July 20, 1965 E. G. MOSHER ETAL 3,195,272

REUSEABLE CONTAINER

Filed Jan. 21, 1963

Fig. 1.

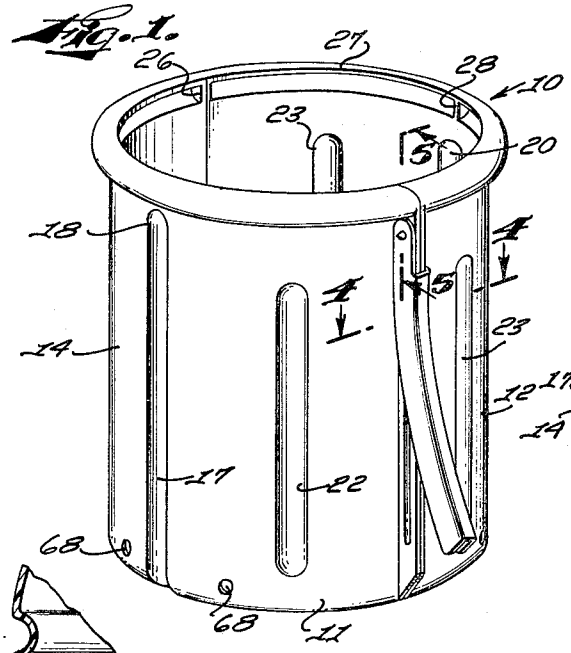


Fig. 5.

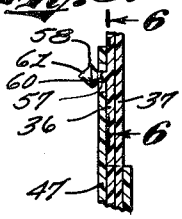


Fig. 6.

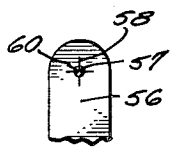


Fig. 3.

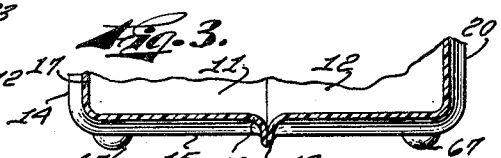


Fig. 7.

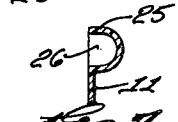


Fig. 4.

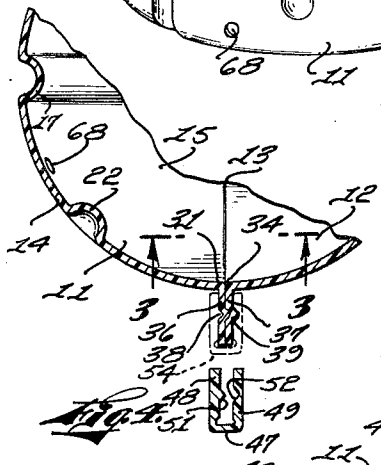
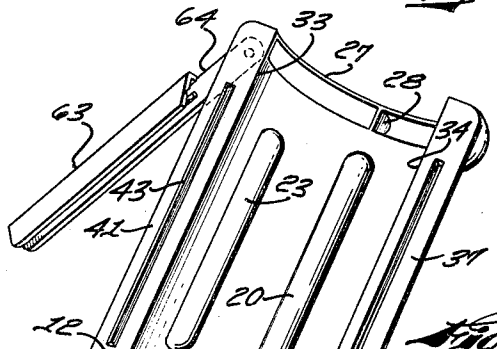


Fig. 2.



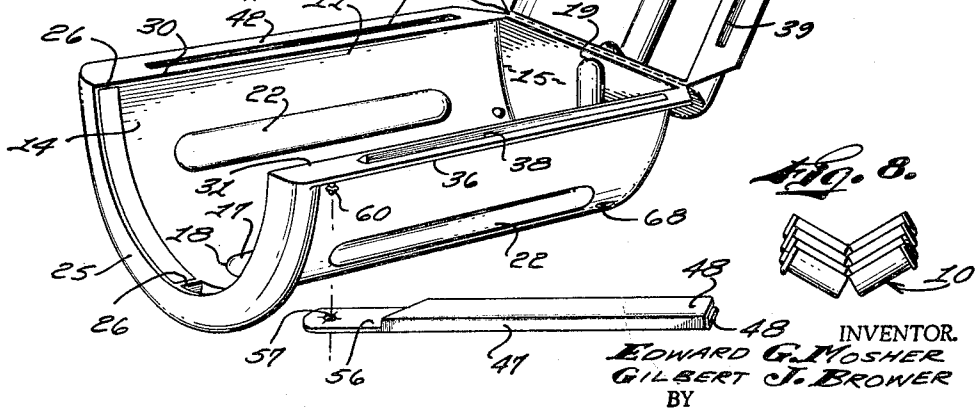


Fig. 8.

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REUSEABLE CONTAINER

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2 Claims. (Cl. 47—37)

This invention relates to a reuseable container and more specifically to such a container particularly useful for receiving plants.

For years purchasers of plants from nurseries have taken the plants home in disposable tin cans. In order to remove the plant the cans are cut either at the nursery or at the home of the purchaser. Accordingly, the use of the cans has the inherent disadvantage that the edges produced by the slit often times cut the hands of the person handling the container, and dirt spills through the cut.

Naturally, the time and effort spent in slitting the can is a disadvantage inherent in the use of the cans.

In the past, several proposals have been made to eliminate the above problems. However, such reuseable containers have been too expensive to make, too heavy, too fragile, and take too long to use.

Accordingly it is an important object of this invention to provide a new better reuseable container.

Another object of this invention is to provide a lightweight container suitable for receipt of a plant.

A further object of this invention is to provide a molded plastic reuseable container which can be swung apart to facilitate removal of the contents thereof.

Still another object of this invention is to provide a reuseable container which is inexpensive to produce.

A still further object of this invention is to provide a reuseable container in which the various parts thereof are joined together so as to prevent loss of such parts.

Another object of this invention is to provide a reuseable container which takes little space when stacked with like reuseable containers.

It is still another object of this invention to provide a useable contained which can be made of a thin material of a substantially constant thickness.

Other and further objects of this invention will become apparent in the detailed description below in conjunction with the appended drawings wherein:

FIGURE 1 is a pictorial view of one embodiment of this invention shown in the closed position;

FIGURE 2 is a pictorial view of the embodiment in FIGURE 1 disclosing the container in the open position

FIGURE 3 is a fragmentary cross-sectional view of the bottom of the container where the two container halves are integrally joined together, taken along line 3—3 in FIGURE 4;

FIGURE 4 is a fragmentary cross-sectional view of one side of the edge of the container taken along line 4—4 in FIGURE 1;

FIGURE 5 is a fragmentary cross-sectional view of the side edge of the container taken along line 5—5 in FIGURE 1;

FIGURE 6 is a fragmentary view taken along lines 6—6 in FIGURE 5;

FIGURE 7 is a fragmentary cross-sectional view of the upper rim of the container; and

FIGURE 8 is a pictorial view disclosing how the containers may be stacked for storage.

Referring now to the drawings there is shown a container, indicated generally by the arrow **10**, made in accordance with the present invention. As illustrated in the drawings and as will be more specifically pointed out in the description below, containers made according to the

present invention comprise two container sections which are integrally joined together by a flexible joinder portion. Preferably the container sections each form half of the container in order that the container will be more symmetrical, although such is not necessary.

An important feature of the present invention is that containers made in accordance with it may be quickly and cheaply molded as a result of the thin cross-section of the container. As will become apparent in the description in conjunction with the drawings, this constant thin cross-section of the container material is afforded by the structural innovations for the container which have been conceived by the applicants.

In the preferred embodiment, the container **10** comprises left and right container halves **11** and **12** integrally joined together along the bottom edge at joinder portion **13**. Preferably the container is made of resilient tough plastic such as linear polyethylene. This material will permit the two halves **11** and **12** to be pivoted about the joinder portion **13**, between a closed position such as shown in FIGURE 1 and an open position such as shown in FIGURE 2.

The left container half **11** comprises a side wall **14** and a bottom **15** of a thin cross-section. In order to give the container half **11** rigidity and hold the bottom **15** at a right angle to the side wall **14**, a central rib **17** is provided. As can best be seen in FIGURES 1, 3 and 4, the central rib **17** is formed by offsetting a portion of the container material from the portions of container material on either side of the rib. The rib **17** extends from the bottom of the side wall **14** up to a point adjacent the top of the container **10** where the rib terminates at **18**. The rib **17** also extends across the bottom **15** to the line of joinder of the halves where it terminates at **19**. With this arrangement structural rigidity is given to the side wall **14** and bottom **15** without the necessity of an increased wall section which would increase the cost of production.

The container half **12** also has a central rib **20**. The central rib **20** is formed in the same manner and shape as central rib **17** and therefore, will not be described in detail.

On either side of the central rib **17** there is provided an intermediate rib **22** in the side wall **14**. Similarly to the rib **17**, the intermediate rib **22** is formed by offsetting a portion of the container wall material from the portion of wall material on either side of the rib. Preferably, each rib **22** extends approximately three-fourths of the heighth of the side wall **14**. In large containers the intermediate rib **22** would extend down the side wall **14** and across the bottom **15** similarly to the rib **17**.

Intermediate ribs **23** are provided on the container half **12**. These ribs **23** are of the same configuration as the ribs **22**.

It will be noted that joinder portion **13** projects below the bottom of the container, forming a flange which rigidifies the container bottom in a direction at a right angle to the ribs **17** and **20**.

It is necessary that the user be able to grasp the container **10** at the upper edge thereof in order to lift the container. Similarly it is necessary that the upper edge of the container have structural rigidity in order that the container will hold its circular shape when the dirt and the plant is being located inside of the container. To this end the container half **11** is provided with a rim **25** having a semi-circular cross-section (see FIGURE 7 in particular). The rim is formed of thin material as in the case of the rest of the body, and therefore, a plurality of gussets **26** extend across the rim **25**. These gussets **26** give the rim structural rigidity without the penalty of increasing the cross-section of the material.

The container half 12 has a rim 27 with gussets 26 formed in the same shape as the rim 25 and gussets 26.

The container half 11 has two side edges 30 and 31 respectively, extending up from the bottom 15 of the container half. When the container halves 11 and 12 are swung together these side edges 30 and 31 abut opposed side edges 33 and 34 on the container half 12. Since, because of the thin cross-section of the material, the side walls of the container are so flexible, means must be provided to secure the edges 30 and 33, as well as the edges 31 and 34 against lateral movement.

Referring now to the means for securing the edges 31 and 34 in particular, the edge 31 has a flange 36 extending a short distance radially from the center of the container while the edge 34 has a flange 37 lying parallel to the flange 36. The top of each of these flanges is integrally joined to the rim 25 to strengthen the rim, as well as the respective flange.

The flange 36 is provided with a long narrow rib 38 formed by offsetting a portion of the flange toward the flange 37. By this means the rib 38 provides a male protuberance on the face of the flange 36 facing the flange 37 and provides a female groove on the opposite face of the flange 36. The flange 37 is shaped complementarily to the flange 36 by offsetting a portion of the flange 37 to form rib 39. By this means a female groove is provided to receive the male protuberance on flange 36 while a male protuberance is provided on the face of the flange 37 away from the flange 36. It will be noted that the ribs 38 and 39 not only function to secure the flanges 36 and 37 against lateral movement when the flanges are held together but lend structural rigidity to the flanges.

In order to hold the flanges 36 and 37 in abutting relation we preferably use a resilient U-shape channel member 47 swingably secured to the container by a means to be described. (In FIGURE 1, the member 47 has been bent somewhat from its normal straight position to demonstrate this resiliency.)

The channel member 47 has left and right legs 48 and 49 respectively joined by a web. As can best be seen in FIGURE 4 the left leg 48 is provided with a long narrow protuberance 51 on its inward side, while the right leg 49 has formed on its inward side a female groove 52. With this shape, when the channel member 47 is moved to a position partially encircling the flanges 36 and 37 (as shown in phantom lines 54) the protuberance 51 is received into the female groove formed by the rib 38 as aforesaid. Similarly the female groove 52 on the right leg 49 receives therein the male protuberance formed by the rib 39 on the flange 37. By this cooperation between the various protuberances and grooves the channel member 47 is removably held in the position shown in the phantom lines.

As mentioned above the channel member 47 is swingably secured to the container half. To this end we provide an upstanding portion 56 having a hole 57 therethrough at its upper end. In FIGURE 6 it can be seen that there are four slits 58 radiating a small distance from the hole 57 for a purpose to be described.

On the flange 36 there is a stub shaft 60 having an enlarged pointed head 61. The stub shaft 60 is slightly smaller than the hole 57 while the head 61 is slightly larger. However, the slits 58, in combination with the resiliency of the upstanding portion material, permit the head 61 to be passed through the hole 57 by hand pressure. With this arrangement the channel member may be quickly mounted on the container half by merely pushing it over the head 61 onto the stub shaft 60.

The edge 33 of the container half 12 is provided with a flange 41 having a rib 43 formed therein, which flange and rib are preferably like the flange 36 and rib 38. Swingably secured to flange 41 is a resilient channel member 63 having an upstanding portion 64 by which it is held to a stub shaft not shown. The stub shaft and the details of the upper end of the upstanding portion 64 is exactly like the stub shaft 60 and upstanding portion 56. Therefore, they will not be shown and described in detail.

The edge 30 has a flange 42 extending radially from the center of the container with a rib 44 formed therein. The flange 42 and rib 44 are exactly like flange 37 and rib 39. Therefore, they will not be discussed in detail.

Referring now to FIGURE 3 it can be seen that on the bottom of the container there is provided a plurality of buttons 67 on which the container rests in the closed position. These buttons 67 extend below the bottom of the container the same distance as the lower edge of the joinder portion 13 between the two halves 11 and 12. This provides a good stable support for the container.

In use, the plants in the container are watered. Accordingly, provision is made for water to drain out of the container such as a plurality of holes 68 located adjacent the bottom of the side walls of the container.

In use, the container halves 11 and 12 are swung to the closed position where the respective flanges 36, 37, 41 and 42 abut each other. At that time the channel members 47 and 63 are moved into position where the legs of the respective channel members grasp the protuberances and grooves on the respective flanges. At that time the plant is located in the container and the container is filled with dirt.

When it is desired to move the plant from the container the channel members 47 and 63 are rotated outwardly away from the respective flanges at which time the container halves 11 and 12 may be swung apart. At this point the plant may be easily removed from the container. When the containers are not in use they may be stacked together as disclosed in FIGURE 8 and thus take up little space.

While only one embodiment of the present invention has been shown and described in detail, such is by way of illustration only. It will be apparent to those skilled in the art that numerous changes and modifications may be made to the embodiment shown without departing from the present invention which is to be limited solely by the appended claims.

We claim:

1. A container comprising:

a pair of container halves adapted to be located together to form a container having an open top, side walls and a bottom, said container halves being integrally joined together along the bottom thereof at a line of joinder and having side edges, said halves being formed of thin flexible material of a substantially constant thickness, said side wall of each half having reinforcing ribs, one of said ribs on each half extending from the bottom of the respective side wall up to a point adjacent the top thereof and to the line of joinder of the halves where the rib terminates, each of said side edges of one half abutting an opposed edge of the other half when the halves are swung together;

a thin flange on each of said side edges, said flange extending radially relative to the center of the container, each of said flanges on one half being positioned to abut a corresponding flange on the other half when the halves are swung together, one of the flanges of each pair of abutting flanges having a male rib formed therein by having a portion of the flange material offset toward the abutting flange, the other flange of the pair having a rib formed by having a portion of the flange material offset away from said one flange of the pair thereby forming on the face abutting said one flange a female groove to receive the male rib on said one flange; and means for selectively securing said side edge together by holding each pair of flanges in abutting relation whereby the ribs on each pair prevent lateral movement of the pair of flanges.

2. The container set forth in claim 1 wherein said last mentioned means comprises a channel member having a first and a second leg joined by a web, said first leg of the channel member having formed on the inner face thereof a male rib adapted to be received in the female groove on said one flange, and the second leg having formed on its inner face a female groove adapted to removably receive the male rib on said other flange of each pair, whereby the channel member may be moved to a position, partially encircling the pair of flanges and will be removably held there by cooperation between the male ribs and the grooves on the flanges and side walls.

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