

SELF-ASSEMBLING DOMESTIC SOILLESS VEGETABLE PLANTER

TECHNICAL FIELD

[0001] The present disclosure relates to the field of vegetable planters, and in particular to a self-assembling domestic soilless vegetable planter.

BACKGROUND

[0002] At present, due to frequent food safety incidents and increasingly serious issues of high-concentration pesticide residue, excessive heavy metal and nitrite of green vegetables, more and more people start planting healthy vegetables at home to meet the requirement of home meal for green and healthy vegetables.

[0003] However, the structure, the shape and the size of a conventional domestic vegetable planter are fixed. Thus, a user can only purchase a vegetable planter of a suitable size according to the size of his/her own actual space, and cannot adjust the size of the vegetable planter after purchasing, resulting in poor practicability of the vegetable planter, which needs to be improved.

SUMMARY

[0004] In view of the disadvantages in the existing art, an objective of the present disclosure is to provide a self-assembling soilless vegetable planter with high practicability.

[0005] The above technical objective of the present disclosure is achieved by the following technical solution: a self-assembling domestic soilless vegetable planter, including:

[0006] a bottom base placed on the ground;

[0007] a top base located above the bottom base;

[0008] a support frame arranged between the bottom base and the top base; and

[0009] multiple layers of trays evenly arranged on the support frame in a horizontal direction;

[0010] the support frame includes multiple layers of frame bodies, the frame bodies are respectively arranged between the bottom base and the tray, between two adjacent layers of

the trays, and between the top base and the tray, and the bottom base, the top base and the trays are all provided with grooves for the frame bodies to be plugged in.

[0011] Through the above technical solution, by providing a layered-assembling and self-assembling vegetable planter, a purchaser can choose the number of layers of the trays according to actual requirements or assemble the trays according to actual requirements, such that the actual usage size of the vegetable planter is freely adjusted, thus satisfying the practicability of the vegetable planter.

[0012] In a preferred example, the present disclosure can be further configured so that the frame body includes:

[0013] four stand columns arranged at four corners of the tray respectively; and

[0014] both ends of each stand column are provided with a convex ring, and the groove is provided with a slot configured to be embedded with the convex ring.

[0015] Through the above technical solution, by providing a split-type frame body, the convenient production and transport of the frame body are realized; moreover, the stable fixation between the bottom base, the top base and the tray is realized through the engagement between the convex ring and the groove, thereby improving the stability of a vegetable planter when in use.

[0016] In a preferred example, the present disclosure can be further configured so that each of the bottom base and the tray is provided with a dovetail groove shaped as an opening on two sides thereof, the dovetail grooves on two sides of the bottom base or the tray are arranged opposite to each other, the dovetail groove transversely across an end face of the bottom base or the tray, and a dovetail bar is slidably coupled in each group of the dovetail grooves arranged opposite to each other in the horizontal direction.

[0017] By using the above technical solution, when a user needs to transversely expand a vegetable planter, the user can purchase a plurality of vegetable planters with different layers, then place the vegetable planters side by side, and insert the dovetail bar into the dovetail groove, so as to realize the fixation and assembly between two adjacent vegetable planters, thereby further meeting different requirements of a purchaser, and improving the practicability.

[0018] In a preferred example, the present disclosure can be further configured so that each

stand column includes:

[0019] an upper tube that is hollowed and vertically arranged;

[0020] a lower tube that is hollowed and vertically arranged below the upper tube;

[0021] a connecting tube having an upper end fixed inside the upper tube and a lower end extending into the lower tube; and

[0022] a control mechanism, arranged inside the upper tube and is configured to control the upper tube to vertically slide and move.

[0023] By using the above technical solution, when a user needs to adjust the layer height between trays, the control mechanism is used to control the upper tube to vertically slide and move to drive the connecting tube to synchronously move, such that the usage height of an entire stand column is adjusted, and the height between the trays is adjusted, thereby meeting growth requirements of different vegetables.

[0024] In a preferred example, the present disclosure can be further configured so that the control mechanism includes:

[0025] a bottom plate arranged inside the lower tube;

[0026] a top plate arranged inside the upper tube;

[0027] a screw, having a lower end rotatably coupled to the bottom plate and an upper end in threaded connection with the top plate; and

[0028] a drive mechanism, configured to control the screw to rotate.

[0029] By using the above technical solution, when it is necessary to adjust the use height of the stand column, the drive mechanism is used to control the screw to rotate, so that the upper tube is enabled to stably move in a vertical direction under threaded fitting and the limiting action of the connecting tube, thereby adjusting the use height of the stand column. Therefore, the convenient adjustment of the use height of a stand column is realized by providing a control mechanism which is simple in structure and convenient to operate.

[0030] In a preferred example, the present disclosure can be further configured so that the drive mechanism includes:

[0031] four driving rods that are vertically arranged at four corners of the tray or the top base respectively, and a lower end of each of the driving rods penetrates through an interior of the groove;

[0032] plug-in blocks, arranged at the lower end of each of the driving rods respectively, and are configured to couple to the upper end of each screw respectively;

[0033] four gears arranged at an upper end of each of the driving rods respectively;

[0034] a chain wound around the gears; and

[0035] a handwheel, arranged at the upper end of any one of the driving rods, and a side wall of the handwheel penetrates a side wall of the tray or the top base.

[0036] By using the above technical solution, when it is necessary to adjust the use height of the stand column, the handwheel is controlled to rotate to drive the driving rod to rotate, and all the driving rods on one layer are driven to synchronously rotate due to the engagement of the gears and the chain, thereby ensuring the synchronous adjustment and the stable adjustment of four stand columns. Moreover, the driving rod and the screw are coupled through the plug-in block, such that the synchronous assembly of the drive mechanism and the control mechanism is realized during an assembly process of the vegetable planter. Further, the stand columns can be adjusted layer by layer, and the layer height of each tray can be separately adjusted according to actual usage requirements, so as to satisfy the adaptability and practicability of the vegetable planter.

[0037] In a preferred example, the present disclosure can be further configured so that the tray includes:

[0038] a tray base arranged on the support frame, and a snakelike water path is formed inside the tray base; and

[0039] a planting disk, horizontally arranged on the tray base and having several planting holes in communication with the water path,

[0040] and a start segment and a termination segment of the water path are located at one of the corners of the tray base, and the termination segment of the water path is in communication with a start segment of a water path of the next layer via the support frame.

[0041] Through the above technical solution, by providing the snakelike water path, a nutrient solution in the tray base is enabled to flow by all the vegetables and then enter the tray base in the next layer, so as to realize nutrition supply to all the vegetable plants in a circulating manner, thereby ensuring the normal growth of vegetables.

[0042] In a preferred example, the present disclosure can be further configured so that

several lightening holes are provided on the tray base and the planting disk, and the lightening holes are in communication with one another, and configured to penetrate through the tray base and the planting disk.

[0043] Through the above technical solution, by providing the lightening holes, the weight of the tray can be reduced, and the production cost can also be reduced, thereby improving the practicability.

[0044] In a preferred example, the present disclosure can be further configured so that the planting disk is slidably connected to the tray base in the horizontal direction, and a handle is provided on a side wall of the planting disk.

[0045] Through the above technical solution, by providing a pull-out type planting disk, a user can pull out the planting disk, and pick or trim vegetables on an inner side, making the use process of the tray more convenient.

[0046] In a preferred example, the present disclosure can be further configured so that the handle is rotatably coupled to the planting disk, the handle is provided with a locking rod, the locking rod is configured to be inserted into the tray base, and an end portion of the locking rod is provided with a locking ball for abutting against an inner wall of the tray base.

[0047] By using the above technical solution, after the planting disk is reset, the handle is turned over so that the locking rod and the locking ball are embedded into the tray base, thereby realizing the fixation of the handle, and further realizing the fixation of the planting disk and the tray base, and improving the stability of the planting disk.

[0048] In summary, the present disclosure has the following beneficial effects:

[0049] 1. By providing a layered-assembling and self-assembling vegetable planter, a purchaser can choose the number of layers of the trays according to actual requirements or assemble the trays according to actual requirements, such that the actual use size of the vegetable planter is freely adjusted, thus satisfying the practicability of the vegetable planter.

[0050] 2. By providing a vegetable planter that can be transversely expanded and freely assembled, different requirements of the purchaser can be further met, and the practicability is improved.

[0051] 3. By providing a stand column, the use height of which can be freely adjusted, the layer height between trays is adjusted, thereby meeting the growth requirements of different

vegetables.

[0052] 4. By providing a pull-out type planting disk, a user can pull out the planting disk, and pick or trim vegetables on an inner side, making the use process of the tray more convenient.

BRIEF DESCRIPTION OF THE DRAWINGS

[0053] FIG. 1 is a schematic structural diagram according to Embodiment 1;

[0054] FIG. 2 is a schematic structural diagram illustrating the assembling of Embodiment 1;

[0055] FIG. 3 is a schematic structural diagram of a tray of Embodiment 2;

[0056] FIG. 4 is a schematic structural diagram of stand columns of Embodiment 3;

[0057] FIG. 5 is a schematic diagram illustrating an internal structure of stand columns of Embodiment 3; and

[0058] FIG. 6 is a schematic structural diagram of a drive mechanism of Embodiment 3.

Reference signs:

1. Bottom base; 11. dovetail groove; 12. dovetail bar; 2. top base; 3. support frame; 31. frame body; 32. stand column; 33. groove; 34. convex ring; 35. lower tube; 36. upper tube; 37. connecting pipe; 4. tray; 41. tray base; 42. planting disk; 43. water path; 44. planting hole; 45. lightening hole; 46. handle; 47. locking rod; 48. opening; 49. locking ball; 5. control mechanism; 51. bottom plate; 52. top plate; 53. screw; 6. drive mechanism; 61. driving rod; 62. plug-in block; 63. gear; 64. chain; and 65. handwheel.

DETAILED DESCRIPTION

[0059] The present disclosure will be further described in detail below in conjunction with the accompanying drawings.

[0060] Embodiment 1

[0061] As shown in FIG. 1, a self-assembling soilless vegetable planter includes a bottom base 1, a top base 2, a support frame 3 and multiple layers of trays 4. The self-assembling domestic soilless vegetable planter can be used in a house, an office, a showroom, or any space in a building. The bottom base 1 is placed on the ground, and the top base 2 is

horizontally arranged, and is located right above the bottom base 1.

[0062] As shown in FIG. 1, the support frame 3 is arranged between the bottom base 1 and the top base 2, and is located in four corners of each of the bottom base 1 and the top base 2, and the multiple layers of trays 4 are horizontally arranged on the support frame 3 evenly in the height direction of the support frame 3 for the plantation of vegetables.

[0063] By planting vegetables in the tray 4 when the vegetable planter operates, it is ensured that a user can plant, pick and eat vegetables at his/her own home, thereby satisfying the requirements of home meal for green and health vegetables and consuming green and health vegetables.

[0064] As shown in FIG. 1 and FIG. 2, the support frame 3 includes multiple layers of frame bodies 31, and the multiple layers of the frame bodies 31 are respectively arranged between the bottom base 1 and the tray 4, between two adjacent layers of the trays 4, and between the top base 2 and the tray 4, so as to support the trays 4 and the top base 2.

[0065] As shown in FIG. 1 and FIG. 2, each layer of the frame body 31 includes four stand columns 32, namely, two thick ones and two thin ones, the four stand columns 32 are all hollowed, the two thick stand columns 32 are located in two vertex corner positions on the rear side of the tray 4, and the two thin stand columns 4 are located in two vertex corner positions on the front side of the tray 4.

[0066] As shown in FIG. 1 and FIG. 2, each of the bottom base 1, the top base 2 and the tray 4 is provided with a groove 33 for an end portion of the stand column 32 to be plugged in. An annular convex ring 34 is arranged on outer walls of two ends of each stand column 32. A slot (not shown in the figures) is provided in the slot 33 for the convex ring 34 to be embedded in.

[0067] When assembling the vegetable planter, each stand column 32 is separately inserted into the grooves 33 in an upper end face of the bottom base 1 or the tray 4, and the convex ring 34 on each stand column 32 is embedded into the slot in the groove 33 of the stand column 32, thereby realizing the clamping and fixation of the stand columns 32 with the bottom base 1 or the tray 4. Then, upper ends of the stand columns 32 are similarly inserted into the grooves 33 in a lower end face of the top base 2 or the tray 4, thereby realizing the assembly of the vegetable planter.

[0068] Since the vegetable planter is assembled layer-by-layer, a user can select different layers of the trays 4 to assemble the vegetable planter. In this way, the user can select a vegetable planter of various height specifications according to his/her own actual space, and can also quickly assemble the vegetable planter after purchasing the same.

[0069] As shown in FIG. 1 and FIG. 2, each of the bottom base 1 and the tray 4 is provided with respective dovetail grooves 11 on two sides thereof, and the respective dovetail grooves 11 on two sides of each of the bottom base 1 and the tray 4 are shaped to have an opening, and arranged opposite to each other. Each dovetail groove 11 is transversely arranged across end faces of the bottom base 1 or the tray 4. In each group of dovetail grooves 11 arranged opposite to each other, a dovetail bar 12 is slidably coupled in a horizontal direction, and is used for coupling two parallel bottom bases 1 or trays 4.

[0070] If the user needs to transversely expand the use area of the vegetable planter on the same horizontal plane, he/she can purchase a plurality of vegetable planters. The number of layers in the vegetable planters may be the same, or may be different.

[0071] Then, the vegetable planters are placed side by side, so that dovetail grooves 11 on the bottom bases 1 or the trays 4 of adjacent vegetable planters are aligned with each other. Then, the dovetail bar 12 is inserted into dovetail grooves 11 arranged opposite to each other, so as to realize the fixation and assembly between two adjacent vegetable planters.

[0072] By using such convenient assembly method, the assembly of different vegetable planters can be realized, and vegetable planters having different layers can be used for landscaping according to the requirements of the user, that is, the vegetable planters can be configured to plant vegetables, and can also serve as a decoration landscape, thereby achieving a dual purpose.

[0073] Embodiment 2

[0074] As shown in FIG. 3, a self-assembling domestic soilless vegetable planter differs from that in Embodiment 1 in that: the tray 4 includes a tray base 41 and a planting disk 42, and the tray base 41 is arranged on the support frame 3 with an upper end thereof being opened. A snakelike water path 42 is formed inside the tray base 41. A start segment of the water path 43 is located in a vertex corner position on the back side of the tray base 41, and a termination segment of the water path 43 extends to the start segment of the water path 43

along a back side of the tray 4.

[0075] As shown in FIG. 3, the start segment and the termination segment of the water path 43 are both located in the position of one of the thick stand columns 32 (see FIG. 2). One of the two thick stand columns 32 is for the passage of a water flow, and the other is for the passage of a wire, so as to form a hidden layout of water flows and wires.

[0076] As shown in FIG. 3, the termination segment of the water path 43 is in communication with the upper end of the thick stand column 32, and the start segment of the water path 43 is aligned with the lower end of the thick stand column 32. That is, once a nutrient solution of an upper layer flows through the entire water path 43, the nutrient solution flows into the water path 43 of a lower layer along the stand column 32, and sequentially reciprocates to flow through the water path 43 of each layer.

[0077] As shown in FIG. 3, the planting disk 42 is horizontally arranged on the tray base 41, and has several planting holes 44. The several planting holes 44 are in communication with the water path 43 along a flowing direction of the water path 43, so as to ensure that the nutrient solution can stably flow by each planted vegetable.

[0078] As shown in FIG. 3, the tray base 41 and the planting disk 42 are provided with several lightening holes 45, and the lightening holes 45 penetrate through the tray base 41 and the planting disk 42. The lightening holes 45 in the tray base 41 and the planting disk 42 are in communication with one another, so as to reduce the weight of the entire tray 4, ensure the permeability between two adjacent trays 4, and ensure the vigorous growth of the vegetables.

[0079] As shown in FIG. 3, the planting disk 42 is slidably coupled to the tray base 41 in the horizontal direction, and a handle 46 is provided on a side wall of the planting disk 42 that is close to the thin stand column 32. The handle 46 is rotatably coupled to the planting disk 42, and is provided with an arc-shaped locking rod 47. The tray base 41 is provided with a hole 48, and the locking rod 47 is rotated and then inserted into the hole 48. The locking rod 47 is configured to pass through the hole 48 to be inserted into the tray base 41. An end portion of the locking rod 47 that is away from the handle 46 is provided with an elastic locking ball 49. The locking ball 49 is configured to pass through the hole 48 after being compressed and deforming, and abut against an inner wall of the tray base 41.

[0080] Therefore, when the user needs to pick or trim vegetables on an inner side, the user

turns the handle 46 upwards, so that the locking rod 47 and the locking ball 49 are extracted from the tray base 41; and the planting disk 42 can then be pulled to separately slide and move, so as to realize the synchronous dragging of the vegetables. In this way, the vegetables on the inner side can be picked and trimmed conveniently.

[0081] After the picking or trimming is completed, the tray 4 is controlled to move reversely and to be reset, and then the handle 46 is controlled to be turned over downwards, so that the locking rod 47 and the locking ball 49 pass through the hole 48 in the tray base 41, and the locking ball 49 abuts against the inner wall of the tray base 41, thereby realizing the fixation of the handle 46 and the planting disk 42, ensuring the stability of the planting disk 42 when it is in use.

[0082] Embodiment 3

[0083] As shown in FIG. 4 and FIG. 5, a self-assembling domestic soilless vegetable planter differs from that in Embodiment 1 in that: each stand column 32 includes an upper tube 36, a lower tube 35 and a connecting tube 37. The upper tube 36 and the lower tube 35 are both hollowed and are vertically arranged. The connecting tube 37 is located inside the upper tube 36 and the lower tube 35, with an outer wall thereof abutting against inner walls of the upper tube 36 and the lower tube 35. An upper end of the connecting tube 37 is fixed to an interior of the lower end of the upper tube 36, and a lower end of the connecting tube 37 extends into the upper end of the lower tube 35.

[0084] As shown in FIG. 4, FIG. 5 and FIG. 6, the lower tube 35 is slidably fitted with the connecting tube 37 in the vertical direction, a control mechanism 5 is arranged inside the upper tube 36 and the lower tube 35, and the control mechanism 5 is configured to control the upper tube 36 to vertically slide and move relative to the lower tube 35 to freely adjust the use length of the entire stand column 32.

[0085] As shown in FIG. 4, FIG. 5 and FIG. 6, the control mechanism 5 includes a bottom plate 51, a top plate 52 and a screw 53. The bottom plate 51 is hollowed-out and is arranged inside the lower tube 35, the top plate 52 is hollowed out and is arranged inside the upper tube 36, and the bottom plate 51 and the top plate 52 correspond to each other. The screw 53 is vertically arranged in the upper tube 36 and the lower tube 35. A lower end of the screw 53 is rotatably connected to the bottom plate 51, and an upper end of the screw 53 is in threaded

connection with the top plate 52. A drive mechanism 6 is also arranged inside the upper tube 36 and the lower tube 35, and the drive mechanism 6 is configured to control the screw 53 to rotate.

[0086] As shown in FIG. 4, FIG. 5 and FIG. 6, the drive mechanism 6 includes four driving rods 61, four plug-in blocks 62, four gears 63, a chain 64 and a handwheel 65. Each of the four driving rods 61 is vertically arranged at four corners of the tray 4 or the top base 2, and a lower end of the driving rod penetrates into the interior of the groove 33 (see FIG. 2). The four plug-in blocks 62 are respectively arranged at lower ends of the four driving rods 61, and are configured to be plugged into upper end faces of the four screws 53 to drive the screws 53 to synchronously rotate when the driving rods 61 rotate.

[0087] As shown in FIG. 4, FIG. 5 and FIG. 6, the four gears 63 are respectively arranged at upper ends of the four driving rods 61, and the chain 64 is wound around the four gears 63, so as to ensure that the rotation of any one of the gears 63 can drive the other gears 63 to synchronously rotate. Two handwheels 65 are provided, and are located at upper ends of any two driving rods 61 that are diagonally distributed. Side walls of the handwheels 65 penetrate a side wall of the tray 4 or the top base 2, and are located outside the tray 4 or the top base 2.

[0088] When the vegetable planter is assembled, since the driving rod 61 and the screw 53 match up through the plug-in block 62, the synchronous assembly of the drive mechanism 6 and the control mechanism 5 is realized during an assembly process of the stand columns 32 of the vegetable planter.

[0089] When the user needs to adjust the layer height between the trays 4 according to the height of the vegetables, the user controls a pair of the handwheels 65 to synchronously rotate, to drive the driving rod 61 to rotate. At the same time, all the four driving rods 61 of one layer are driven to synchronously rotate under the action of the fitting of the gears 63 and the chain 64.

[0090] Synchronous rotation of the four driving rods 61 will drive the screws 53 to synchronously rotate, and due to threaded connection between the top plate 52 and the screw 53 as well as the limiting function of the connecting tube 37, the upper tube 36 is controlled to drive the connecting tube 37 to stably move upwards, so as to adjust the use height of the stand column 32. In this way, the adjustment of the layer height between the trays 4 is

satisfied, and growth requirements of different vegetables are met.

[0091] At the same time, the stand columns 32 of each layer can be adjusted layer by layer. That is, the height of each layer of the tray 4 can be separately adjusted according to actual usage requirements during an actual use process, so as to satisfy the adaptability and practicability of the vegetable planter.

[0092] The particular embodiments are merely explanations of the present disclosure, but are not limitations to the present disclosure. Those skilled in the art can make modifications to the embodiments without making inventive contribution after reading the description, such modifications are all protected by the Patent Law only if they are within the scope of the claims of the present disclosure.

CLAIMS:

1. A self-assembling soilless vegetable planter, comprising:
a bottom base (1) placed on the ground;
a top base (2) located above the bottom base (1);
a support frame (3) arranged between the bottom base (1) and the top base (2); and
multiple layers of trays (4) evenly arranged (3) on the support frame (3) in a horizontal direction,

wherein the support frame (3) comprises multiple layers of frame bodies (31), the frame bodies (31) are respectively arranged between the bottom base (1) and the tray (4), between two adjacent layers of the trays (4), and between the top base (2) and the tray (4), and the bottom base (1), the top base (2) and the trays (4) are all provided with grooves (33) for the frame bodies (31) to be plugged in.

2. The self-assembling soilless vegetable planter according to claim 1, wherein each of the frame bodies (31) comprises:

four stand columns (32) arranged at four corners of the tray (4) respectively,
wherein both ends of each of the stand columns (32) are provided with a convex ring (34), and each of the grooves (33) is provided with a slot configured to be embedded with the convex ring (34).

3. The self-assembling soilless vegetable planter according to claim 2, further comprising a dovetail groove (11) shaped as an opening and provided on two sides of each of the bottom base (1) and the tray (4), the dovetail grooves on two sides of the bottom base (1) or the tray (4) are arranged opposite to each other, the dovetail groove (11) is transversely arranged across an end face of the bottom base (1) or the tray (4), and a dovetail bar (12) is slidably coupled in each group of the dovetail grooves (11) arranged opposite to each other in the horizontal direction.

4. The self-assembling soilless vegetable planter according to claim 2, wherein each of the stand columns (32) comprises:

an upper tube (36) that is hollowed and vertically arranged;
a lower tube (35) that is hollowed and vertically arranged below the upper tube (36);
a connecting tube (37) having an upper end fixed to an interior of the upper tube (36)

and a lower end extending into the lower tube (35); and

a control mechanism (5), arranged inside the upper tube (36) and is configured to control the upper tube (36) to vertically slide and move.

5. The self-assembling soilless vegetable planter according to claim 4, wherein the control mechanism (5) comprises:

a bottom plate (51) arranged inside the lower tube (35);

a top plate (52) arranged inside the upper tube (36);

a screw (53), having a lower end rotatably coupled to the bottom plate (51) and an upper end in threaded connection with the top plate (52); and

a drive mechanism (6), configured to control the screw (53) to rotate.

6. The self-assembling soilless vegetable planter according to claim 5, wherein the drive mechanism (6) comprises:

four driving rods (61) that are vertically arranged at four corners of the tray (4) or the top base (2) respectively, wherein a lower end of each of the driving rods penetrates through an interior of the groove (33);

plug-in blocks (62), arranged at the lower end of each of the driving rods (61) respectively, and are configured to couple to the upper end of the screw (53) respectively;

four gears (63) arranged at an upper end of each of the driving rods (61) respectively;

a chain (64) wound around the gears (63); and

a handwheel (65), arranged at the upper end of any one of the driving rods (61), and a side wall of the handwheel penetrates a side wall of the tray (4) or the top base (2).

7. The self-assembling soilless vegetable planter according to claim 1, wherein each of the trays (4) comprises:

a tray base (41) arranged on the support frame (3), wherein a snakelike water path (43) is formed inside the tray base; and

a planting disk (42), horizontally arranged on the tray base (41) and having several planting holes (44) in communication with the water path (43),

wherein a start segment and a termination segment of the water path (43) are located at one of the corners of the tray base (41), and the termination segment of the water path (43) is in communication with a start segment of a water path (43) of the next layer via the support

frame (3).

8. The self-assembling soilless vegetable planter according to claim 7, further comprising several lightening holes (45) provided on the tray base (41) and the planting disk (42), wherein the lightening holes (45) are in communication with one another, and configured to penetrate through the tray base (41) and the planting disk (42).

9. The self-assembling soilless vegetable planter according to claim 7, wherein the planting disk (42) is slidably coupled to the tray base (41) in the horizontal direction, and a handle (46) is provided on a side wall of the planting disk (42).

10. The self-assembling soilless vegetable planter according to claim 9, wherein the handle (46) is rotatably coupled to the planting disk (42), the handle (46) is provided with a locking rod (47), the locking rod (47) is configured to be inserted into the tray base (41), and an end portion of the locking rod (47) is provided with a locking ball (49) for abutting against an inner wall of the tray base (41).