



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication: **31.07.2013 Bulletin 2013/31** (51) Int Cl.: **E04H 13/00 (2006.01)**

(21) Application number: **12195886.2**

(22) Date of filing: **06.12.2012**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(30) Priority: **06.12.2011 IT VR20110218**

(71) Applicant: **Franceschini, Francesco**
37124 Verona (IT)

(72) Inventor: **Franceschini, Francesco**
37124 Verona (IT)

(74) Representative: **Sandri, Sandro**
Europatent-Euromark Srl
Via Locatelli, 20
37122 Verona (IT)

(54) **Tombstone fitted with means for keeping live plants**

(57) A tombstone (10) located on burial recesses or burial graves or any other type of burial construction where the tombstone is of the substantially vertical type and is usually provided with a flower vase (14) or an area of soil (26) for containing flowers and plants, characterised in that the earth or any hydrophilic material present in the vase (14) is irrigated by means of a slow-release watering device comprising a water storage tank (16, 28) and one or more slow-release drippers (17) located in the earth in the vase (14) or the soil (26) connected to the tank by one or more tubes (18).

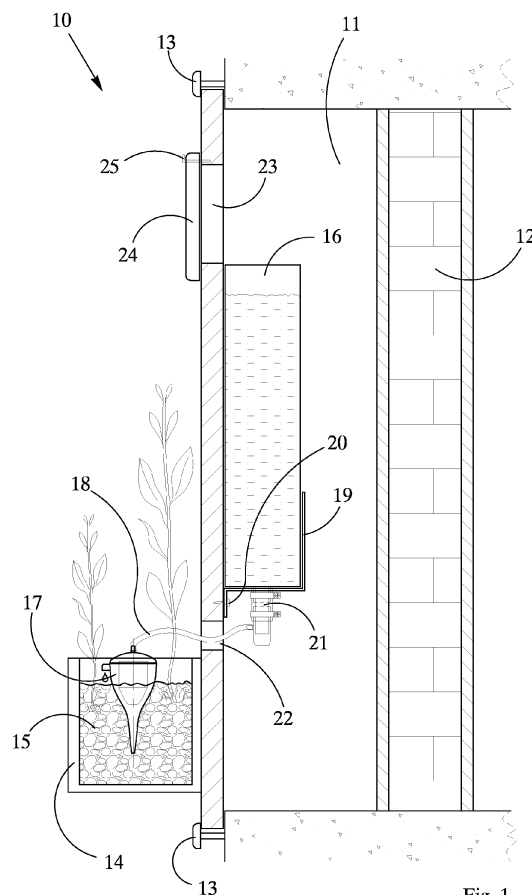


Fig. 1

Description

TECHNICAL FIELD

[0001] The present invention relates to a tombstone for above ground tombs or burial niches and for burial graves, fitted with means for keeping live plants.

[0002] In particular, the present invention relates to a water supply system comprising an automatic irrigation system with the slow release of water to live plants or flowers planted in earth or applied to slow-release sponge elements, located on the headstones of tombs or graves or on any other type of burial construction.

[0003] In particular, the present invention provides an irrigation system designed to keep the earth planted with live ornamental plants or flowers moist in cases where these plants and flowers are planted around the visible surfaces of the tombstones of tombs or graves.

[0004] The special feature of the new solution according to the invention is that it makes it possible to plant ornamental plants or flowers in flower vases or in the ground usually present in front of the tombstone and to keep these plants automatically and independently irrigated for relatively long periods thereby relieving relatives of the deceased of the burden of tombstone care and maintenance.

[0005] This technology enables the optimum maintenance of the small ornamental plants and flowers decorating tombstones by reducing the need to water the plants by hand.

[0006] The solution proposed by the present invention can be applied to the cemetery sector and in particular to the sector for the fittings and accessories for graves and tombs.

BACKGROUND ART

[0007] Various environmental factors and local regulations determine which of the known methods of burial are actually used in a particular location.

[0008] In Western countries three types of burial method are used: burial in above-ground burial niches or recesses; interment in graves; cremation.

[0009] Above ground burial involves inserting a hermetically sealed coffin into a burial recess or niche in a cemetery building or into a private tomb (with a series of niches together). The coffin must be wood on the outside and zinc on the inside or vice versa. The burial recesses are granted in use by municipal authorities for relatively long periods of up to twenty or thirty years.

[0010] Interment involves the burial of a coffin in the ground; in this case the coffin must be of wood only. Cremation involves the incineration in special furnaces of the deceased's body in a coffin. The ashes resulting from cremation are collected in an urn which is then placed in a burial recess or interred in a grave.

[0011] According to the known method of above ground burial, the coffins are usually placed inside a plu-

rality of burial recesses or niches. The front of each niche is closed off with a headstone which carries information about the deceased, a photo of the deceased and usually a vase-like container for holding flowers or small ornamental plants.

[0012] In the case of interment, the tombstone is located at the head of an area of ground where the grave holding the coffin is excavated.

[0013] Both burial recesses and graves have areas designed especially for holding cut flowers and live plants and flowers planted in earth.

[0014] One of the problems with the known type of tombstone concerns the maintenance of the live plants and flowers in the earth around the tombstone. Live plants in earth or flowers inserted in grow sponges require regular watering by hand otherwise they will dry out and die in a short time.

[0015] One of the known solutions for overcoming this problem is to use plants which tolerate dry conditions and require little watering. However, these plants are not very attractive and are not suitable for this environment.

[0016] There are known technical solutions for irrigating plants at tombstones. For example, the documents US1982432, US6769213, DE580601 and FR2827899 describe elements for holding and supplying water. However, the problem of dosing the water has not yet been solved with the result that the water flows out too rapidly and empties the storage tank in a short time.

DESCRIPTION OF THE INVENTION

[0017] The present invention aims to overcome the problems described above and to overcome the difficulties in irrigating and maintaining the moisture of the earth used for the ornamental plants in the ornamental pots and vases on tombstones.

[0018] In particular, the present invention aims to overcome the shortcomings outlined above through the use of means which enable the automatic, slow-release irrigation of plants for tombstones.

[0019] This is achieved through the use according to this invention of means which enable the slow-release of water, which can also contain suitable additives and nutrients, from a storage tank on the back of the tombstone connected to slow-release watering means inserted in the planted area containing earth and live plants. The characteristics of these means are described in the main claim.

[0020] The dependent claims of the solution in question describe advantageous embodiments of the invention.

[0021] According to the present invention, the tombstone is drilled to allow for the passage of tubes from the tank to the watering means and is also drilled at the top, where there is, for example, a removable photo, to enable the periodic topping up of the tank with water; given that the system is slow-release it will only require topping up after long intervals.

DESCRIPTION OF THE DRAWINGS

[0022] Other features and advantages of the invention will become clear on reading the description given below of one embodiment, provided as a non-binding example, with the help of the accompanying drawings, in which:

- Figure 1 is a vertical cross section of the entire water supply system for tombstones according to the present invention;
- Figure 2 is a perspective view of a tombstone fitted with the automatic irrigation means according to the invention;
- Figure 3 is a cross section showing a detail of the slow-release irrigation device for the water coming from the distribution pipe of the storage tank;
- Figure 4 is a side cross section showing a tombstone for graves with the slow-release irrigation means according to the invention.

[0023] In the annexed figures, the numeral 10 indicates in its entirety a tombstone closing off a compartment 11 where a coffin has been inserted and where the tombstone is separated from the coffin by a blank wall indicated by the numeral 12.

[0024] The tombstone 10 is fixed to the masonry by bolts 13 at its four corners and comprises a flower vase 14 located to the front which is usually made from stone, usually the same stone as that used for the tombstone.

[0025] The flower vase 14 is designed to contain floral elements, or more precisely ornamental plants planted in the earth 15 inside the vase or alternatively planted in spongy, gelatinous or hydrophilic material inside the vase.

[0026] According to the invention, the earth or the hydrophilic material inside the flower vase 14, can be irrigated by a slow-release watering system so as to eliminate or at least reduce the need to pay frequent visits to the tomb to water the plants in the vase.

[0027] The slow-release watering system according to the present invention substantially comprises a water storage tank 16 and one or more drippers 17 inserted in the earth and connected to the tank by one or more tubes 18.

[0028] The tank 16 comprises a container open at the top and firmly fixed with brackets 19 and screws 20 to the back of the tombstone 10, and where at the bottom of the tank there is a tube connector 21 through which water flows out of the container into the tubes 18 and onwards to the drippers 17.

[0029] The tank 16 is positioned and fixed to the back of the tombstone 10 and occupies the space in the compartment 11 defined by the tombstone 10 and the blank wall 12 sealing off the area containing the coffin.

[0030] The tubes 18 connecting the connectors 21 of the tank 16 to the drippers 17 pass through the hole 22 drilled through the tombstone in an area which is slightly above the edge of the vase 14.

[0031] The tank 16 can be filled with water through the opening 23 made at the top of the tombstone 10 and where this opening can be closed off with the plate 24, made from ceramics or other material, usually showing a photo of the deceased. The plate 24 can be supported and held in position for example by L-shaped hooks 25 inserted in holes drilled in the plate or by other means suitable for this purpose.

[0032] It should be noted that the opening 23 is positioned and is large enough to enable the passage of a watering can when topping up the water in the tank 16.

[0033] The tank 16 can be closed off at the top with a grill which includes a filter in order to prevent dirt, dust, insects and other extraneous objects from entering or falling into the tank and eventually, after a long time, blocking the flow of water out of the tank.

[0034] As Figure 3 shows, the dripper 17 is of the float type where the flow of the drops of water is adjusted on a suitable ring nut.

[0035] The dripper 17 can also be made of terracotta or another porous material which allows a certain amount of water to seep out slowly into the earth.

[0036] A further feature is that the tube 18 or the connector 21 can be fitted with a special regulating valve which enables the water to be dosed in the correct amounts.

[0037] The tank 16 should preferably be made from copper or any other material which will not corrode or deteriorate as the result of prolonged contact with water.

[0038] The tank 16 can be of any shape or size to match the space available in the compartment 11 and depending on the amount of water to be provided.

[0039] For example, in theory the container or tank 16 can contain between five and ten litres of water although the use of tanks with a greater capacity is feasible.

[0040] Clearly, increasing the capacity of the tank will reduce the frequency with which it needs topping up.

[0041] Other embodiments of the invention can be envisaged where the tank 16 can be located in any other position deemed to comply with local municipal regulations.

[0042] It is also envisaged that the water supply system to the drippers 17 could be assisted by power-driven means such as a pump or similar devices on the tubing 18, on the connector 21 or in any other suitable position. In this case the pump could be powered by batteries, the mains power supply, a solar panel or from any other suitable energy source.

[0043] The solution in Figure 4 shows a graveside application where the floral display part is located in the soil area 26 at the foot of the tombstone 27 and above the grave in which the coffin is buried.

[0044] The tank 28 is located to the rear of the tombstone 27 contained in a special compartment. It could also be inside the tombstone itself but this would require a tombstone of suitable thickness. Alternatively, the tank could be made in any shape, such as a cross for example, made from copper or another material and covered with

stone material or any other material suitable for this purpose.

[0045] In this case the tank 28 is connected to the drippers 17 by tubes 18 coming from the connectors 21. In this case the tank 28 could be filled or topped up through the upper opening closed off by a filler cap 29.

[0046] The invention is described above with reference to a preferred embodiment, but it is clear that it is susceptible to numerous variations which lie within the scope of its disclosure, in the framework of technical equivalents.

Claims

1. A tombstone (10) located on burial recesses or burial graves or any other type of burial construction where the tombstone is of the substantially vertical type and is usually provided with a flower vase (14) or an area of soil (26) for containing flowers and plants, **characterised in that** the earth or any hydrophilic material present in the vase (14) is irrigated by means of a slow-release watering device comprising a water storage tank (16, 28) and one or more slow-release drippers (17) located in the earth in the vase (14) or the soil (26) connected to the tank by one or more tubes (18).
2. The tombstone (10) according to the preceding claim, **characterised in that** the tank (16) comprises a container open at the top and firmly fixed with brackets (19) and screws (20) to the back of the tombstone (10), and where at the bottom of the tank there is a tube connector (21) through which water flows out of the container into the tubes (18) and onwards to the drippers (17).
3. The tombstone (10) according to one of the preceding claims, **characterised in that** the tank (16) is positioned and fixed on the back of the tombstone (10), that is, in the case of a grave it comprises a compartment made in the tombstone itself and where, in other words, it is the tombstone itself which forms the tank structure.
4. The tombstone (10) according to one of the preceding claims, **characterised in that** the tubes (18) connecting the connectors (21) of the tank (16) to the drippers (17) pass through the hole (22) drilled through the tombstone in an area which is slightly above the edge of the flower vase (14) or the soil (26).
5. The tombstone (10) according to one of the preceding claims, **characterised in that** the tank (16, 28) is filled with water through an opening (23) made in the upper part of the tombstone (10) where this opening can be closed off by a plate (24), made from ceramic or other material, displaying a photo of the

deceased, and where the plate (24) is supported and held in position by L-shaped hooks (25) inserted in holes drilled in the plate or by hinges or other means suitable for this purpose, and further **characterised in that** the opening (23) is positioned and is large enough to enable the passage of a watering can when topping up the water in the tank (16) and where the tank (16) is closed off at the top with a grill, which can include a filter, in order to prevent dirt, dust, insects and other extraneous objects from entering or falling into the tank and eventually, after a long time, blocking the flow of water out of the tank.

6. The tombstone (10) according to one of the preceding claims, **characterised in that** the dripper (17) is of the float type where the flow of the drops of water is adjusted on a suitable ring nut.
7. The tombstone (10) according to one of the preceding claims, **characterised in that** the dripper (17) can also be made of terracotta or another porous material which allows a certain amount of water to seep out slowly into the earth.
8. The tombstone (10) according to one of the preceding claims, **characterised in that** the tube (18) or the connector (21) can be fitted with a special regulating valve which enables the water to be dosed in the correct amounts.
9. The tombstone (10) according to one of the preceding claims, **characterised in that** the water supply system to the porous drippers (17) could be assisted by power-driven means such as a pump or similar devices on the tubing (18), on the connector (21) or in any other suitable position and where this pump could be powered by batteries, the mains power supply, a solar panel or from any other suitable energy source.
10. The tombstone (10) according to one of the preceding claims, **characterised in that** in the case of a graveside application (Fig. 4), the floral display part is located in the soil area (26) at the foot of the tombstone (27) and above the grave in which the coffin is interred, and the tank (28) is filled through an upper opening closed off by a filler cap (29) and is located to the rear of the tombstone (27) contained in a special compartment or made as a compartment in the tombstone itself, which in this case would have to be of a suitable thickness, or could be made in any shape, such as a cross for example, made from copper or another material and covered with stone material or any other material suitable for this purpose and also **characterised in that** the tank (28) is connected to slow-release water drippers (17) by tubes (18) coming from the connectors (21).

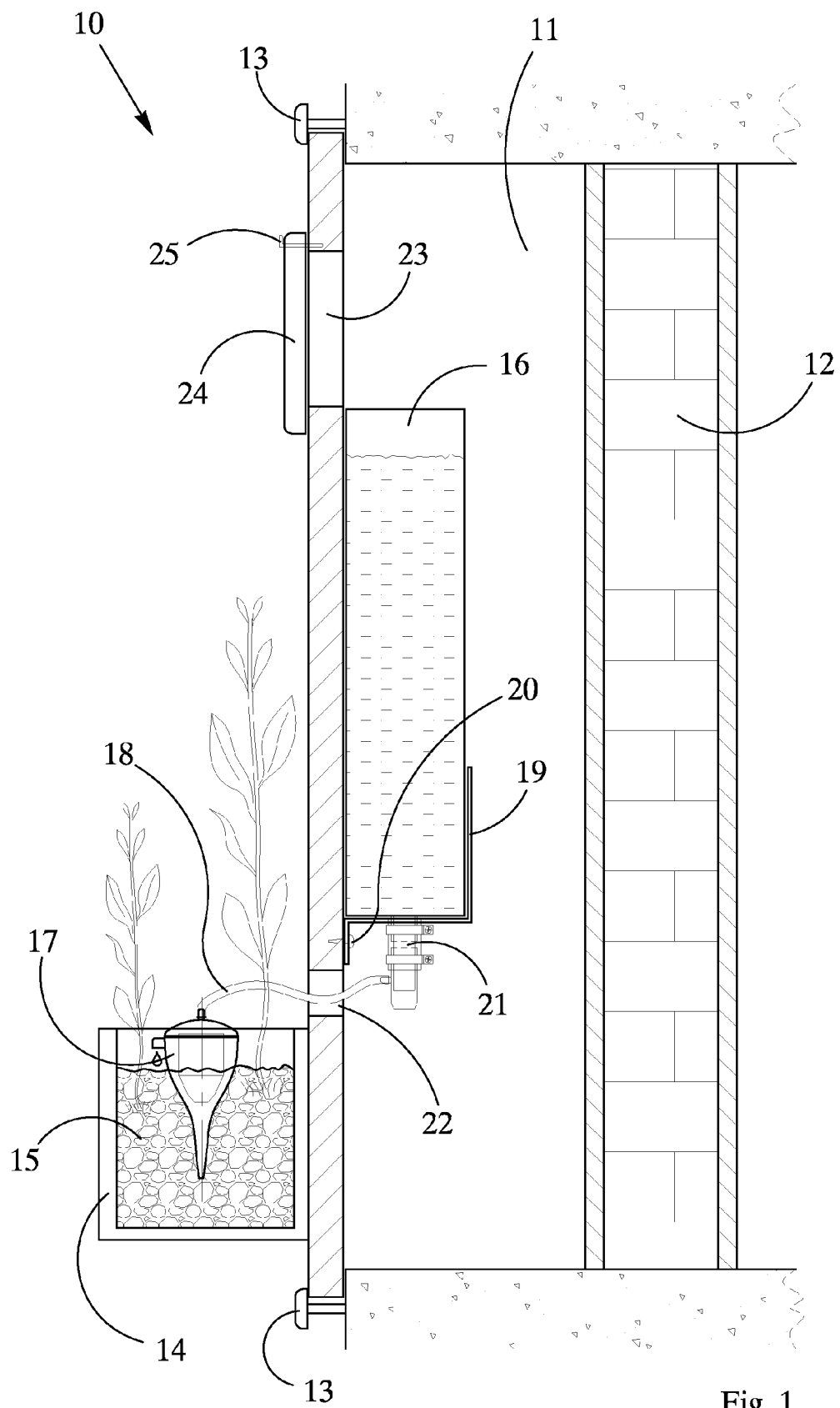
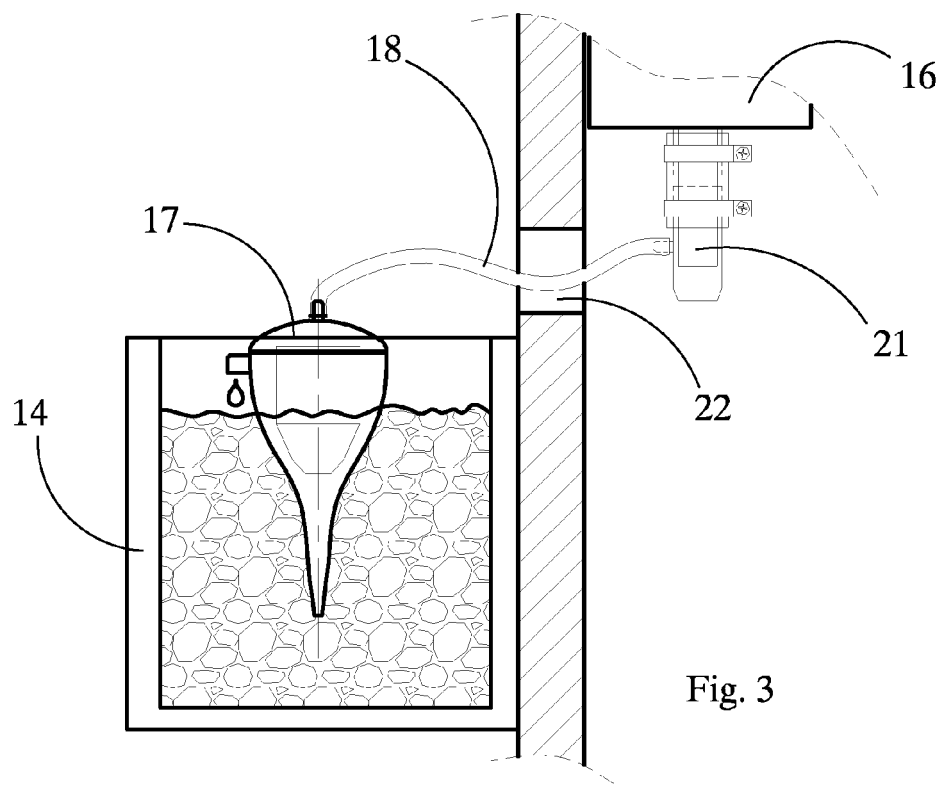
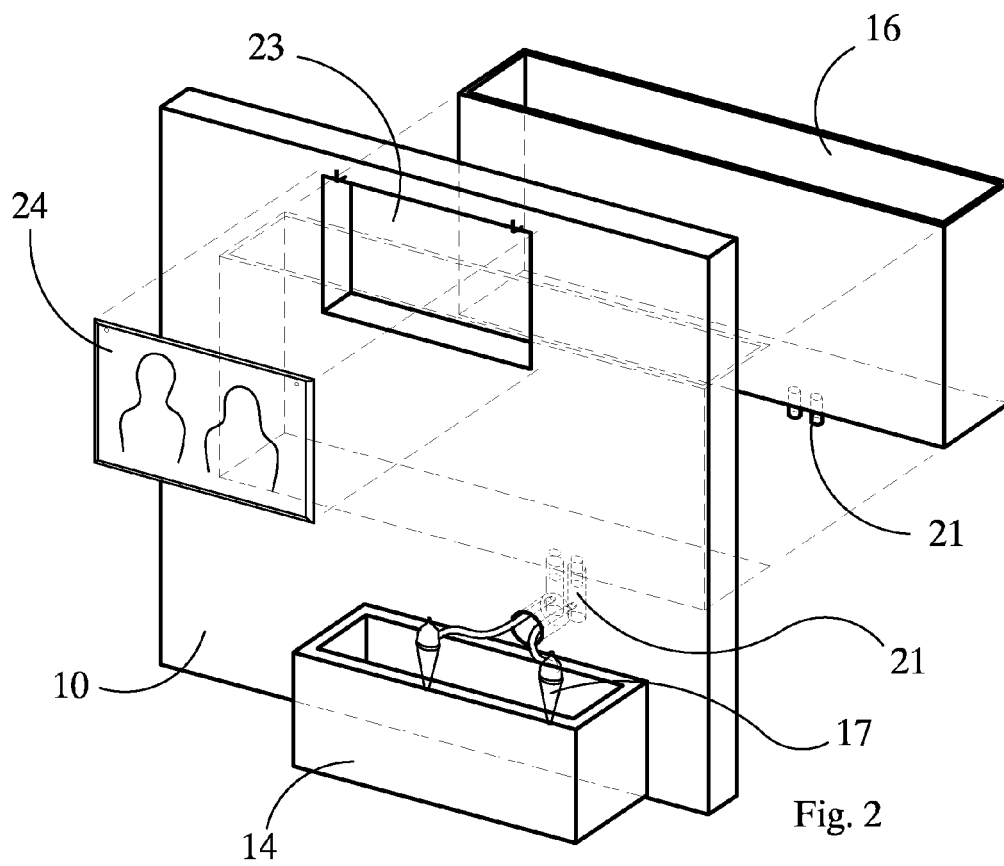


Fig. 1



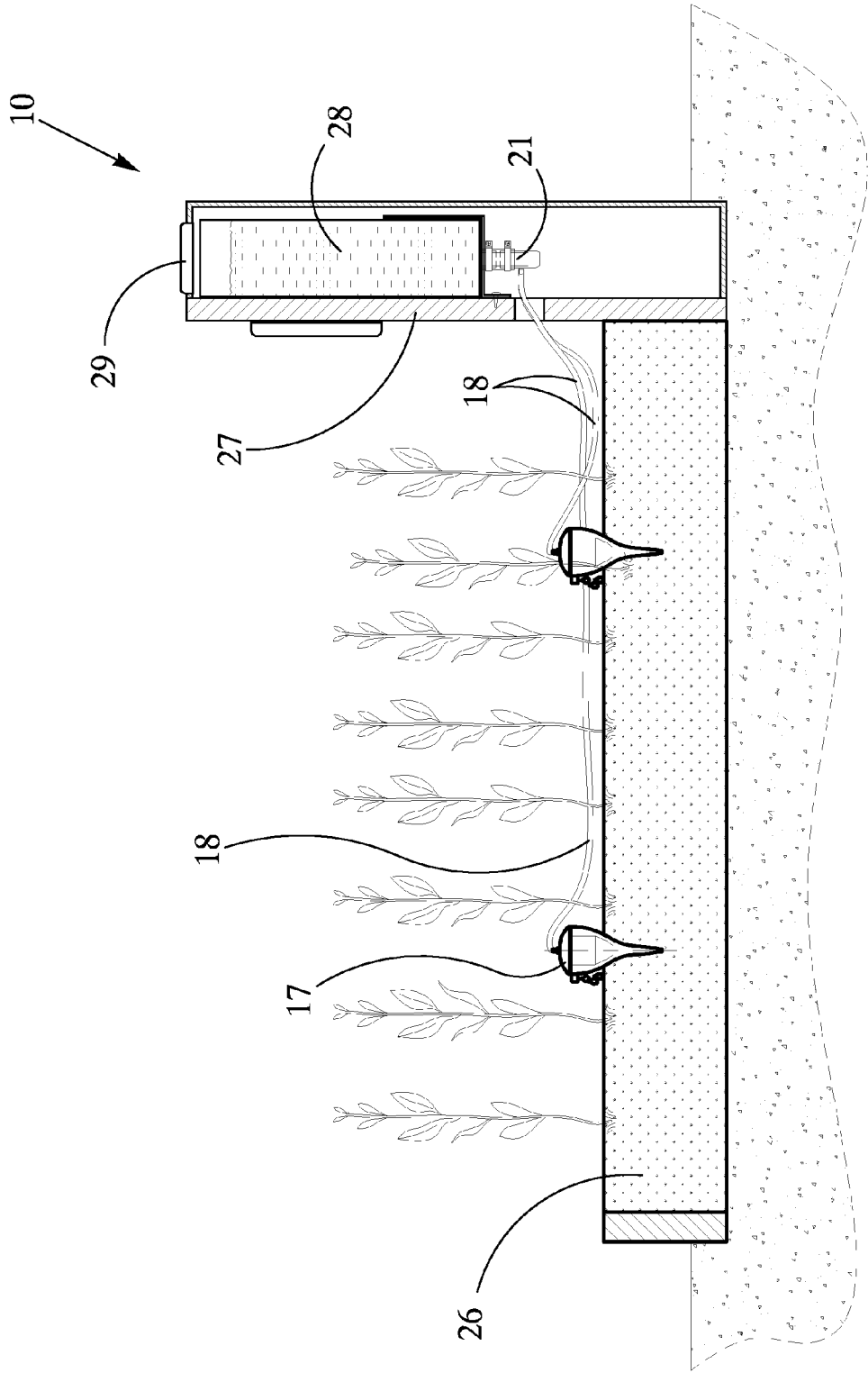


Fig. 4



EUROPEAN SEARCH REPORT

Application Number
EP 12 19 5886

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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Place of search Munich		Date of completion of the search 25 June 2013	Examiner Stefanescu, Radu
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503 03.92 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 12 19 5886

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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25-06-2013

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