

US Patent & Trademark Office

Patent Public Search | Text View

United States Patent	12382881
Kind Code	B2
Date of Patent	August 12, 2025
Inventor(s)	Wu; Yu-Tse et al.

Plant container assembly

Abstract

A plant container assembly includes a first plant container, a second plant container, and at least one buckle. The first plant container has at least one first buckle part protruding from an outer wall surface of a container wall of the first plant container and located at a bottom section of the container wall of the first plant container. The second plant container has at least one second buckle part protruding from an outer wall surface of a container wall of the second plant container and located at a top section of the container wall of the second plant container. When the first plant container is stacked on top of the second plant container, the buckle could be engaged with both the first buckle part of the first plant container and the second buckle part of the second plant container, thereby enhancing the stacking strength of the plant containers.

Inventors:	Wu; Yu-Tse (Taichung, TW), Yang; Yao-Ming (Taichung, TW)
Applicant:	CHANGYANG Technology Ltd. (Taichung, TW)
Family ID:	1000008748346
Assignee:	CHANGYANG TECHNOLOGY LTD. (Taichung, TW)
Appl. No.:	18/376636
Filed:	October 04, 2023

Prior Publication Data

Document Identifier	Publication Date
US 20240114847 A1	Apr. 11, 2024

Foreign Application Priority Data

TW	111138162	Oct. 07, 2022
----	-----------	---------------

Publication Classification

Int. Cl.: A01G9/02 (20180101)

U.S. Cl.:

CPC **A01G9/022** (20130101);

Field of Classification Search

CPC: A01G (9/022); A01G (9/023); A01G (31/025); A01G (31/06); B65D (21/0212); B65D (21/0224); B65D (21/0228); B65D (21/0209)

References Cited

U.S. PATENT DOCUMENTS

Patent No.	Issued Date	Patentee Name	U.S. Cl.	CPC
3648849	12/1971	Harris	211/126.5	B65D 21/0224
4619363	12/1985	Wolfseder	220/23.6	A45C 7/005
5404672	12/1994	Sanderson	D11/152	A01G 9/023
2012/0024739	12/2011	Fjelland	403/321	F16B 45/036

FOREIGN PATENT DOCUMENTS

Patent No.	Application Date	Country	CPC
202017006676	12/2017	DE	N/A
M528588	12/2015	TW	N/A

Primary Examiner: Huson; Joshua D

Assistant Examiner: Peterson; Alanna K

Attorney, Agent or Firm: Birch, Stewart, Kolasch & Birch, LLP

Background/Summary

BACKGROUND OF THE INVENTION

Technical Field

(1) The present invention relates generally to planting plants, and more particularly to a plant container assembly.

Description of Related Art

(2) It is known that a plant substrate (such as a sponge or soil) is placed inside a plant container, wherein a plant is planted in the plant substrate. However, a structure of the existing plant container could only provide a single type or a single quantity of plants for planting, restricting the possibilities for diverse landscaping variations with the plants planted. Besides, the existing plant container is provided with drainage holes at a bottom part of the plant container, wherein the drainage holes are configured to prevent roots of plants from rotting as excessive water accumulates at the bottom part of the plant container; still, the water, which is drained from the drainage holes, could be lost, so that a plant grower needs to regularly water the plant containers one by one, which is time-consuming and causes water-waste. Some plant growers choose to place a water tray below the plant container to collect water drained from the drainage holes; however, the water collected by the water tray could not be absorbed by the plant substrate and is prone to

attract mosquitos and other disease-carrying insects.

(3) In order to resolve the problems of the existing plant containers, including providing a single type or a single quantity of plants for planting, draining the water directly from the drainage holes but failing to provide the water to the plants effectively, and watering the plants frequently, a patent has been developed as below.

(4) A known plant container disclosed in Taiwan Utility Model Patent issued No. M528588, named "ROOT-SPRINKLING TYPE PLANT CONTAINER", includes a body and a plurality of accommodating sections, wherein the body has a bottom face, a side wall, a plurality of drainage units, an overflow unit, and a support unit; the plurality of accommodating sections are disposed on an outer side of the side wall and protrudes outward from the side wall. The overflow unit is disposed in a center of the bottom face and includes a plurality of ribs and an overflow hole; the plurality of the ribs respectively protrude above and below the bottom face; the support unit includes a connecting member and a plurality of engaging members; the connecting member is engaged with the ribs of the overflow unit through the plurality of engaging members. In this way, when a plurality of root-sprinkling type plant containers are stacked, the accommodating sections of the root-sprinkling type plant container at a lower level are ensured to be located directly below the drainage units of the root-sprinkling type plant container located at an upper level. However, the root-sprinkling type plant container still suffers from the disadvantages as below.

(5) 1. The support unit of each of the root-sprinkling type plant containers provides a positioning function to support the root-sprinkling type plant containers stacked. However, two root-sprinkling type plant containers stacked on top of each other rely only on each of the support units in the center of each of the bodies to establish a connection; a junction part of the two support units respectively located on the two root-sprinkling type plant containers stacked has a small contact area insufficient to be subjected to greater force to maintain sufficient stability of the plant containers stacked; as a result, when the stacked root-sprinkling type plant containers are subjected to excessive force (such as strong wind), the support unit of each of the root-sprinkling type plant containers is susceptible to violent shaking relative to the body of each of the root-sprinkling type plant containers, even causing each of the support units to be damaged.

(6) 2. In addition, after watering the root-sprinkling type plant container, the amount of water that is retained in the plant substrate and is absorbed is limited. Though the time that water is retained in the body of the root-sprinkling type plant container is extended with a design of an undulating bottom face of the root-sprinkling type plant container, roots of plants in varying growth states may not be able to reach the bottom face of the body of the root-sprinkling type plant container to absorb the water that is retained for the extended period of time.

(7) 3. In order to achieve the purpose of easily removing the plant located in the plurality of accommodating sections, a plurality of plant baskets are respectively used to be fixedly engaged against the plurality of accommodating sections to prevent the plant baskets from toppling over. However, after the plants planted have grown, the plant baskets need to be removed from the plurality of accommodating sections; as the roots and stems of the plants planted may climb around the plant baskets, the roots and stems of the plants planted could be torn or damaged while removing the plants planted from the plant baskets.

(8) 4. When two or more of the plant root-sprinkling type containers are stacked and one of the root-sprinkling type plant containers needs to be removed or cleaned, a user has to sequentially disengage the connections of the corresponding support units out of the root-sprinkling type plant containers located on the top to smoothly remove the root-sprinkling type plant container desired, which is inconvenient and time-consuming.

(9) Therefore, the existing design of the plant container still has room for improvement.

BRIEF SUMMARY OF THE INVENTION

(10) In view of the above, the primary objective of the present invention is to provide a plant container assembly, which could enhance the stacking strength of plant containers when two or

more plant containers are stacked.

(11) The present invention provides a plant container assembly including a first plant container, a second plant container, and at least one buckle. The first plant container has at least one first buckle part; the at least one first buckle part protrudes from an outer wall surface of a container wall of the first plant container and is located at a bottom section of the container wall of the first plant container. The second plant container has at least one second buckle part; the at least one second buckle part protrudes from an outer wall surface of a container wall of the second plant container and is located at a top section of the container wall of the second plant container. The at least one buckle is engaged with both the at least one first buckle part of the first plant container and the at least one second buckle part of the second plant container when the first plant container is stacked on top of the second plant container.

(12) With the aforementioned design, when two or more plant containers are stacked and one of the plant containers needs to be removed or cleaned, the connections of the plant containers could be broken through the at least one buckle and the plant container desired could be smoothly removed; after the plant container desired has been removed, any two of the plant containers separated could be stacked and be fixedly engaged with each other through the at least one buckle.

Description

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

(1) The present invention will be best understood by referring to the following detailed description of some illustrative embodiments in conjunction with the accompanying drawings, in which

(2) FIG. 1 is a perspective view of the plant container according to a first embodiment of the present invention;

(3) FIG. 2 is a schematic half-sectional view of the plant container in FIG. 1;

(4) FIG. 3 is a top view of the plant container in FIG. 1;

(5) FIG. 4 is a bottom view of the plant container in FIG. 1;

(6) FIG. 5 is an exploded view of the two plant containers in FIG. 1 when the two plant containers are stacked;

(7) FIG. 6 is a partially exploded view of the two plant containers in FIG. 5 when the two plant containers are stacked;

(8) FIG. 7 is a sectional view of the two plant containers in FIG. 6 when the two plant containers are stacked;

(9) FIG. 8 is a partial enlarged view of a marked region A in FIG. 1;

(10) FIG. 9 is a top view of the two plant containers in FIG. 6 when the two plant containers are stacked;

(11) FIG. 10 is a partially exploded view of the two plant containers in FIG. 1 when the two plant containers are stacked;

(12) FIG. 11A is a perspective view of the buckle of the plant container in FIG. 6;

(13) FIG. 11B is a perspective view of the buckle of the plant container in FIG. 6 seen from another perspective;

(14) FIG. 11C is a front view of the buckle in FIG. 11B;

(15) FIG. 12 is a sectional view of the buckle of the plant container along the 12-12 line in FIG. 6; and

(16) FIG. 13 is a sectional view of the buckle of the plant container along the 13-13 line in FIG. 10.

DETAILED DESCRIPTION OF THE INVENTION

(17) A plant container 10 according to an embodiment of the present invention is shown in FIG. 1 to FIG. 4 and includes a main body 12 and at least one secondary body 14, wherein the main body 12 is constituted by a container bottom 121 and a container wall 122 surrounding around the

container bottom **121** to form a container structure provided with an internal space **S1**; the at least one secondary body **14** is connected to a top section of the container wall **122** of the main body **12**; the at least one secondary body **14** has a planting space **S2** and a communicating opening **14a**; the at least one secondary body **14** communicates the planting space **S2** located in the at least one secondary body **14** with the internal space **S1** located in the main body **12** through the communicating opening **14a**. In the current embodiment, the number of the secondary body **14** is plural and the plurality of secondary bodies **14** are distributed on an outer wall surface of the container wall **122** of the main body **12**; the plurality of secondary bodies **14** are provided at even intervals on the top section of the container wall **122**; each of the plurality of secondary bodies **14** is formed by protruding outwards in a radial direction of the container wall **122** in an inclined manner. In the current embodiment, the plurality of secondary bodies **14** are integrally formed as a monolithic structure with the main body **12**; however, in other embodiments, the plurality of secondary bodies could be an independent component and be connected to the container wall **122** of the main body **12** in an externally suspended manner.

(18) In the current embodiment, the main body **12** has a drainage hole **12a** located in the middle of the container bottom **121**; a hollow tube **11** is vertically provided in the drainage hole **12a** by connecting a plurality of rib plates **13** between an outer tube wall of the hollow tube **11** and a hole wall of the drainage hole **12a**. Preferably, the container bottom **121** is inclined toward the drainage hole **12a**, thereby facilitating centralized drainage of irrigation water to the drainage hole **12a**.

Furthermore, the container bottom **121** has at least one branched area **121a** adjacent to the container wall **122**, wherein the at least one branched area **121a** could direct part of the irrigation water in the main body **12** to an outside of the container bottom **121**. As shown in FIG. 3 and FIG. 4, in the current embodiment, the at least one branched area **121a** includes a plurality of branched areas **121a**, which are respectively located between two adjacent secondary bodies **14**; each of the branched areas **121a** has a plurality of holes **12b** penetrating through the container bottom **121**.

(19) Further referring to FIG. 5 and FIG. 6, in the current embodiment, the planting space **S2** located in each of the plurality of secondary bodies **14** of the plant container **10** could be used to place a plant substrate, such as a sponge **15**; a seed of a plant (not shown) could be pre-buried in the sponge **15**; since each of the plurality of secondary bodies **14** is formed by protruding outwards in the radial direction of the container wall **122** in an inclined manner, when the irrigation water is poured into the sponge **15**, part of the irrigation water flows into the internal space **S1** of the main body **12** along an inner surface of the secondary body **14**.

(20) A structure of the plant container **10** of the present invention that the sponge **15** is allowed to be stably placed in the planting space **S2** located in each of the plurality of secondary bodies **14** would be described as below, and a structure that could effectively utilize water resources would be explained. Besides, the plant containers **10** of the present invention could be stacked to increase the number of plants planted; a structure of the present invention that the plant containers **10** could be stably stacked would be described later.

(21) First, in terms of stabilizing the sponge **15**, the present invention provides a plurality of rib structures to confine the sponge **15**. As shown in FIG. 5 to FIG. 9, each of the plurality of rib structures includes at least one protruding rib **123**, at least one pair of rib strips **141**, and a positioning rib **142**; in order to illustrate easily, one of the plurality of rib structures, one of the sponges **15**, and one of the secondary bodies **14** are used for illustration; the at least one protruding rib **123** is located at a bottom part of the main body **12** and extends downward; the at least one pair of rib strips **141** and the positioning rib **142** are located inside the secondary body **14** (shown in FIG. 8); the at least one pair of rib strips **141** are respectively connected to two opposite sides of an inner wall of the secondary body **14**; the positioning rib **142** is located between the at least one pair of rib strips **141**. The sponge **15** is deformable under pressure, so that when the sponge **15** is placed between the at least one pair of rib strips **141** and the positioning rib **142**, the sponge **15** is confined in multiple directions to be unsusceptible to falling off. Additionally, in the current embodiment,

the positioning rib **142** is further provided with an abutting part **142a** and a hook part **142b**; the abutting part **142a** is connected to the inner surface of the secondary body **14** in an inclined manner; the hook part **142b** is located at a lower section of the abutting part **142a**; as shown in FIG. 7, a side surface of the sponge **15** abuts against the abutting part **142a**, and a lower edge of the sponge **15** is hooked by the hook part **142b**.

(22) When the plant containers **10** are stacked on top of each other in the state shown in FIG. 5 to FIG. 7, the plant container **10** located at an upper level is defined as a first plant container **10A** while the plant container **10** located at a lower level is defined as a second plant container **10B**; the abovementioned first plant container **10A** and the second plant container **10B** stacked on top of each other constitute a plant container assembly defined in the present invention; the rib strips **141** and the at least one positioning rib **142** of the second plant container **10B** would jointly clamp the sponge **15** from above and below with the at least one protruding rib **123** of the first plant container **10A**, so that the sponge **15** could be placed more stably inside the secondary body **14** of the second plant container **10B**. It should be noted that the number and the disposing locations of the protruding ribs **123** correspond to the number and the disposing locations of the secondary bodies **14**. Additionally, in the current embodiment, the plurality of protruding ribs **123** are provided at intervals at the bottom part of the main body **12**; when the plant containers **10** are separated and not stacked, a single plant container **10** could elevate the main body **12** through the plurality of protruding ribs **123**, thereby preventing the bottom part of the plant container **10** from excessive moisture, which could be prone to attract mosquitos and other disease-carrying insects.

(23) Referring to FIG. 2 and FIG. 7, in terms of effectively utilizing water resources, in the current embodiment, an inside of the main body **12** has at least one convex platform **124** raised from the container bottom **121**; a top part of the at least one convex platform **124** is provided with a water-retained recess **124a**, wherein an arc-shaped water-retained recess surface forms the water-retained recess **124a**. In a vertical direction, the water-retained recess **124a** is located between the container bottom **121** and the secondary body **14** and at a position directly below the communicating opening **14a**. When the irrigation water is spilled from above the plant container **10** into an inside of the plant container **10**, part of the irrigation water flows to the drainage hole **12a** along container bottom **121** and then flows downward, thereby preventing the inside of the plant container **10** from accumulating excessive water; another part of the irrigation water drips from the holes **12b** of each of the plurality of branched areas **121a** of the container bottom **121** of the first plant container **10A** and then is collected by the water-retained recess **124a** of the second plant container **10B**; a small amount of the irrigation water collected by the water-retained recess **124a** could be absorbed by the roots of the plants when the plants are growing, so that the roots of the plants could be prevented from being rotten due to being improperly soaked in the excessive irrigation water.

(24) Additionally, in the current embodiment, the water-retained recess **124a** has a plurality of small arc convexes **124b** protruding out of a surface of the water-retained recess **124a**; the plurality of small arc convexes **124b** are provided for the roots of the plants to climb to absorb the irrigation water retained in the water-retained recess **124a**. It should be noted that the number of the at least one convex platform **124** could be plural; the number of the plurality of the convex platforms **124** corresponds to the number of the plurality of the secondary bodies **14**; each of the plurality of convex platforms **124** is located at positions directly below the communicating opening **14a** of each of the plurality of secondary bodies **14**.

(25) Referring to FIG. 1, FIG. 2, and FIG. 5 to FIG. 7, in the current embodiment, the structure, in which the plurality of plant containers **10** could be stably stacked on top of each other, is that at least one first positioning part and at least one second positioning part are integrally formed as a monolithic unit on the main body **12** of each of the plurality of plant containers **10**; the first positioning part is located on a top part of the container wall **122** of the main body **12**, and the first positioning part takes a positioning slot **125** as an example; the second positioning part is located on a bottom part of the container wall **122** of the main body **12**, and the second positioning part

takes a positioning convex rib **126** as an example; a shape of the first positioning part is complementary to a shape of the second positioning part. In the current embodiment, the number of the at least one first positioning part is four, and each of the first positioning parts is located between two adjacent secondary bodies **14** of the plurality of secondary bodies **14**; the number of the at least one second positioning part is eight, and the second positioning parts are provided at intervals on the bottom part of the container wall **122**, wherein four of the second positioning parts respectively correspond to one of the four first positioning parts while the other four of the second positioning parts respectively correspond to one of the four secondary bodies **14**; each of the second positioning parts that corresponds to one of the secondary bodies **14** is further connected to one of the protruding ribs **123**.

(26) More specifically, as shown in FIG. 2, the first positioning parts are the positioning slots **125**; each of the plurality of positioning slots **125** has a slot opening extending from an inner wall surface of the container wall **122** to a top edge of the container wall **122**; each of the plurality of the positioning slots **125** has a slot bottom **125a** and two slot walls **125b**, wherein the two slot walls **125b** are respectively connected to the slot bottom **125a**. As shown in FIG. 1, the second positioning parts are the positioning convex ribs **126** that protrude; each of the plurality of positioning convex ribs **126** has a bottom edge **126a** and two lateral edges **126b**, wherein the two lateral edges **126b** are respectively connected to the bottom edge **126a**; contours of the bottom edge **126a** and the two lateral edges **126b** of the positioning convex rib **126** are complementary to shapes of the slot bottom **125a** and the two slot walls **125b** of the positioning slot **125**. As shown in FIG. 5 and FIG. 6, when two plant containers **10** are stacked on top of each other, four of the positioning convex ribs **126** of the bottom part of the first plant container **10A** are respectively inserted in one of the positioning slots **125** of the top edge of the second plant container **10B** the two slot walls **125b** of the positioning slot **125** of the second plant container **10B** confine a range from which the positioning convex rib **126** of the first plant container **10A** could move leftward and rightward; furthermore, the other four positioning convex ribs **126**, which are respectively connected to one of the protruding ribs **123** of the first plant container **10A**, on the bottom part of the first plant container **10A** are respectively inserted in one of the secondary bodies **14** of the second plant container **10B**; similarly, the two sides of the secondary body **14** of the second plant container **10B**, which are connected to the main body **12** of the second plant container **10B**, also confine the range from which the positioning convex rib **126** of the first plant container **10A** could move leftward and rightward. In this way, when the plant containers **10** are stacked, an improper rotation could be prevented, so that the secondary bodies **14** of the first plant container **10A** and the secondary bodies **14** of the second plant container **10B** are arranged in a staggered manner, thereby providing a larger growing space for the plants. Meanwhile, the holes **12b** of each of the branched areas **121a** of the first plant container **10A** are aligned with the secondary bodies **14** of the second plant container **10B** in a vertical direction; in this way, during the irrigation, part of the irrigation water flowing into the first plant container **10A** drips directly from the holes **12b** of the branched areas **121a** of the first plant container **10A** to the secondary bodies **14** of the second plant container **10B** and is absorbed by the sponge **15** in each of the secondary bodies **14** of the second plant container **10B**.

(27) In terms of enhancing the stability of the plant containers **10** that are stacked on top of each other, the strengthened structure in the current embodiment includes at least one first buckle part **16** and at least one second buckle part **17**, which are provided on each of the plant containers **10**, and at least one buckle **20**. Referring to FIG. 5, FIG. 6, FIG. 10 and FIG. 11A to FIG. 11C, in the current embodiment, each of the first plant container **10A** and the second plant container **10B** has a plurality of the second buckle parts **17**. Each of the plurality of second buckle parts **17** protrudes from an outer wall surface of the container wall **122** of the main body **12** in the radial direction of the container wall **122** and is located at a top section of the container wall **122**. Each of the first plant container **10A** and the second plant container **10B** has a plurality of the first buckle parts **16**. Each of the plurality of first buckle parts **16** protrudes from the outer wall surface of the container

wall **122** of the main body **12** in the radial direction of the container wall **122** and is located at a bottom section of the container wall **122**. The plurality of the first buckle parts **16** and the plurality of the second buckle parts **17** of each of the plant containers **10** are arranged in a staggered manner in the vertical direction, wherein each of the first buckle parts **17** and each of the secondary bodies **14** of each of the plant containers **10** are located corresponding to each other in the vertical direction. In addition, the first buckle part **16** has an upper engaging slot **16a**, wherein a slot opening of the upper engaging slot **16a** faces upward, the second buckle part **17** has a lower engaging slot **17a**, wherein a slot opening of the lower engaging slot **17a** faces downward; the upper engaging slot **16a** is provided with a positioning convex part **16b** protruding from a slot surface of the upper engaging slot **16a**; the lower engaging slot **17a** is provided with a positioning convex part **17b** protruding from a slot surface of the lower engaging slot **17a**. The buckle **20** has a pair of flanges **22** on a back of the buckle **20**; in an embodiment, the buckle **20** has an engaging hole **21** formed by recessing into a middle part of the back of the buckle **20**; the buckle **20** has two grooves **23** formed by recessing into a hole wall of the engaging hole **21**; the pair of flanges **22** are located closer to a center **21a** of the engaging hole **21** than the two grooves **23**, wherein the flanges **22** respectively protrudes from the hole wall of the engaging hole **21** and face each other; as shown in FIG. **11C**, a maximum distance **D2** between the flanges **22** is less than a hole diameter **D1** of the engaging hole **21**. A part of each of the flanges **22** recesses to form a positioning concave part **22a**.

(28) Referring to FIG. **6**, the first plant container **10A** and the second plant container **10B** are stacked on top of each other; when the buckle **20** is engaged with the first buckle part **16** and the second buckle part **17**, the buckle **20** is placed horizontally as shown in FIG. **12**; at this point, the buckle **20** could be sleeved on the first buckle part **16** and the second buckle part **17** through a part of the engaging hole **21** with the hole diameter **D1**. Then, the buckle **20** is rotated to change to a vertical orientation as shown in FIG. **13**; at this point, one of the flanges **22** of the buckle **20** is inserted in the upper engaging slot **16a**, wherein a part **16c** of the first buckle part **16** adjacent to the upper engaging slot **16a** enters one of the two grooves **23**; the other one of the flanges **22** of the buckle **20** is inserted in the lower engaging slot **17a**, wherein a part **17c** of the second buckle part **17** adjacent to the lower engaging slot **17a** enters the other one of the two grooves **23**; accordingly, the first plant container **10A** and the second plant container **10B** are stably engaged with each other. Besides, the positioning convex part **16b** of the upper engaging slot **16a** and the positioning convex part **17b** of the lower engaging slot **17a** respectively enter the two positioning concave parts **22a** of the pair of flanges **22** to position the buckle **20**, thereby preventing the buckle **20** from loosening.

(29) It should be noted that the first buckle part **16** and the second buckle part **17** could be integrally formed on the outer wall surface of the container wall **122** of the plant container **10**, or could be detachably engaged with the container wall **122** of the plant container **10**. In the current embodiment, the first buckle part **16** is detachably engaged with the container wall **122** of the plant container **10** while the second buckle part **17** is integrally formed on the outer wall surface of the container wall **122** of the plant container **10**.

(30) To summarize, the plant container assembly of the present invention has the following advantages: 1. when the plurality of plant containers **10** are stacked on top of each other, the first positioning part of the main body **12** of the plant container **10** located at the upper level and the second positioning part of the main body **12** of the plant container **10** located at the lower level could be complementary to each other, so that the container wall **122** of the main body **12** of the plant container **10** located at the upper level and the container wall **122** of the main body **12** of the plant container **10** located at the lower level could be engaged with each other, thereby maintaining sufficient stability of the plant containers **10** stacked; 2. the water-retained recesses **124a** inside the main body **12** are used to collect part of the excess irrigation water, thereby extending the time that the irrigation water is retained in the plant container **10** for the plants in varying growth states to absorb; 3. when the plurality of plant containers **10** are stacked on top of each other, the pair of rib strips **141** and the positioning rib **142** of each of the secondary bodies **14** of the plant container **10**

located at the lower level and the plurality of the protruding ribs **123** of the main body **12** of the plant container **10** located at the upper level could jointly clamp one sponge **15** for planting plants, so that the sponge **15** is unsusceptible to move; 4. when the plurality of plant containers **10** are stacked on top of each other, the plurality of first buckle parts **16** of the main body **12** of the plant container **10** located at the upper level, the plurality of second buckle parts **17** of the main body **12** the plant container **10** located at the lower level and the plurality of buckles **20** could enhance the stacking strength of the plant containers **10** stacked; 5. since the first buckle parts **16** and the second buckle parts **17** of each of the plant containers **10** are arranged in a staggered manner in the vertical direction, and the first buckle part **16** and the secondary body **14** are located corresponding to each other in the vertical direction, when the plurality of plant containers **10** are stacked on top of each other, the secondary bodies **14** of the plant container **10** located at the upper level and the secondary bodies **14** of the plant container **10** located at the lower level are arranged in a staggered manner, thereby providing a larger growing space for the plants.

(31) It must be pointed out that the embodiments described above are only some preferred embodiments of the present invention. All equivalent structures which employ the concepts disclosed in this specification and the appended claims should fall within the scope of the present invention.

Claims

1. A plant container assembly, comprising: a first plant container having at least one first buckle part; the at least one first buckle part protrudes from an outer wall surface of a container wall of the first plant container and is located at a bottom section of the container wall of the first plant container; a second plant container having at least one second buckle part; the at least one second buckle part protrudes from an outer wall surface of a container wall of the second plant container and is located at a top section of the container wall of the second plant container; and at least one buckle engaged with both the at least one first buckle part of the first plant container and the at least one second buckle part of the second plant container when the first plant container is stacked on top of the second plant container, wherein the at least one first buckle part of the first plant container has an upper engaging slot; a slot opening of the upper engaging slot faces upward; the at least one second buckle part of the second plant container has a lower engaging slot, wherein a slot opening of the lower engaging slot faces downward; the at least one buckle has a pair of flanges; when the at least one buckle is engaged with both the at least one first buckle part and the at least one second buckle part, one of the flanges is located in the upper engaging slot and the other flange is located in the lower engaging slot, and wherein the at least one buckle has an engaging hole; the flanges respectively protrude from a hole wall of the engaging hole and face each other; when the at least one buckle is engaged with both the at least one first buckle part and the at least one second buckle part, the at least one first buckle part and the at least one second buckle part are both located in the engaging hole.

2. The plant container assembly as claimed in claim 1, wherein the at least one buckle has two grooves respectively formed by recessing into the hole wall of the engaging hole; the flanges are located closer to a center of the engaging hole than the two grooves; when the at least one buckle is engaged with both the at least one first buckle part and the at least one second buckle part, a portion of the at least one first buckle part adjacent to the upper engaging slot enters one of the two grooves and a portion of the at least one second buckle part adjacent to the lower engaging slot enters the other one of the two grooves.

3. The plant container assembly as claimed in claim 2, wherein a maximum distance between the flanges is less than a hole diameter of the engaging hole.

4. The plant container assembly as claimed in claim 1, wherein the upper engaging slot has a positioning convex part; the lower engaging slot has a positioning convex part; each of the flanges

has a positioning concave part; when the at least one buckle is engaged with both the at least one first buckle part and the at least one second buckle part, the positioning convex part of the upper engaging slot and the positioning convex part of the lower engaging slot respectively enter the two positioning concave parts of the flanges.
