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3,021,046

CONTAINER FOR SHIPPING POTTED PLANTS

Filed June 3, 1958

3 Sheets-Sheet 1

Fig. 1.

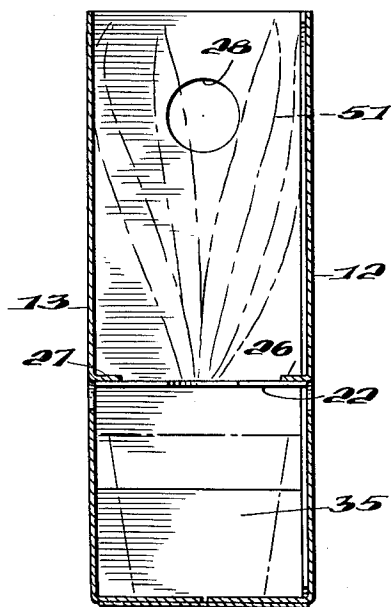


Fig. 2.

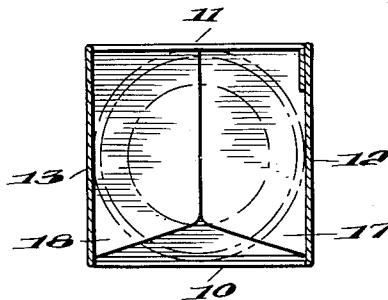
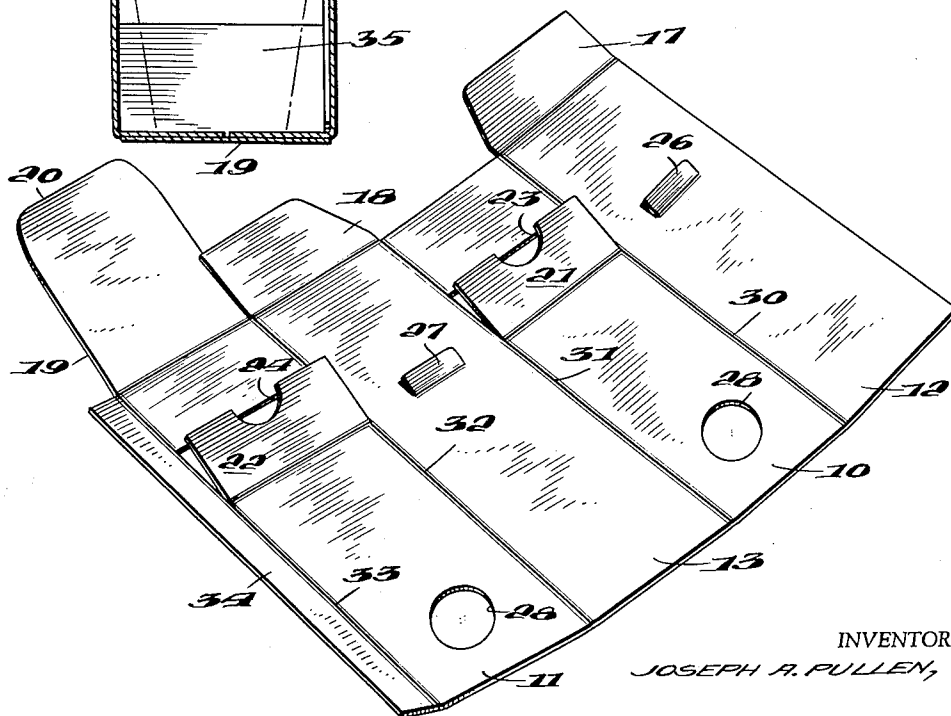


Fig. 3.



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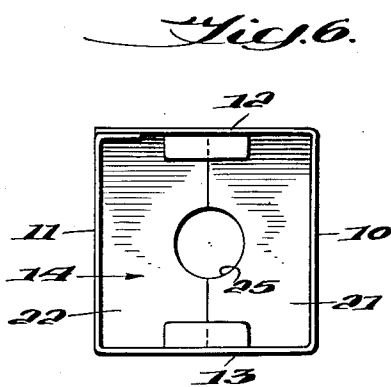
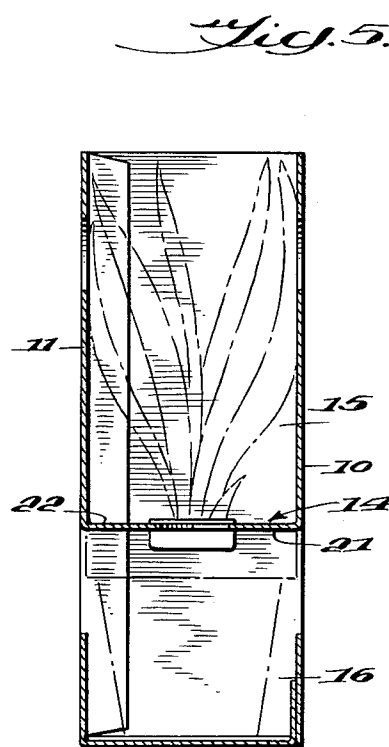
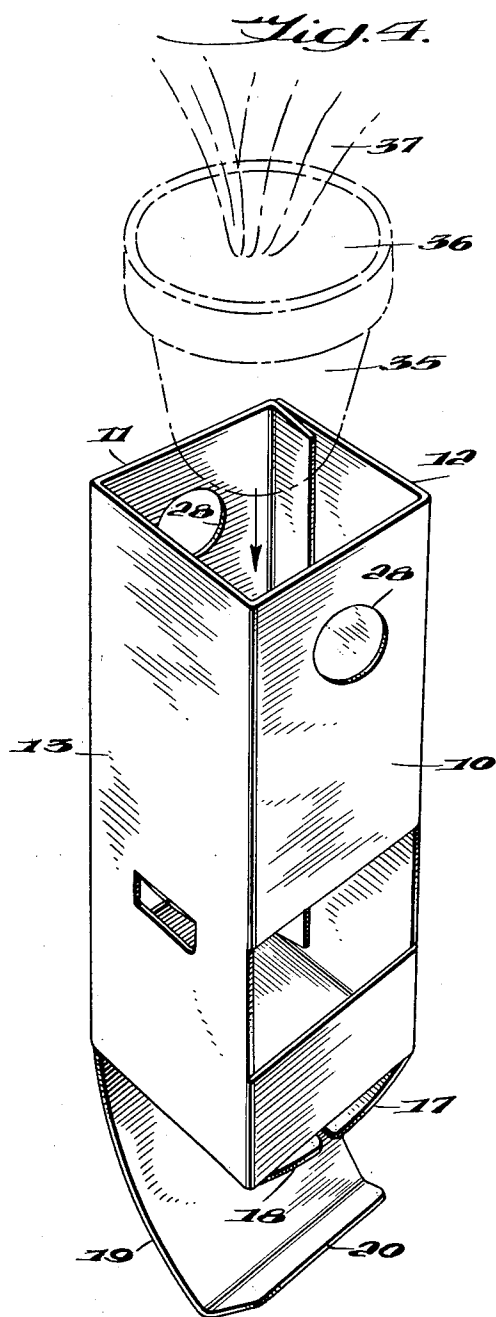
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3 Sheets-Sheet 2



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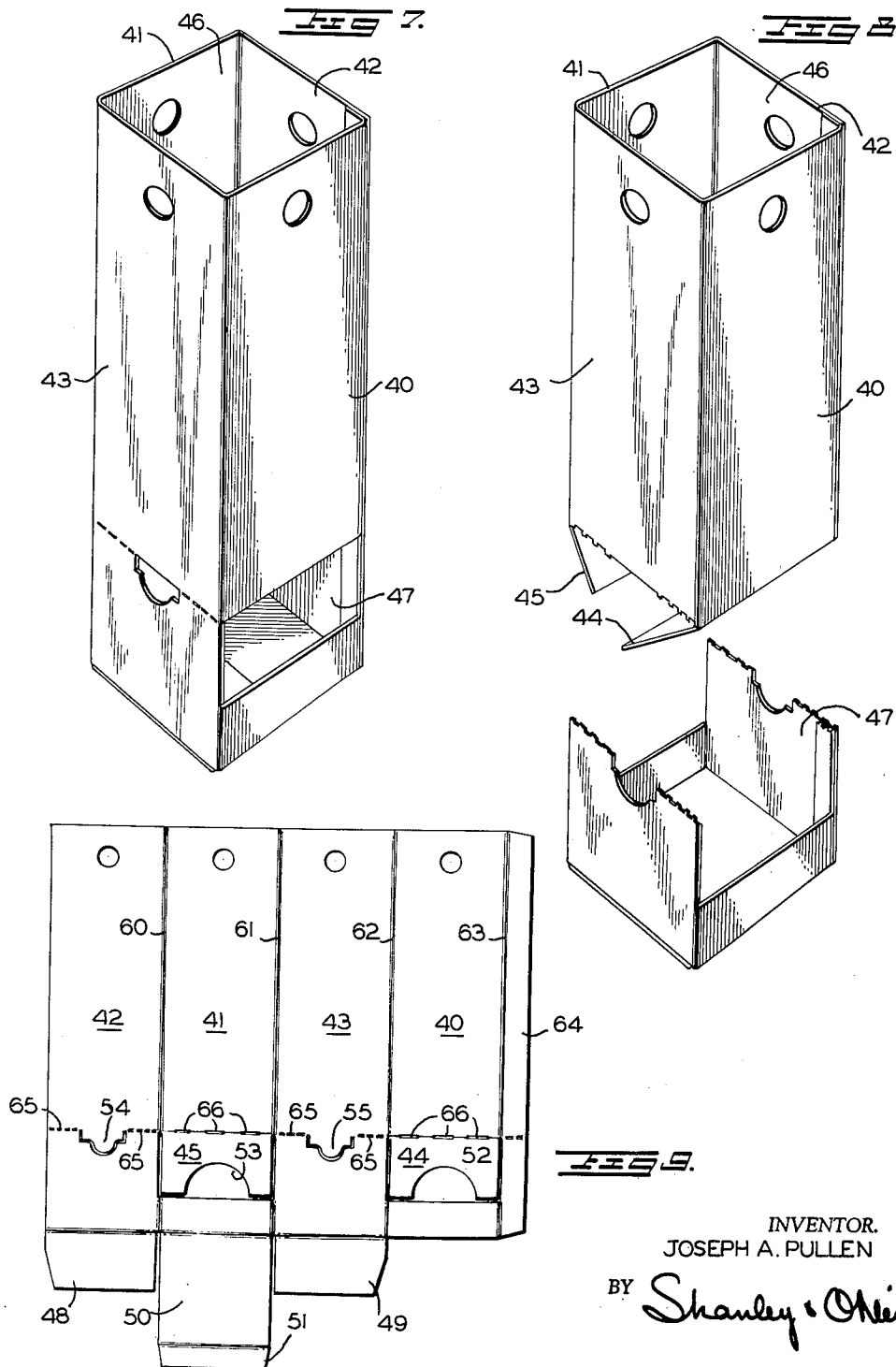
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CONTAINER FOR SHIPPING POTTED PLANTS

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3 Sheets-Sheet 3



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1

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CONTAINER FOR SHIPPING POTTED PLANTS

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1 Claim. (Cl. 229—39)

This invention relates to containers and more particularly to containers for shipping potted plants.

In the shipment of potted plants, it is necessary to provide adequate protection for the plant, and to insure the ball of earth is retained in the pot irrespective of the position of the container during shipment and without requiring special care. Containers have been provided in the past for this purpose and, while the prior containers may provide adequate protection for potted plants during shipment, they possess certain disadvantages and do not constitute an adequate solution to the problem.

The prior containers provide a rigid partition wall adapted to overlie the top of the pot to maintain the ball of earth in the pot, an opening being provided in the partition wall for the plant. A slit is usually provided in the partition wall from one edge to the opening to permit deformation of the partition wall for inserting the plant into the opening or removing the plant therefrom. It is difficult to perform these operations without imparting injury to the plant. Also, the prior containers are formed from a plurality of different pieces of material requiring attaching steps during construction resulting in high manufacturing costs.

It is an object of the present invention to provide a novel container for potted plants which overcomes the foregoing disadvantages.

The present invention provides a container which may be formed from a single piece of flat material, such as heavy paper or cardboard or flexible plastic material, including a novel structure for positively supporting the pot in the container and securing the ball of earth therein, which may be easily used without imparting injury to the plant upon introduction of the plant into the container or removing the plant therefrom or when the plant is in the container.

The foregoing objects and features of the present invention will appear more fully from the following detailed description considered in connection with the accompanying drawings which disclose one embodiment of the present invention. It is to be expressly understood, however, that the drawings are designed for purposes of illustration only and not as a definition of the limits of the invention, reference for the latter purpose being had to the appended claim.

In the drawings, in which similar reference characters denote similar elements throughout the several views:

FIG. 1 is an elevational view, in section, of a container embodying the principles of the present invention;

FIG. 2 is a bottom view of the container shown in FIG. 1;

FIG. 3 is a view showing a single piece of material forming the container provided by the present invention;

FIG. 4 is a perspective view, showing a container provided by the present invention in condition to receive a potted plant;

FIG. 5 is an elevational view, in section, of the container shown in FIG. 1;

FIG. 6 is a top view of the container shown in FIG. 1;

FIG. 7 is a perspective view showing a container constructed in accordance with another embodiment of the present invention;

FIG. 8 is a perspective view of a container of the type illustrated in FIG. 7 shown in broken-apart condition to permit removal of a potted plant therefrom; and

2

FIG. 9 is a view showing a single piece of material forming a container of the type shown in FIG. 7.

With reference more particularly to the drawings, a container constructed in accordance with the principles of the present invention is shown therein including first and second pairs of opposed side walls 10, 11 and 12, 13, and an intermediate partition means 14 dividing the container into a plant receiving zone 15 and a pot receiving zone 16. The end of the container on the pot receiving zone side of the partition means 14 is provided with closure means which may include flaps 17 and 18 foldably attached to the ends of the side walls 12 and 13 and a cover member 19 foldably attached to the end of the side wall 11, the cover member being provided with a locking tab 20 adapted to enter the container and contact the inside surface of the side wall 10 as shown in FIGS. 1 and 5. The partition means 14 includes members 21 and 22 secured along one of their sides to the side walls 10 and 11, respectively, substantially in the plane of demarcation between the zones 15 and 16, for swinging movement inwardly of the container to positions substantially perpendicular to respective side walls, as shown in FIG. 5. The dimensions of the members 21 and 22 perpendicular to their joined sides are slightly less than the distance between the side walls 10 and 12 so that the unjoined sides of the members 21 and 22 lie in contiguous relation when the members are in perpendicular relation with their respective side walls as shown in FIG. 6. The other sides of the members 21 and 22 are provided with medially located semi-circular recess portions 23 and 24, respectively, to provide a circular opening 25 in the partition means 14 centrally located in the container upon movement of the members 21 and 22 to their perpendicular positions. Stop means 26 and 27 are secured to the side walls 12 and 13, respectively, and project inwardly of the container from respective side walls above the members 21 and 22 to restrain swinging movement of the latter members in a direction toward the plant receiving zone 15. The side walls of the container forming the plant receiving zone 15 may be provided with openings to ventilate the plant, such as openings 28 in the side walls 10 and 11.

In accordance with the principles of the present invention, the container described above is formed from a single piece of flexible material such as cardboard, heavy paper or plastic material in such a manner as to provide the members 21 and 22 of the partition means 14 as well as the stop members 26 and 27 without requiring gluing or other attaching operations. As shown in FIG. 3, a single piece of flexible material, such as cardboard, is folded along parallel spaced lines 30, 31, 32 and 33 to define the side walls 10, 11, 12 and 13 and an elongated tab 34 foldably secured to an edge of the side wall 11. The elongated tab 34 is adapted to be secured to the inside surface of the side wall 12 along its free edge by any suitable means, such as by gluing, to form a rectangular container as shown in FIG. 4. One of the remaining opposed edges of the single piece of material comprises the upper end of the container or the plant receiving zone while the other edge is formed to provide pot receiving closure means such as the flaps 17 and 18 and the cover 19. In the illustrated container the flaps 17 and 18 are respectively foldably joined to the ends of the side walls 12 and 13 and the cover is foldably secured to the lower end of the side wall 11. The members 21 and 22 of the partition means 14 are provided by cutting the side walls 10 and 11 along the fold lines 30, 31, 32 and 33, respectively, from a transverse line lying in the plane of the partition means toward the closure end of the container a distance approximately equal to one-half the space between the side walls 10 and 11, and then by cutting the side walls 10 and 11 transversely between the fold lines 30, 31, 32

3

and 33. The stop members 26 and 27 are formed in a similar manner by suitable cuts in the side walls 12 and 13 as shown.

When the container is formed in the manner shown in FIG. 4, a pot 35 containing a ball of earth 36 and a plant 37 may be inserted into the open upper end of the container and moved downwardly into the container to a position in which the top of the pot 35 lies below the free edges of the members 21 and 22. The members 21 and 22 are then folded inwardly and the pot moved upwardly in the container with the plant passing through the opening 25 of the partition means. Thereupon, the tab 20 may be inserted into the container to close the lower end of the pot receiving zone 16. The vertical distance between the partition means 14 and the cover 19 should be approximately equal to the depth of the pot 35 to secure the pot in the pot receiving zone 16 without permitting substantial movement between the pot and the container. If desired, the stop tabs 26 and 27 may be employed to prevent upward movement of the members 21 and 22 beyond their positions shown in FIG. 5. However, due to the fact that the members 21 and 22 comprise a portion of the side walls 10 and 11 and are folded inwardly from the plane of respective side walls, the members 21 and 22 tend to move downwardly from their positions shown in FIG. 5 into positive engagement with the upper end of the pot 35. Thus, in some cases, the stop tabs 26 and 27 may not be necessary. When the potted plant is removed from the container, the closure means at the lower end of the container is moved to open position and the pot, together with the plant, is moved downwardly in the container and removed therefrom through the pot receiving zone. During this operation, the members 21 and 22 are folded downwardly toward the plane of their respective side walls and the plant may be removed easily from the container without imparting injury thereto.

With reference to FIGS. 7, 8, and 9 of the drawings, the container shown therein includes first and second pairs of opposed side walls 40, 41 and 42, 43 and an intermediate partition means including members 44 and 45 dividing the container into a plant receiving zone 46 and a pot receiving zone 47. The bottom end of the container is provided with closure means which may include flaps 48 and 49 foldably attached to the ends of a pair of diametrically opposed side walls, such as the side walls 42 and 43, and a cover member 19 foldably attached to the end of an intermediate side wall, such as the side wall 41, the cover member being provided with a locking tab 51. The members 44 and 45 of partition means are secured along one of their sides to the side walls 40 and 41, respectively, for swinging movement inwardly of the container to positions substantially perpendicular to respective side walls and the members 44 and 45 have semi-circular recesses 52 and 53, respectively, to present a substantially circular opening substantially centrally located in the partition means of the container. Stop means 54 and 55 are secured to diametric side walls 42 and 43, respectively, and are adapted to project inwardly of the container from respective side walls to restrain swinging movement of the members 44 and 45 in a direction toward the plant receiving zone.

As shown in FIG. 9 of the drawings, a container of the foregoing type is preferably formed from a single piece of flat material in a manner similar to the formation of the container shown in FIGS. 1 through 6. As illustrated, a single piece of material is folded along parallel spaced lines 60, 61, 62 and 63 to define the side walls 40, 41, 42 and 43 and an elongated tab 64 which is adapted to be glued or otherwise secured to the side wall 42, along a marginal area adjacent its free edge, to form a closed structure. The members 44 and 45 defining the partition between the plant receiving zone and the pot receiving zone and the stop members 54 and 55 are cut along three sides from portions of respective side walls that would otherwise define the pot receiving zone and are foldable

4

on a third side along a common line perpendicular to the fold lines between the side walls of the container and lying in the region of demarkation between the plant receiving zone and the pot receiving zone and are adapted to fold upwardly toward the open end of the container. As seen from FIG. 9, the members 44 and 45 extend substantially throughout the transverse dimension of respective side wall portions 40 and 41 while the stop members 54 and 55 are of a transverse dimension substantially less than the transverse dimension of respective side walls and are preferably medially positioned thereof. For a purpose that will be described more fully below, the side walls 42 and 43 are perforated along the common fold lines throughout their transverse portions on both sides of respective stop members, the perforations being indicated by reference character 65. Also, the fold line between the members 44 and 45 and their respective side walls includes spaced cutout portions 66, the cutout portions being of the slit type extending throughout the material. Furthermore, the stop members 44 and 45 include portions of substantially circular configuration of sufficient size to permit the stop members to be readily bent inwardly and upwardly by the use of the individual's thumb or finger.

A container of the type shown in FIGS. 7, 8 and 9, may be assembled and a plant inserted therein in a manner similar to the foregoing description relating to the container shown in FIGS. 1 through 6, with the exception that the stops 44 and 45 may be more easily postponed due to their configuration which leaves openings in the side walls of such size and shape to readily permit an operator's finger or thumb to be inserted into the container. In addition, the manner of joining the members 44 and 45 to their respective side wall portions with the use of alternate slits 66 makes it possible to more easily position these members responsively to downward and upward movement of the pot during insertion of the pot into the container with less possibility of damage to the plant.

When it is desired to remove a potted plant from the container, the portion of the side walls defining the pot receiving zone including the closure means for the pot receiving zone may be physically removed from the remaining portion of the container by tearing the side wall portions 42 and 43 on both sides of respective stop members 54 and 55 along the fold line including the perforations 65, as shown in FIG. 8. This makes it possible to remove the plant from the container without the necessity of opening the pot receiving zone closure means, such as unfolding the bottom flap 58, and the members 44 and 45 may then be easily folded downwardly to permit the plant to be easily removed from the plant receiving zone. For this reason, at the time the potted plant is inserted in the container, pot receiving zone may be permanently sealed by the use of glue or stapling means. Thus, the feature of permissible rupturability between the plant receiving zone and the pot receiving zone makes it possible to provide a more secure package for shipment and also permits the plant to be more rapidly removed from the container.

When potted plants are shipped over long distances or when they remain in a container for extended periods of time it is necessary in order to maintain the plants in a healthy condition to provide adequate aeration of the plant itself and of the ball of earth filling the pot. Containers constructed in accordance with the principles of the present invention provide adequate aeration whether the containers are stored in spaced relation or whether they are in adjacent relationship such as in a shipping crate. This is accomplished by the openings in the portions of the side walls forming the pot receiving zone which are presented upon formation of the partition members 21 and 22 and of the stop members 26 and 27. These openings allow circulation of air between the open end of the container and the upper region of the pot

5

receiving zone. This circulation, for the most part, is through the central opening 25 of the partition means 14 and across the top of the ball of earth in the pot, the relationship between the open end of the pot and the partition means being such when the container is in its normal upright position to permit such circulation. When a large number of containers are positioned in close side-by-side relationship in a shipping crate the openings presented by the members 21 and 22 and by the stops 26 and 27 permit air circulation between adjacent containers.

Although several embodiments of the present invention have been disclosed and described above, it is to be expressly understood that various changes and substitutions may be made therein without departing from the spirit of the invention as well understood by those skilled in the art. Reference therefore will be had to the appended claim for a definition of the limits of the invention.

This application is a continuation-in-part of application S.N. 640,945, filed February 18, 1957, for Container for Shipping Potted Plants, now abandoned.

What is claimed is:

A plant container formed from a single piece of flat material, characterized by the following features:

- (a) a first pair of opposite side walls,
- (b) a second pair of opposite side walls,
- (c) means for foldably joining contiguous edges of adjacent side walls,
- (d) a top end and bottom end for said container and partition means between the ends of the container dividing the container into a pot receiving zone adjacent the bottom end on one side of the partition means and a plant receiving zone adjacent the top end on the other side of the partition means, the plant receiving zone being larger than the pot receiving zone,
- (e) a plurality of closure flaps on the bottom end of the container on the pot receiving side of the partition means, said flaps serving the dual purpose of supporting the bottom of the pot within the pot receiving zone and also serving as a flat and stable support base for the entire container,
- (f) said partition means including a first member joined along its upper side to one side wall of the first pair of opposed side walls for swinging movement inwardly of the container to a position substantially perpendicular to the one side wall,
- (g) said partition means including a second member joined along its upper side to the other side wall of the first pair of the opposed side walls for swing-

6

ing movement inwardly to the container to a position substantially perpendicular to the other side wall,

- (h) the lower sides of said first and second members having medially disposed cut-out areas so that the first and second members present an opening substantially centrally disposed in the container upon the members being moved to respective substantially perpendicular positions and said lower sides being located nearer the bottom of the container than said upper sides of each member,
- (i) the depth of the pot containing zone measured between the closure means and the first and second members when in respective substantially perpendicular positions substantially determining the depth of a pot adapted to be placed in the container,
- (j) means for engaging the first and second members upon their movement into respective substantially perpendicular positions to prevent further swinging movement of said first and second members in a direction away from the pot receiving zone,
- (k) said first and second members each being cut from the respective side wall to which it is attached whereby when a potted plant is inserted bottom first into the top end of said container and caused to drop to the bottom end of said container, said first and second members can be pressed inwardly as soon as the top edge of the pot passes below the lowermost extension of said members, and said cut-out portions of said members can be fitted around the stem of the plant in the pot at the same time that the pot is being pushed upwardly toward the top end of the container, whereupon the top edge of the pot will force said first and second members into a substantially perpendicular position with respect to the said side walls, whereafter the closure at the bottom end can be closed and the pot secured fastened in position so that it cannot be dislodged by turning the container in any direction, including side-ways and upside down.

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