### Title

*Raised garden bed requiring limited assembly, designed for use in courtyards, balconies, general gardens. requiring limited soil, water and maintenance, compact enough for high rise units. The design is unique with no need for liner replacements and has drainage and irrigation included.*

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The present invention provides a raised garden bed (10) that may easily be transported, providing a raised garden bed (40), including: an elongate trough (11) for retaining garden material; and a support (20) for supporting the trough (11) in an elevated position above a surface, wherein the support is configured (21) to substantially conform to the trough (11).
RAISED GARDEN BED

FIELD OF THE INVENTION

[0001] The present invention generally relates to garden beds and, in particular, to raised garden beds.

BACKGROUND

[0002] The reference in this specification to any prior publication (or information derived from it), or to any matter which is known, is not, and should not be taken as, an acknowledgement or admission or any form of suggestion that prior publication (or information derived from it) or known matter forms part of the common general knowledge in the field of endeavour to which this specification relates.

[0003] Raised garden beds may be implemented for enabling easy access to gardens for maintenance, visual appeal or for raising gardens out of danger from animals or small children. Raised garden beds also help to reduce back and knee injuries as gardeners do not need to bend over to tend to their plants. They also assist those with limited mobility, such as the elderly, who are not able to easily reach down to ground level.

[0004] Elevated garden beds are typically limited in size, due to the significant weight of the soil, plants and potentially water required to be supported. Further, as the support requirements increase, the supporting structures begin to become significant, interfering with access to the garden and/or creating tripping hazards.

[0005] Some raised garden bed assemblies are formed as a single item or are fixed or welded in the assembled configuration. This can make transporting the garden bed very difficult, due to their particularly large size and awkward shape. Furthermore, due to the weight of the garden material, traditional raised garden beds are substantially fixed in place once they are filled, and are very difficult to move.
SUMMARY OF THE INVENTION

[0006] The present invention seeks to provide a raised garden bed with improved structural and/or safety features.

[0007] The present invention also seeks to provide a raised garden bed that may easily be transported.

[0008] According to one broad form, the present invention provides a raised garden bed, including: an elongate trough for retaining garden material; and a support for supporting the trough in an elevated position above a surface, wherein the support is configured to substantially conform to the trough.

[0009] In another form, the trough includes corrugations.

[0010] In another form, the support is configured to substantially conform to the corrugations of the trough.

[0011] In one form, a footprint of the supports is no wider than the trough.

[0012] In another form, the support includes at least one pair of legs, the at least one pair of legs including a first leg crossing a second leg so as to provide a substantially ‘X’ shaped configuration.

[0013] In a further form, the first and second legs of the at least one pair of legs are connected at the point at which they cross over.

[0014] In another form, the first and second legs of the at least one pair of legs include upper portions, above the point at which they cross over, and lower portions, below the point at which they cross over, wherein the upper portions cradle the trough.

[0015] In one form, the upper portions include grooves to fit the corrugations of the trough.

[0016] In one form, the lower portions contact the surface.
In another form, the trough includes an end wall that includes a fluid outlet.

In another form, the trough includes an end wall that includes a fluid inlet.

In a further form, the first and second legs of the at least one pair of legs are hingedly connected.

In another form, in a disassembled form, where the trough is removed from the support, the at least one pair of legs is adjustable to substantially align, and, in the substantially aligned configuration, an elongate length of the at least one pair of legs is shorter than the elongate length of the trough such that the at least one pair of legs is storable within the trough.

In one form, the trough is formed at least partially by a corrugated main panel extending between two end walls, the corrugated main panel being arranged such that grooves thereof extend between the end walls.

In another form, the corrugated main panel is rounded to provide the base and side walls of the trough, which extend between the end walls.

In another form, the at least one pair of legs includes a support plate sandwiched between the first and second legs thereof, the support plate providing guide holes to receive fasteners therein to secure the first and second legs in the ‘X’ shaped configuration.

In another form, a main panel of the trough is made from steel.

In another form, the garden bed may be disassembled.

In another form, a footprint of the supports is between 500 and 800mm wide, preferably between 600 and 700mm wide, most preferably about 650mm wide.

In another form, the garden bed is between 800 and 1100mm tall, preferably between 900 and 1000mm tall, most preferably about 965mm tall.
In another form, the trough is between 400 and 550mm deep, preferably between 450 and 500mm deep, most preferably about 477mm deep.

[0029] In another form, the trough is between 900 and 2000mm long, preferably between 1100 and 1300mm long, most preferably about 1220mm long.

[0030] In one form, the support includes two pairs of legs.

[0031] In another form, the raised garden bed includes a plurality of supports.

[0032] In a further form the supports are spaced between 450 and 800mm apart, preferably between 550 and 650mm apart, most preferably about 600mm apart.

[0033] According to a further broad from, the present invention provides a garden bed assembly, including: an elongate trough for retaining garden material; and a support for supporting the trough in an elevated position above a surface, the support being configured to substantially conform to the trough, wherein the garden bed assembly can be disassembled.

[0034] In another example, the support includes two pairs of legs, each pair of legs including a first leg hingedly connected to a second leg.

[0035] In another example, when the garden bed is in an assembled form, each pair of legs forms a substantially ‘X’ shaped configuration, and, in a disassembled form, where the trough is removed from the support, the pairs of legs are adjustable to substantially align.

[0036] In another example, in the substantially aligned configuration, the elongate length of each pair of legs is shorter than the elongate length of the trough such that each pair of legs is storable within the trough.
BRIEF DESCRIPTION OF THE DRAWINGS

Example embodiments should become apparent from the following description, which is given by way of example only, of at least one preferred but non-limiting embodiment, described in connection with the accompanying figures of which:

Figure 1 illustrates an exploded view of one embodiment of the invention;

Figure 2 illustrates a plan view of the embodiment of figure 1;

Figure 3 illustrates an elevation view of the embodiment of figure 1;

Figure 4 illustrates an end view of the embodiment of figure 1; and

Figure 5 illustrates a perspective view of the embodiment of figure 1.

DETAILED DESCRIPTION

Embodiments of the present invention provide a raised garden bed. The garden bed includes an elongate trough for retaining garden material and a support for supporting the trough in an elevated position above a surface. The support is configured to substantially conform to the trough.

For example, the trough typically includes corrugations and the support is configured to substantially conform to the corrugations of the trough. The support typically includes at least one pair of legs, the at least one pair of legs including a first leg crossing a second leg so as to provide a substantially ‘X’ shaped configuration. In most cases the support includes two or more pairs of legs in the substantially ‘X’ shaped configuration.

Generally the trough is formed at least partially by a corrugated main panel extending between two end walls, the corrugated main panel being arranged such that grooves thereof extend between the end walls. In one example, the corrugated main panel may be formed of corrugated iron. It will be appreciated that the corrugated main panel may be formed of other suitable materials.
To engage the corrugations, the upper portions or the pairs of legs typically include grooves to fit the corrugations of the trough. The upper portions may be considered the portions of the pairs of legs above the point at which they cross over.

The first and second legs of each pair of legs are typically hingedly connected at the point at which they cross over. This permits that, in a disassembled form, where the trough is removed from the support, the pairs of legs are adjustable to substantially align. For example, the pairs of legs may be moved from the ‘X’ shaped configuration to an substantially ‘I’ shaped or straight line shaped configuration.

Furthermore, in the substantially aligned configuration, the elongate length of the one or more pairs of legs is typically shorter than the elongate length of the trough such that each pair of legs is storable within the trough. This provides that the garden bed may be more easily packaged/stored/transported once disassembled.

One particular embodiment of the raised garden bed is described in figures 1 to 5. It will be appreciated that like reference numerals are used to identify like parts throughout the figures.

Figure 1 shows a garden bed (10) in exploded form. The garden bed (40) includes a corrugated main panel (11) that is substantially U-shaped. The main panel (11) is located between a first end wall (12) and a second end wall (13), so that the main panel (11) and the end walls (12, 13) together form a container, or trough, with an opening (10) at the top. A groove (14) is formed in the end walls (12, 13) into which the corrugated main panel (11) is fitted. A waterproof connection is achieved between the end walls (12, 13) and the main panel (11) using a rubber seal, however, it will be appreciated that other suitable sealing means may be used.

The trough is suitable for storing/retaining garden material such as, for example, soil, potting mix, fertilizer, mulch, plants, other similar products or the like and/or any mixture thereof.

In this embodiment, top beams (15) extend between the end walls (12, 13) on both elongate sides of the opening (40) along the edges of the main panel (11). The top
beams (15) include grooves (14a) into which the corrugated main panel (11) is fitted. It will be appreciated that, in other embodiments, the corrugated main panel (11) may be attached to an inner surface of the top beams (15) or may be otherwise attached. A bottom beam (16) also extends between the end walls adjacent the underside of the main panel (11), typically at the lowest portion thereof.

[0053] The end walls (12, 13) may include various cutouts, including a slot (17) to fit the bottom beam (16), a drainage hole (18) and a supply hole (19). Each of these are optional, as, in alternative embodiments, the bottom beam (16) may instead butt against the end walls (12, 13), and the drainage hole (18) and supply hole (19) may only be at one end, opposite ends, or may not be included.

[0054] In the embodiment of the figures, the support of the trough includes two pairs of legs (20) that cross over to provide a substantially X-shaped configuration. Cutouts or grooves (21) in the upper portions of the legs are shaped to conform to the corrugations of the main panel (11). One or more braces (22) may be used to connect pairs of legs (20) that are spaced along the length of the garden bed (10). It will be appreciated that in other forms, the support may include only one pair of legs or may include multiple pairs of legs, for example 3 or 4 pairs of legs.

[0055] Each pair of legs is hingedly connected via a primary bolt (23). It will be appreciated that the pairs of legs may be hingedly connected by other means. The garden bed (10) may be disassembled by removing the trough the support and pivoting/adjusting the legs (20) of each pair relative to one another, so that they substantially align. For example, the pairs of legs are moved from an “X” shaped configuration to a substantially “I” shaped or straight line shaped configuration.

[0056] A support plate (25) is positioned between the leg members (20) of each pair. The support plate includes guide holes to receive fasteners therein to support the legs (20) in the “X” shaped configuration. As such the support plate (25) can be fastened to both leg members (20) to provide extra strength and to maintain the correct angle between the legs (20). The support plate (25) also includes cutouts (26) so that the top edge of the support plate (25) also conforms to the corrugations of the main panel (11). The legs (20) and the
support plate (25) therefore together support the main panel (11) along its entire width, between top beams (15).

[0057] Typically, the support plate (25) is attached to the legs (20) at multiple points to provide the maximum support against the legs (20) rotating relative to one another. This may be achieved using fasteners such as bolts through the guide holes (27). However, any appropriate fastening means may be used, including but not limited to nails, staples, screws and/or glue. The presence of guide holes allows easy assembly disassembly. An additional cutout (28) is also provided for the bottom beam 16 to pass through.

[0058] The embodiment shown includes two pairs of legs (20), however, as previously noted, for a longer garden bed (10), it may be desired to include three or more pairs of legs (20) to provide additional support.

[0059] A drainage system is included that includes a tap (30) in the end wall (12) and a hose system (31) within the trough of the garden bed (10). The hose (31) includes a number of holes (32) and runs along the length of the trough (10) in a lower portion thereof. This allows water to drain from any location along the length of the garden bed (10).

[0060] An optional system for providing water is also shown. In this embodiment, a drip line (35) is used, as is known in the art. This system is fitted to the hole (19) in the end wall (12). It will be appreciated to a skilled person that may be other methods of supplying water.

[0061] Brackets (38) are used to connect the top beams (15) and bottom beams (16) to the end walls (12, 13). The top beams (15) are connected directly to the legs using holes (39). Once again, bolts are typically used to allow fast and easy assembly and disassembly, however any other suitable fastening means may be used.

[0062] While the illustrated embodiment uses a corrugated main panel (11), other embodiments may use various other shapes such as, for example, a flat sheet. The corrugated main panel (11) however, provides the advantage of added strength, particularly along the length of the garden bed (10). The conforming legs (20) also provide support to
hold the main panel (11) in the correct shape. These features provide a secure and strong support for the garden material to be placed inside the trough, which is likely to be of significant weight.

[0063] The corrugated main panel (11) may be made from a range of materials. For example, standard corrugated steel may be used. Colour coated, zinc-aluminium coated or galvanised steel may also be used.

[0064] The support, beams, and end walls are typically wood/timber components. In one example, they are marine ply with interior and/or exterior surfaces coated with nontoxic waterproof coating.

[0065] The example embodiment, as shown in the figures, may have dimensions as detailed below.

[0066] The bottom beam (16) is 70x33mm cross section while the top beams are 90x33mm cross section. The legs are also 90x33mm cross section. The support plate (25) is 6mm thick marine ply and the end panels are 19mm thick.

[0067] The overall width of the garden bed (10) is 714mm, while the width at the base of the legs (20) is approximately 650mm. By ensuring the footprint of the legs (20) is not the widest part of the garden bed (10) safety is improved as the legs (20) are less of a trip hazard. The footprint of the legs (20) should not be too narrow, however, as this can impact the stability of the garden bed (10) and create a safety issue if the garden bed (10) is easily knocked over.

[0068] In this particular example of the embodiment, the overall length of the garden bed (10) is 1220mm (excluding the tap 30) and the support plates (25) are spaced apart by 600mm. The width of the opening at the top is 610mm. The garden bed (10) has an overall height of 965mm, with the base of the bottom beam (16) being 477mm from the top.

[0069] The drain (18) and supply (19) holes use 13mm BSPT brass threaded couplings, with a 13mm drainage tap (30) for the drain hole (18).
[0070] It will be appreciated to a person skilled in the art that all parts of the garden bed including the trough, support, legs and/or other components may have other dimensions, shapes, configurations, and may be formed from a range of materials. For example, the length of the garden bed may vary significantly and is generally dictated by the available lengths of the main panel/corrugated sheet.

[0071] The presently described garden bed is particularly advantageous due to the ability of the garden bed to be easily assembled and disassembled. For example, fasteners connecting the legs to the trough may be easily removed, allowing the supports to be removed from the trough. The pairs of legs can then be rotated relative to one another to substantially align. Ideally, the length of the legs in this aligned position is less than the length of the trough, so that the legs can then be placed inside the trough. This provides a significantly reduced overall dimension and allows for much easier storage/transportation.

[0072] The presently described garden bed also has the advantage that it does not require a moisture liner. The rubber seals used in the connection between the main panel and the end walls mean that the trough is watertight, even after assembling and disassembling a number of times.

[0073] The trough may also include other features, such as handles, to further improve the transportability of the garden bed. Castors and/or other wheels/rollers may also be incorporated to allow the garden bed to be easily moved, even once filled with garden material. A detachable/removable insect cover or workbench may also be included.

[0074] In addition, the presently described garden bed has the added advantage in that it often requires significantly less garden material when compared to traditional raised garden beds.

[0075] Optional embodiments of the present invention may also be said to broadly consist in the parts, elements and features referred to or indicated herein, individually or collectively, in any or all combinations of two or more of the parts, elements or features, and wherein specific integers are mentioned herein which have known equivalents in the
art to which the invention relates, such known equivalents are deemed to be incorporated herein as if individually set forth.

[0076] Although a preferred embodiment has been described in detail, it should be understood that various changes, substitutions, and alterations can be made by one of ordinary skill in the art without departing from the scope of the present invention.

[0077] It will be appreciated that various forms of the invention may be used individually or in combination.
The claims defining the invention are as follows:

1. A raised garden bed, including:
   an elongate trough for retaining garden material; and
   a support for supporting the trough in an elevated position above a surface,
wherein the support is configured to substantially conform to the trough.

2. The raised garden bed according to claim 1, wherein the trough includes corrugations.

3. The raised garden bed according to any one of the preceding claims, wherein the support is configured to substantially conform to the corrugations of the trough.

4. The raised garden bed according to any one of the preceding claims, wherein a footprint of the support is no wider than the trough.

5. The raised garden bed according to any one of the preceding claims, wherein the support includes at least one pair of legs, the at least one pair of legs including a first leg crossing a second leg so as to provide a substantially ‘X’ shaped configuration.

6. The raised garden bed according to claim 5, wherein the first and second legs of the at least one pair of legs are connected at the point at which they cross over.

7. The raised garden bed according to claim 5 or 6, wherein the first and second legs of the at least one pair of legs include upper portions, above the point at which they cross over, and lower portions, below the point at which they cross over, wherein the upper portions cradle the trough.

8. The raised garden bed according to claim 7, wherein the upper portions include grooves to fit the corrugations of the trough.

9. The raised garden bed according to claim 7 or 8, wherein the lower portions contact the surface.
10. The raised garden bed according to any one of the preceding claims, wherein the trough includes an end wall that includes a fluid outlet.

11. The raised garden bed according to any one of the preceding claims, wherein the trough includes an end wall that includes a fluid inlet.

12. The raised garden bed according to claim 5, wherein the first and second legs of the at least one pair of legs are hingedly connected.

13. The raised garden bed according to claim 5, wherein in a disassembled form, where the trough is removed from the support, the at least one pair of legs is adjustable to substantially align, and, in the substantially aligned configuration, an elongate length of the at least one pair of legs is shorter than the elongate length of the trough such that the at least one pair of legs is storable within the trough.

14. The raised garden bed according to any one of the preceding claims, wherein the trough is formed at least partially by a corrugated main panel extending between two end walls, the corrugated main panel being arranged such that grooves thereof extend between the end walls.

15. The raised garden bed according to any one of the preceding claims, wherein the corrugated main panel is rounded to provide the base and side walls of the trough, which extend between the end walls.

16. The raised garden bed according to claim 5, wherein the at least one pair of legs includes a support plate sandwiched between the first and second legs thereof, the support plate providing guide holes to receive fasteners therein to secure the first and second legs in the ‘X’ shaped configuration.

17. The raised garden bed according to any one of the preceding claims, wherein a main panel of the trough is made from steel.

18. The raised garden bed according to any one of the preceding claims, wherein the garden bed may be disassembled.
19. The raised garden bed according to any one of the preceding claims, wherein a footprint of the supports is between 500 and 800mm wide, preferably between 600 and 700mm wide, most preferably about 650mm wide.

20. The raised garden bed according to any one of the preceding claims, wherein the garden bed is between 800 and 1100mm tall, preferably between 900 and 1000mm tall, most preferably about 965mm tall.

21. The raised garden bed according to any one of the preceding claims, wherein the trough is between 400 and 550mm deep, preferably between 450 and 500mm deep, most preferably about 477mm deep.

22. The raised garden bed according to any one of the preceding claims, wherein the trough is between 900 and 2000mm long, preferably between 1100 and 1300mm long, most preferably about 1220mm long.

23. The raised garden bed according to claim 5, wherein the support includes two pairs of legs.

24. The raised garden bed according to any one of the preceding claims wherein the garden bed includes a plurality of supports.

25. The raised garden bed according to any one of the preceding claims wherein the supports are spaced between 450 and 800mm apart, preferably between 550 and 650mm apart, most preferably about 600mm apart.

26. A garden bed assembly, including:
   an elongate trough for retaining garden material; and
   a support for supporting the trough in an elevated position above a surface, the support being configured to substantially conform to the trough,
   wherein the garden bed assembly can be disassembled.

27. The garden bed assembly as claimed in 26, wherein the support includes two pairs of legs, each pair of legs including a first leg hingedly connected to a second leg
28. The garden bed assembly as claimed in claim 27, wherein, in an assembled form, each pair of legs forms a substantially ‘X’ shaped configuration, and, in a disassembled form, where the trough is removed from the support, the pairs of legs are adjustable to substantially align.

29. The garden bed assembly as claimed in claim 28, wherein, in the substantially aligned configuration, the elongate length of each pair of legs is shorter than the elongate length of the trough such that each pair of legs is storable within the trough.