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BASIN FOR CULTIVATING SOIL-GROWTH PLANTS, AQUATIC PLANTS AND FISHES

BACKGROUND OF THE INVENTION

5 The present invention relates to basins, and particularly to a basin for cultivating soil-growth plants, aquatic plants and fishes.

 The prior art basin has only one function, such as planting aquatic plants, or soil-growth plants, or cultivating fishes, etc. However, currently, there is no basin which can integrate above functions for presenting a beautiful outlook.

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SUMMARY OF THE INVENTION

 Accordingly, the primary object of the present invention is to provide a basin for cultivating soil-growth plants, aquatic plants and fishes, wherein a water storage space is used to store water so that aquatic plants or fishes can be cultivated in the water.

15 Another object of the present invention is to provide a basin for cultivating soil-growth plants, aquatic plants and fishes, wherein the water in the inner basin body is controllable.

 A further object of the present invention is to provide a basin for cultivating soil-growth plants, aquatic plants and fishes, wherein LED lights are installed for
20 presenting a beautiful outlook.

 A further object of the present invention is to provide a basin for cultivating soil-growth plants, aquatic plants and fishes, wherein the assembly and detaching operations of the present invention are performed easy and quick.

 To achieve above object, the present invention provides a basin for cultivating
25 soil-growth plants, aquatic plants and fishes, wherein the basin comprises an outer basin body, an inner basin body, an upper cover and a water control unit. A bottom of the outer basin body has a through hole, a first main ventilation tube, and a flange at an upper periphery thereof so as to be engaged with the upper cover. The inner basin body is filled with soil for planting soil-growth plants. A volume of the inner basin
30 body is smaller than that of the outer basin body. A bottom of the inner basin body has a second main ventilation tube with respect to the main ventilation tube of the



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outer basin body. The second main ventilation tube has a first though hole for being engaged with the first main ventilation tube of the outer basin body so that environmental air flows into the inner basin body. An inner surface at the bottom of the inner basin body has a penetrating water tube for being assembled with the water control unit. When the level of water in the inner basin body is insufficient, the water control unit will open for receiving water; when the level of water achieves a desired value, the water control unit will close and no water flows into the inner basin body. The inner basin body and outer basin body are assembled as an integral body so that a water storage space is formed; water can be stored in the space for planting aquatic plants or cultivating fishes. Water in the water storage space can flow into the inner basin body through the control of the water control unit to supply water to the plants in the inner basin body. The upper cover has a second though hole at a position with respect to the inner basin body, and an engaging flange for being engaged to the flange of the outer basin body so that the upper cover is coupled to the inner basin body and outer basin body and thus is formed as an upper sealing surface of the space. If it is desired to plant aquatic plant, the upper cover is removed. The basin has functions of planting aquatic plants, soil-growth plants and cultivating fishes.

The various objects and advantages of the present invention will be more readily understood from the following detailed description when read in conjunction with the appended drawing.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is an exploded perspective view and the partial cross section view of the present invention.

Fig. 2 is a schematic view showing the upper cover and LED lights of the present invention.

Fig. 3 is a schematic view showing that an air pumping tube is mounted in the present invention.

Fig. 4 shows the water control of the present invention, in that 4A shows the water stop in high level, and 4B shows that water flows in low level.

Fig. 5 shows one embodiment of the present invention, wherein the upper cover is not used.

Fig. 6 shows one embodiment of the present invention where the inner basin body is used singly.

5 Fig. 7 shows a further embodiment of the present invention, wherein the inner basin body is used singly.

Fig. 8 is an assembled cross section view showing one application of the present invention.

10 Fig. 9 shows a yet embodiment of the present invention where the inner basin body is used singly.

Fig. 10 shows one embodiment of the present invention, where a plurality of inner basin bodies are used.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

15 Referring to Figs. 1, 2 and 3, the basin for cultivating soil-growth plants, aquatic plants and fishes of the present invention is illustrated. The basin of the present invention includes an outer basin body 10, an inner basin body 20, an upper cover 30 and a water control unit 40.

20 A bottom of the outer basin body 10 has a though hole 110, a main ventilation tube 11, and a flange 13 at the upper periphery thereof so as to be engaged with the upper cover 30. An inner surface of the main ventilation tube 11 has threads 12. A bottom of the outer basin body 10 can be formed with an auxiliary ventilation tube 14. The auxiliary ventilation tube 14 is mounted with a seal cover 15. The seal cover 15 has a plug 16 inserted into the auxiliary ventilation tube. When the seal cover 15 is detached, an air pumping tube 17 can be inserted into the auxiliary ventilation tube for pumping air.

25 The inner basin body 20 can be placed with soil for planting soil-growth plants L1. The volume of the inner basin body 20 is smaller than the outer basin body 10. A bottom of the inner basin body 20 has a main ventilation tube 21 with respect to the main ventilation tube 11 of the outer basin body 10. The main ventilation tube 21 has a though hole 210 for being engaged with the main ventilation tube 11 of the outer

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basin body 10 so that environmental air flows into the inner basin body 20. An inner surface at the bottom of the inner basin body 20 has a penetrating water tube 22 for being assembled with the water control unit 40. When the level of water in the inner basin body 20 is insufficient, the water control unit 40 will open to input water. When
5 the level of water achieves a desired value, the water control unit 40 will close and no water flows into the inner basin body 20.

The inner basin body 20 and outer basin body 10 are assembled as an integral body so that a water storage space W is formed. Water can be stored in the space W for planting aquatic plants or cultivating fishes L3 (referring to Fig. 5). Water in the
10 water storage space W can flow into the inner basin body 20 through the control of the water control unit 40 to supply water to the plants in the inner basin body 20. After coupling the main ventilation tubes 21, 11 of the inner basin body 20 and outer basin body 10, a hollow stud 23 with outer thread is used to screw the thread 12 of the main ventilation tubes 21, 11 of the inner basin body 20 and outer basin body 10 so that no
15 water will drain out.

The upper cover 30 has a through hole 300 at position with respect to the inner basin body 20, and an engaging flange 31 for being engaged to the flange 13 of the outer basin body 10 so that the upper cover 30 is coupled to the inner basin body 20 and outer basin body 10 and thus is formed as an upper sealing surface of the space W.
20 If it is desired to plant aquatic plant L2, the upper cover 30 can be removed (referring to Fig. 5). Moreover, a bottom of the upper cover 30 has two annular protruding pieces 32. The two protruding pieces 32 are formed with an inserting groove 33. A circuit board 34 with a plurality of LED lamps 35 can be inserted into the inserting groove 33 (referring to Fig. 2) so that as the lamps are conducted, they can light up.

25 The water control unit 40 is formed as a plastic soft tube 41 (rubber tube). A distal end of the water control unit 40 is installed with a floating block 43. A slit 42 is installed at a predetermined position. A front end of the water control unit 40 is placed in the water tube 22 at the inner basin body 20. When the inner basin body 20 is in high level, the floating block 43 rises so that the slit 42 is sealed and thus no
30 water flow into the inner basin body 20. When the level is low, the floating block 43 descends and the portion having the slit is bent so that the slit is opened to cause water

to flow into the inner basin body 20.

Referring to Figs. 3 and 5, the inner basin body 20 has a plurality of though holes 45 and a plate 45 higher than the bottom of the inner basin body 20. Thereby, soil can be placed therein. The soil-growth plant L1 can be planted in the soil and as shown
5 in the Fig. 3, the upper cover 30 covers the upper side of the basin, and fishes are cultivated in the space W. Or as shown in the Fig. 5, the upper cover 30 is not used so that fish can be placed in the space W and aquatic plants are cultivated therein.

Referring to Fig. 4A, in high level, no water is necessary, the level causes the float block 43 of the water control unit 40 to move upwards so that the soft rubber
10 tube 41 rises. Therefore, the slit 42 seals. Thereby, no water flows into the inner basin body 20. When in low level, as shown in the Fig. 4B, the float block descends so that the soft rubber tube 41 bends, and the slit 42 is opened. The water in the space W flows into the inner basin body 20 through the water tube 22.

The main ventilation tubes 21 and 11 of the inner basin body 20 and outer basin
15 body 10 causes the air H to flow into the hollow stud 23 through the main ventilation tubes 21, 11. The bottom of the plate 44 has a plurality of though holes 45 so that soil-growth plants can breath air like a general used basin.

Thereby, the present invention has the function of planting aquatic plants L1, soil-growth plants L2 and cultivating fishes L3. Thereby, the three objects can be
20 cultivated in the basin.

The LED lights 35 of the upper cover 30 may emit various lights, such as red light, blue light, yellow light, etc. The light projects to the water surface so as to present a beautiful outlook. As shown in the Fig. 3, the air pumping tube 17 pumps
air into water storage space W.

25 The application of the present invention will be described herein.

The inner basin body 20 can be used singly. The water control unit 40 is assembled to the water tube 22 of the inner basin body 20. A bottom of the water tube is connected to one end of a water source tube 46. Another end of the water source tube 46 is connected to a water box. The independent inner basin body 20
30 also has the functions of controlling the supply of water to the soil and thus the soil-growth plants L1.

In Figs. 7 and 8, the inner basin body 50 has a shape corresponding to the outer basin body 10. The upper end has a larger extending edge 51 to be engaged to the flange 13 of the outer basin body 10. A bottom of the inner basin body 50 having a water inlet tube 52 is assembled to the water control unit 40 and main ventilation tube 53. In the present invention, the shape of the outer basin body 10 may be one of rectangular shape, polygonal shapes, elliptical shapes, etc. The material of the outer basin body 10 may be transparent or non-transparent.

As shown in the Fig. 9, the inner basin body 50 can be used singly. A bottom of a water inlet tube 52 is connected to the water source tube 46. Namely, it has the function of adjusting the level.

Referring to Fig. 10, a plurality of inner basin bodies 50 are used in the outer basin body 10. The joints 47 serves to serially connect the water tube 52 with the water source tube 46 in the inner basin bodies 50.

Although the present invention has been described with reference to the preferred embodiments, it will be understood that the invention is not limited to the details described thereof. Various substitutions and modifications have been suggested in the foregoing description, and others will occur to those of ordinary skill in the art. Therefore, all such substitutions and modifications are intended to be embraced within the scope of the invention as defined in the appended claims.

What is claimed is:

1. A basin for cultivating soil-growth plants, aquatic plants and fishes comprising an outer basin body, an inner basin body, an upper cover and a water control unit;
5 wherein

a bottom of the outer basin body has a though hole, a first main ventilation tube, and a flange at an upper periphery thereof so as to be engaged with the upper cover;

the inner basin body is filled with soil for planting soil-growth plants; a volume of the inner basin body is smaller than that of the outer basin body; a bottom of the
10 inner basin body has a second main ventilation tube at a position with respect to the main ventilation tube of the outer basin body; the second main ventilation tube has a first though hole for being engaged with the first main ventilation tube of the outer basin body so that environmental air flows into the inner basin body; an inner surface at the bottom of the inner basin body has a penetrating water tube for being assembled
15 with the water control unit; when the level of water in the inner basin body is insufficient, the water control unit will open for receiving water; when the level of water achieves a desired value, the water control unit will close and no water flows into the inner basin body;

the inner basin body and outer basin body are assembled as an integral body so
20 that a water storage space is formed; water can be stored in the space for planting aquatic plants or cultivating fishes; water in the water storage space can flow into the inner basin body through the control of the water control unit to supply water to the plants in the inner basin body;

the upper cover has a second though hole at position with respect to the inner
25 basin body, and an engaging flange for being engaged to the flange of the outer basin body so that the upper cover is coupled to the inner basin body and outer basin body and thus is formed as an upper sealing surface of the space; if it is desired to plant aquatic plant, the upper cover is removed;

wherein the basin has functions of planting aquatic plants, soil-growth plants and
30 cultivating fishes.

2. The basin for cultivating soil-growth plants, aquatic plants and fishes as claim

in claim 1, wherein a bottom of the upper cover has two annular protruding pieces; the two protruding pieces are formed with an inserting groove; a circuit board with a plurality of LED lights are inserted into the inserting groove so that as the lamps are conducted, the LED lights light up.

5 3. The basin for cultivating soil-growth plants, aquatic plants and fishes as claim in claim 1, wherein after coupling the first and second main ventilation tubes of the inner basin body and outer basin body, a hollow stud with outer thread is used to screw the thread of the first and second main ventilation tubes so that no water will drain out.

10 4. The basin for cultivating soil-growth plants, aquatic plants and fishes as claim in claim 1, wherein a bottom of the outer basin body is formed with an auxiliary ventilation tube; the auxiliary ventilation tube is mounted with a seal cover; the seal cover has a plug which is inserted into the auxiliary ventilation tube; when the seal cover is detached, an air pumping tube is inserted into the auxiliary ventilation tube for pumping air.

15 5. The basin for cultivating soil-growth plants, aquatic plants and fishes as claim in claim 1, wherein the water control unit is formed as a plastic soft tube; a distal end of the water control unit is installed with a floating block; a slit is installed at a predetermined position; a front end of the water control unit is placed in the water tube at the inner basin body; when the inner basin body is in high level, the floating block rises so that the slit is sealed and thus no water flow into the inner basin body; when the level is low, the floating block descends and the portion having the slit is bent so that the slit is opened to cause water to flow into the inner basin body.

20 6. The basin for cultivating soil-growth plants, aquatic plants and fishes as claim in claim 1, wherein the inner basin body is used singly for planting soil-growth plants.

25 7. The basin for cultivating soil-growth plants, aquatic plants and fishes as claim in claim 1, wherein the inner basin body has a shape corresponding to the outer basin body; the upper end thereof has a larger extending edge to be engaged to the flange of the outer basin body.

30 8. The basin for cultivating soil-growth plants, aquatic plants and fishes as claim in claim 1, wherein the shape of the outer basin body is one of rectangular shape, polygonal shapes, elliptical shapes, etc.

9. The basin for cultivating soil-growth plants, aquatic plants and fishes as claim in claim 1, wherein the material of the outer basin body is transparent

10. The basin for cultivating soil-growth plants, aquatic plants and fishes as claim in claim 1, wherein material of the outer basin body is non-transparent.