Systems and Methods for a Container Facilitating the Use and Reuse of Handled Bags

In embodiments of the present invention, a container may comprise a receptacle portion dimensioned to receive a handled bag and at least one handle flange disposed on a top edge of the receptacle to provide a holding fixture for a handle of the handled bag and to facilitate opening the bag, wherein the at least one handle flange flexes to engage a handle opening of the handled bag.
SYSTEMS AND METHODS FOR A CONTAINER FACILITATING THE USE AND REUSE OF HANDLED BAGS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of the following provisional application, which is hereby incorporated by reference in its entirety:


BACKGROUND

[0003] 1. Field
[0004] The present invention generally relates to systems and methods for a container facilitating the use and reuse of handled bags, and more particularly, disposable plastic shopping bags.

[0005] 2. Description of the Related Art
[0006] The ubiquitous plastic shopping bag is produced by the billions and consumes a large quantity of plastic resource and production and disposal energy. These bags typically end up in landfills and represent a squandered resource. This product provides for reuse of these bags, and other handled bags, that encourages people to conserve both by eliminating the need for purpose bought plastic trash bags and by making it easy to recycle using this containment system.

SUMMARY

[0007] Provided herein are systems and methods of a container dimensioned and detailed to provide a holding fixture for the standard range of disposable plastic shopping bags and other handled bags. The container may hold the handled bags in a secure and taut way so as to facilitate disposal into those bags without having objects drop into the cavity outside the bag.

[0008] In an aspect of the invention, a container may comprise a receptacle portion dimensioned to receive a handled bag and at least one handle flange disposed on a top edge of the receptacle to provide a holding fixture for a handle of the handled bag and to facilitate opening the bag. In an embodiment, the container may comprise at least one of plastic, wood, metal, cardboard, and paper. In an embodiment, the handled bag may be at least one of a plastic bag, a paper bag, and a fabric bag. In an embodiment, the handles of the handled bag may be at least one of integral and removably attached. In an embodiment, the container with a disposed handled bag may be useful for at least one of receiving recycling, trash, storage materials, supply materials, produce, groceries, and laundry. In an embodiment, the handle flanges may flex to engage a handle opening of the handled bag. In an example of this embodiment, the handle flanges, when released, may tension the handled bag to keep it taut in the opening of the container. In an embodiment, the container may further comprise slots in the corners of the container adjacent to the handle flanges to provide additional stretching of the material of the handled bag. In an embodiment, the container may further comprise a lid associated with the container by a hinge. In an embodiment, the container may further comprise a lid removably secured to the container.

[0009] In an aspect of the invention, a container system may comprise a receptacle portion of a container dimensioned to receive a handled bag, at least one handle flange disposed on a top edge of the receptacle portion of the container to provide a holding fixture for a handle of the handled bag and to facilitate opening the handled bag, and a containment frame dimensioned to house multiple containers and/or other receptacles. In an embodiment, the container system may further comprise a handle on the containment frame to lift the group containers disposed within the containment frame. In an embodiment, the containment frame may provide registration via its dimensioning and tolerancing so the group of containers can be well aligned visually and functionally and be stable on the ground plane. In an embodiment, the container system may further comprise a lid associated with the containment frame by a hinge. In an embodiment, the container system may further comprise a lid removably secured to the container system.

[0010] In an aspect of the invention, a molded container insert may include a continuous sheet of material molded with handle-flanges to receive the handle openings of a handled bag; a crease in the sheet of material to facilitate folding the sheet to fit within a receptacle; and a tab associated with the sheet of material for securing one edge of the material to the other edge of the material when the edges are brought in proximity to one another. In an embodiment, the container insert may further comprise slots molded into the container insert to additionally stretch the handled bag. In an embodiment, the insert may comprise at least one of plastic, wood, metal, cardboard, and paper. In an embodiment, the tab may insert into a corresponding tab insert on the opposing edge of the sheet. In an embodiment, adhesive may be disposed on the tab to adhere the tab to the opposing edge of the sheet.

[0011] In an aspect of the invention a container may include a receptacle portion dimensioned to receive a handled bag, and at least one handle flange disposed on a top edge of the receptacle to provide a holding fixture for a handle of the handled bag and to facilitate opening the bag, wherein the at least one handle flange flexes to engage a handle opening of the handled bag and when released from the flexed position, tensions the handled bag to keep it taut in the opening of the container.

[0012] In an aspect of the invention, a container system may include a receptacle portion of a container dimensioned to receive a handled bag, at least one handle flange disposed on a top edge of the receptacle portion of the container to provide a holding fixture for a handle of the handled bag and to facilitate opening the handled bag, wherein the at least one handle flange flexes to engage a handle opening of the handled bag and when released from the flexed position, tensions the handled bag to keep it taut in the opening of the container, and a containment frame dimensioned to house multiple containers in an opening of the containment frame.

[0013] In an aspect of the invention, a molded container insert may include a continuous sheet of material molded with handle-flanges to receive the handle openings of a handled bag, wherein at least one handle flange flexes to engage a handle opening of the handled bag and when released from the flexed position, tensions the handled bag to keep it taut in the opening of the container, a crease in the sheet of material to facilitate folding the sheet to fit within a receptacle, and a securing facility associated with the sheet of material for securing one edge of the material to the other edge of the material when the edges are brought in proximity to one another.
These and other systems, methods, objects, features, and advantages of the present invention will be apparent to those skilled in the art from the following detailed description of the preferred embodiment and the drawings. All documents mentioned herein are hereby incorporated in their entirety by reference.

BRIEF DESCRIPTION OF THE FIGURES

The invention and the following detailed description of certain embodiments thereof may be understood by reference to the following figures:

FIG. 1 depicts a perspective illustration of a container showing flexing handles.

FIG. 2 depicts a perspective illustration showing the loading of a plastic shopping bag.

FIG. 3 depicts a perspective illustration showing a contained plastic shopping bag.

FIG. 4 depicts a perspective illustration showing a fixture that associates three containers to create a recycle station.

FIG. 5 depicts a container insert disposed within a receptacle.

FIG. 6 depicts a perspective illustration showing two associated containers.

DETAILED DESCRIPTION

Provided herein are systems and methods for a container dimensioned and detailed to hold handled bags in a secure and taut way so as to facilitate disposal into the bags of recycling items, trash, storage materials, supply materials, produce, groceries, laundry, and the like without having objects drop into the cavity outside the bag.

The terms “a” or “an”, as used herein, are defined as one or more than one. The term “another”, as used herein, is defined as at least a second or more. The terms “including” and/or “having” as used herein, are defined as comprising (i.e. open transition). The term “coupled” or “operationally coupled” as used herein, is defined as connected, although not necessarily directly, and not necessarily mechanically.

Referring to FIG. 1, a container 102 may be dimensioned and detailed to provide a holding fixture for the standard range of handled bags 104 with the depth 108 of the container 102 deep enough to encompass the chosen handled bag 104, such as the largest size standard shopping bag. The container 102 may comprise plastic, wood, metal, cardboard, paper, or some other flexible, semi-rigid, or rigid material. The container 102 may be molded as a single piece. The container 102 may be sized to facilitate use by a user, such as by being dimensioned with additional height greater than the depth of the bag 104. The container 102 may be of any shape, such as round, rectangular, square, triangular, and the like.

In an embodiment, the handles 104 may be disposable plastic shopping bags, paper bags, fabric sacks, and the like. The handled bags 104 may have handles 110 that facilitate carrying and placement within the container 102. The handles 110 may be integral or may be removable attached. For example, the handles 110 may be clipped or otherwise attached to the material of the bag 104 or may be inserted through the material of the bag 104. The handle-flanges 112 of the container 102 may be rigid, semi-flexible, or flexible and provide the locating feature around which the handles 110 of the bag 104 may be fastened. The top opening dimensions and those of the handle-flanges 112 may stretch the bag 104 fully open and hold the bag 104 securely. The side of the bag 104 may be stretched taut so that objects disposed into the container 102 cannot fall outside the bag 104 along its side. The handle flanges 112 may be located along any edge of the container 102. In an embodiment, a handle-flange 112 may be disposed along each of the top edges of the container 102.

In an embodiment, the container 102 may comprise a lid that may be associated with the container by a hinge or may be removably secured to the container. The container 102 with a disposed bag 104 may be useful for receiving recycling, trash, storage materials, supply materials, produce, groceries, laundry and the like within the bag 104. The lid may have an opening or multiple openings through which items may be disposed. The lid may provide instructions as to use of the receptacle. In an alternative embodiment, the container 102 may be used as a recycling, trash, storage, supply, grocery, laundry, and the like vessel without a bag 104 liner.

Referring to FIG. 2, in some embodiments, bags 104 may have handles 110 that facilitate carrying when used for shopping and these handles 110 may be utilized by the container 104 to constrain the bag 104 within the container 102. The handle-flanges 112 of the container 102 may be rigid, semi-flexible, or flexible and may provide the locating feature around which the handles 110 of the bag 104 may be fastened. When a user 202 may fasten the bag 104 onto the container 102, the top opening dimensions and those of the handle-flanges 112 may stretch the bag 104 fully open and hold the bag 104 securely. In an embodiment, the bag 104 may be additionally secured by clipping or otherwise securing the material of the bag to the container.

In an embodiment, the handle flanges 112 may be flexed inward to engage the handle 110 opening of the bag 104 and when released tension the bag 104 to keep it taut in the opening of the container 102. In some embodiments, slots 204 in the corners of the container 102 near the handle flange 112 may provide for additional stretching and securing of the material of the bag 104 and pull the edges of the opening tight to the side of the container 102 so that the side of the bag 104 may be stretched taut to prevent objects disposed into the container 102 from falling outside the bag 104 along its side. In an embodiment, tension may be provided by the flexibility of the material used to create the handle flange 112. In another embodiment, tension may be provided by a tension generating element associated with the handle flange 112, such as a spring, tension cable, or the like.

Referring to FIG. 3, the handle-flanges 112 of the container 102 may be rigid, semi-flexible, or flexible and provide the locating feature around which the handles 110 of the bag 104 may be fastened. When a user may fasten the bag 104 onto the container 102, the top opening dimensions and those of the handle-flanges 112 may stretch the bag 104 open and hold the bag 104 securely. The handle-flanges 112 may be flexed inward to engage the handle 110 opening of the bag 104 and when released tension the bag to keep it taut in the opening of the container 102. Slots in the corners 204 of the container 102 may provide for additional stretching of the material of the bag 104 and pull the edges of the opening tight to the side of the container 102 so that the side of the bag 104 may be stretched taut to prevent objects disposed into the container 102 from falling outside the bag 104 along its side.

Referring to FIG. 4, for certain purposes, such as recycling, laundry sorting, and the like, a user may prefer to have multiple containers 102 to receive the various articles of...
sorted recyclable materials, laundry, and the like. The container 102 may be supported by a containment frame 402 that may house multiple containers 102 and/or other receptacles that may be used for this purpose with or without a bag 104 as a liner. The containment frame 402 may associate containers 102 so that they may be secure and may be lifted as a group. Lifting the group may be facilitated by a handle 404 feature. The containment frame 402 may provide registration 408 via its dimensioning and tolerancing so the group of multiple containers 102 may be well aligned visually and functionally and may be stable on a ground plane 410. In an embodiment, the containment frame 402 may comprise a lid that may be associated with the containment frame 402 by a hinge or may be removable secured to the containment frame 402. In an embodiment, the containment frame 402 may further include a lid. The lid may have an opening or multiple openings through which items may be disposed. The lid may provide instructions as to use of the receptacles disposed within the containment frame 402.

In an embodiment, the container 102 may have parallel walls 604 joined along a bottom edge 602 of the container. For example, the bottom edge 602 may be a continuous piece of material spanning the parallel walls 604, 614 or may only be a connective piece between the corners of the parallel walls 604, 614. The handle-flanges 112 of the container 102 may be rigid, semi-flexible, or flexible and provide the locating feature around which the handles 110 of the bag 104 may be fastened. The container 102 may be structured such that one of the parallel walls 604 of the container 102 is connected to a parallel wall 604 of the adjacent container by a tension-generating element 610, such as a spring. A flexible bend 612 between the parallel wall 604 and the bottom edge 602 allows a user to flex the parallel wall 604 towards the opposite parallel wall 614 of the container in order to engage the handle 110 with the handle flange 112. The spring stretches in order to place the bag and then when the parallel wall 604 is released by the user, the bag becomes taut along the handle flanges in between the parallel walls 604, 614. The parallel wall 614 may be rigid so as to provide a stable surface to support the tension generated by the taut bag. The parallel wall 614 may be angled slightly outward in order to facilitate generating a taut state for the bag. Each bag may be independently insertable and removable.

In an embodiment, the handle-flanges 112 may be separate from the container 102 to facilitate using any receptacle. In an example, any receptacle may be retrofit with the handle flanges 112 of the invention to facilitate use of handled bags in the receptacles. In another example, the handle-flanges 112, and optionally, the slots 204, may molded onto a sheet of material 502, such as plastic, wood, metal, cardboard, paper, or some other flexible, semi-rigid, or rigid material. In an embodiment, the material may be a continuous sheet of material. In an embodiment, a handle-flange 112 may be disposed along each of the top edges of the sheet 502. A user may insert the molded sheet 502 into any receptacle 504 to convert it from a standard receptacle 504 without handle-flanges 112, or optional slots 204, to the container 102 of the invention. In an embodiment, the sheet 502 may have tabs 508 in order to secure one edge of the sheet 502 to the other edge in order to form a shape that may facilitate placement into a receptacle 504. The tabs 508 may insert to a corresponding tab insert on an opposing edge of the sheet 502. Alternatively, the tab 508 may have adhesive, which may be optionally protected by an adhesive overlay prior to use, so that the tab 508 may be adhered to the opposing edge of the sheet 502. Forming the shape may be facilitated by creases in the sheet 502 corresponding to bends in the side of the receptacle 504.

1. A container, comprising:
   a receptacle portion dimensioned to receive a handled bag; and
   at least one handle flange disposed on a top edge of the receptacle to provide a holding fixture for a handle of the handled bag and to facilitate opening the bag, wherein the at least one handle flange flexes to engage a handle opening of the handled bag.
2. The container of claim 1, wherein the container comprises at least one of plastic, wood, metal, cardboard, and paper.
3. The container of claim 1, wherein the handled bag is at least one of a plastic bag, a paper bag, and a fabric bag.
4. The container of claim 1, wherein the handles of the handled bag are at least one of integral and removably attached.
5. The container of claim 1, wherein the handled bag receives at least one of recycled items, trash, storage materials, supply materials, produce, groceries, and laundry.
6. The container of claim 1, wherein the handle flanges, when released from the flexed position, tension the handled bag to keep it taut in the opening of the container.
7. The container of claim 1, further comprising, a slot in a corner of the container adjacent to the at least one handle flange to provide additional stretching of the material of the handled bag.
8. The container of claim 1, further comprising a lid associated with the container by a hinge, wherein the lid covers the container.
9. The container of claim 1, further comprising a lid removably secured to the container, wherein the lid covers the container.
10. The container of claim 1, wherein the handle flanges are disposed on two parallel walls of the container.
11. A container, comprising:
    a receptacle portion dimensioned to receive a handled bag; and
    at least one handle flange disposed on a top edge of the receptacle to provide a holding fixture for a handle of the handled bag and to facilitate opening the bag, wherein the at least one handle flange flexes to engage a handle opening of the handled bag and when released from the flexed position, tensions the handled bag to keep it taut in the opening of the container.
12. A method, comprising:
    dimensioning a receptacle portion of a container to receive a handled bag; and
    disposing at least one handle flange on a top edge of the container to provide a holding fixture for a handle of the handled bag and to facilitate opening the bag, wherein the at least one handle flange flexes to engage a handle opening of the handled bag.
13. The method of claim 12, wherein the container comprises at least one of plastic, wood, metal, cardboard, and paper.
14. The method of claim 12, wherein the handled bag is at least one of a plastic bag, a paper bag, and a fabric bag.
15. The method of claim 12, wherein the handles of the handled bag are at least one of integral and removably attached.
16. The method of claim 12, wherein the handled bag receives at least one of recycled items, trash, storage materials, supply materials, produce, groceries, and laundry.

17. The method of claim 12, wherein the handle flanges, when released from the flexed position, tension the handled bag to keep it taut in the opening of the container.

18. The method of claim 12, further comprising, a slot in a corner of the container adjacent to the at least one handle flange to provide additional stretching of the material of the handled bag.

19. The method of claim 12, further comprising a lid associated with the container by a hinge.

20. The method of claim 12, further comprising a lid removably secured to the container.

21. The method of claim 12, wherein the handle flanges are disposed on two parallel walls of the receptacle.

22-51. (canceled)

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