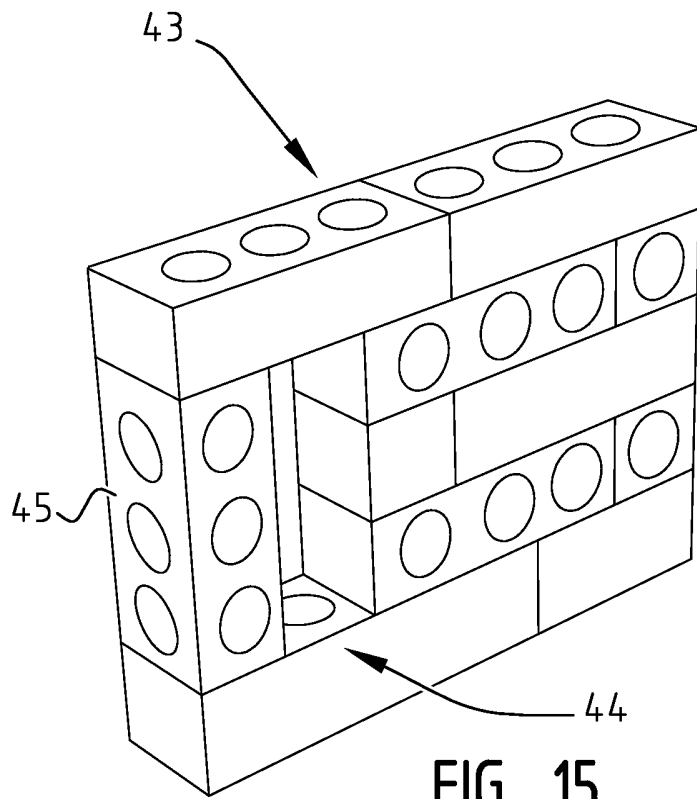


FIG. 15

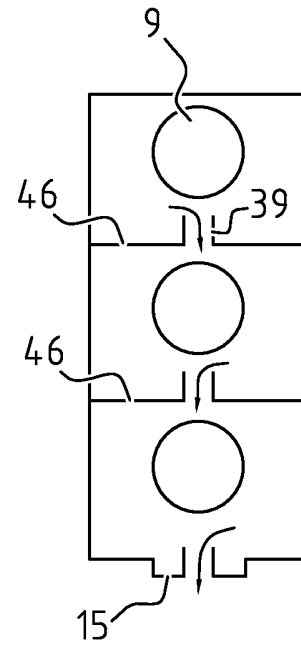


FIG. 16

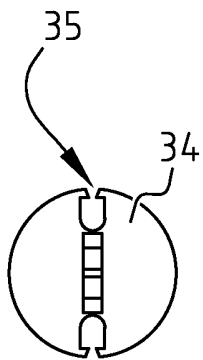


FIG. 14A

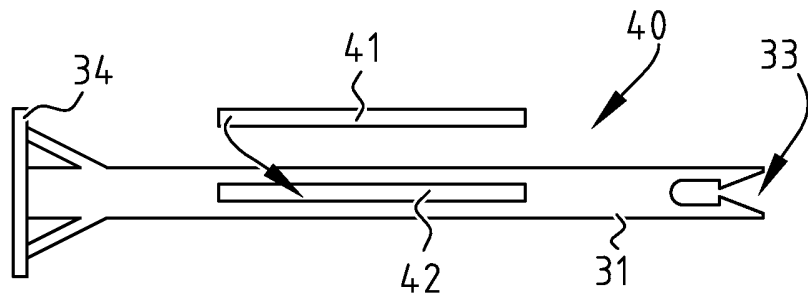


FIG. 14B

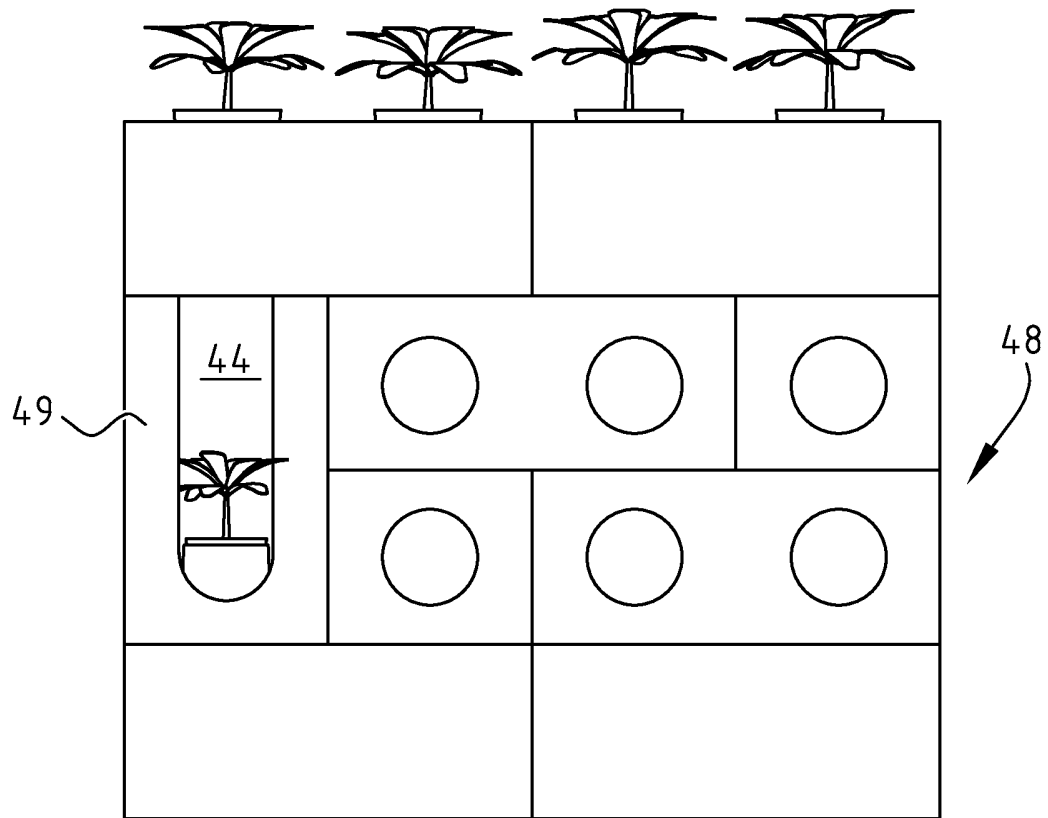


FIG. 17

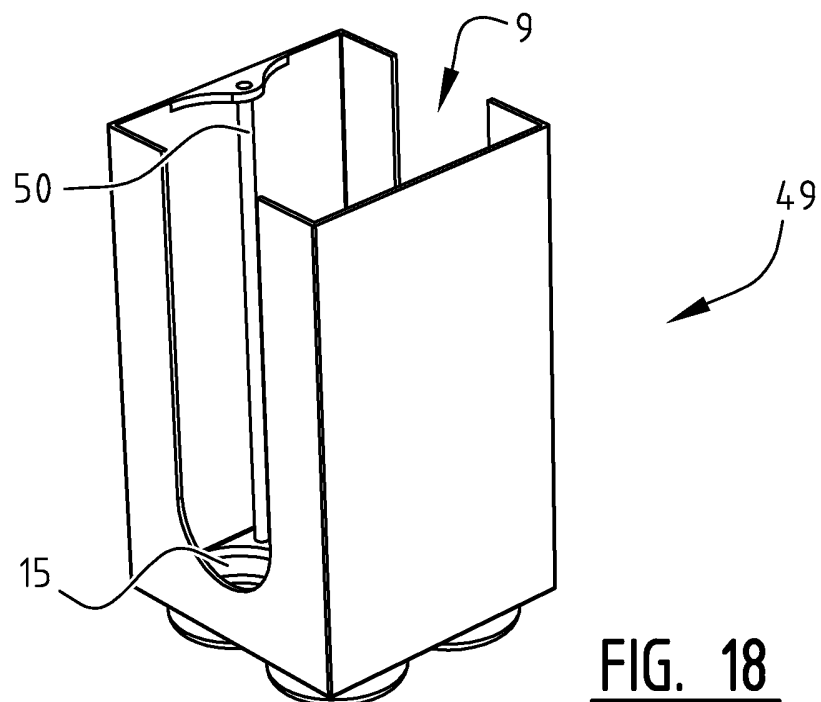


FIG. 18

ABSTRACT**A STRUCTURE, ASSEMBLY OF A STRUCTURE AND AT LEAST ONE PLANT POT,
BUILDING BLOCKS FOR OR OF THE STRUCTURE, A METHOD OF BUILDING THE
5 STRUCTURE AND AN INSERTING DEVICE**

The present disclosure relates to a structure, wherein plant pots and potentially plants in the plant pots can be accommodated; an assembly of the structure and at least one plant pot; building blocks for or of such a structure; and a method of building the structure; and an inserting
10 device in particular for insertion of a wick into a plant pot before accommodation thereof in a building block of such a structure. The structure comprises building blocks; and couplings arranged to couple the building blocks, wherein at least one of the building blocks comprises: at least one plant pot accommodation, which is designed to accommodate a plant pot inserted therein; and a liquid reservoir. The plant pots may comprise a wick, and the building blocks may be stacked or
15 coupled in a staggered configuration.

< INSERT FIGURE 2 FOR PUBLICATION PURPOSES >

Patent Abstracts of Japan

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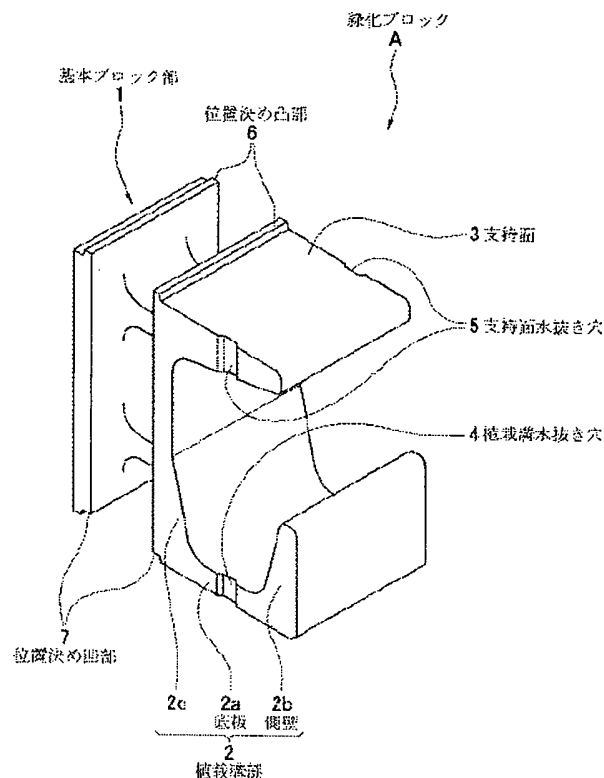
APPLICATION DATE : 26-12-08
APPLICATION NUMBER : 2008331745

APPLICANT : NIHON KOGYO CO LTD;

INVENTOR : KIKUCHI MOTOHIRO;

INT.CL. : A01G 9/02 (2006.01), A01G 1/00 (2006.01)

TITLE : GREENING BLOCK



ABSTRACT : PROBLEM TO BE SOLVED: To provide a greening block for forming a continuous long planting groove without being restricted by a block unit.

SOLUTION: The greening block made of a base block part 1 and a planting groove part 2 is configured such that the planting groove part 2 has an L shape made of a bottom plate 2a and a side wall 2b, the bottom plate 2a is connected to the front of the base block part 1, the planting groove part 2 is horizontally provided from one end to the other end of the front of the base block part 1, the bottom part 2a of the planting groove 2 is provided on the lower end of the front of the base block part 1, and a projecting support surface 3 is provided on the upper end of the front of the base block part 1. When constructing the greening blocks by transversely arranging, the planting groove parts 2 adjacent to each other are connected each other so as to form the continuous long planting groove part 2, and by forming the continuous long planting groove part 2, soil 11 is continuously spread so as to increase the degree of freedom of planting.

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