TRASH AND LEAF BAG FOLDABLE INSERT

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ABSTRACT
A trash and leaf bag foldable insert can be selectively placed into either of at least two differently sized bags, in a folded condition and then expanded to maintain the bag in an open configuration so that the bag can be filled with debris or other material. The insert includes a plurality of upwardly oriented spikes along the top edge for holding larger bags, and another set of upwardly oriented spikes inside openings located below the top edge for holding smaller bags.
TRASH AND LEAF BAG FOLDABLE INSERT

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of Provisional Patent Application No. 61/164,397, filed on Mar. 28, 2009, in the United States Patent & Trademark Office, the disclosure of which is incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] Disposable plastic trash collection bags (made of low density polyethylene, LDPE) have been used commercially since their invention by Harry Wasylyk and Larry Hansen in 1950. Today, plastic bags of various sizes (and made of various materials including LDPE, LLDPE, HDPE, etc.) are used to collect and dispose of trash, including smaller bags for general household trash or garbage as well as much larger bags for yard debris, such as fallen leaves, etc. Conventional trash bags are available in several sizes, including, for example, 33 gallon, and large 55 gallon (i.e., “leaf collection bag”) sizes.

[0003] Since trash and leaf collection plastic bags are not rigid and cannot stand upright on their own, they must be held open in order to place the trash or other debris into the bag. Trash cans or bins can conveniently be used to hold the bag open to fill the bag with the debris or other material. On the other hand, if a large trash can or bin is not readily available, this bag filling process can require two persons to accomplish: i.e., one person to hold the bag open while the second person fills the bag with trash or other debris. This situation requiring two persons typically occurs when very large bags (e.g., 33 or 55 gallon) bags are being filled with large amounts of fallen leaves or other yard debris.

[0004] Thus, occasionally, a large leaf collection bag needs to be filled, such as with fallen leaves and other yard debris, using a 55 gallon bag or similar large collection bag, while on other occasions, smaller quantities of debris need to be collected, which require using a smaller sized bag, such as a 33 gallon or smaller trash bag. Various bag insert devices are already available to keep such bags open to allow a person to fill them without needing another person to hold the bags open.

[0005] U.S. Pat. No. 5,271,589 (Belcous) shows a disposable bag insert to keep a bag open for filling with debris, and including handle holes and a separate attachable funnel. The insert can be initially folded before inserting into the bag.

[0006] U.S. Pat. No. 4,628,007 (Ledsham) shows a trash bag insert including an initially rectangular structure with hand holes and a plurality of pane-like elements, which can be formed into a generally cylindrical shape when inserted into a bag.

[0007] U.S. Pat. No. 6,866,070 (King et al.) shows a bag insert which can be folded along more than one axis for easy storage between use.

[0008] Other similar inserts for keeping a large bag open to be able to fill the bag with debris include U.S. Pat. Nos. 6,536,488 (Pochoreskard), 6,007,030 (Judge), 5,129,609 (Tobin), 4,760,982 (Cooke), 4,940,200 (Sawyer et al.), 4,890,652 (Floener), US Design Patent No. D567464 (Dallum) and British Patent No. GB 2401092 (Ayerst).

[0009] However, none of these documents allow the same bag insert to be usable with two or more very differently sized bags. For example, if the bag insert is too large for the bag being filled, the insert can get in the way of filling, preventing a person from being able to properly fill the bag. On the other hand, if the insert is too small for the bag, the bag will not stay open during filling. The insert must have a size that corresponds generally with a particular size of bag being filled.

[0010] Therefore, there is a need for single bag insert device that can be selectively used to fill very differently sized bags depending on the amount of debris or other waste material being collected in the bags.

[0011] This invention allows one person to selectively fill either a trash or leaf collection bag without using a trash can or bin, by providing an insert that can be placed inside either of the selected bags to keep the bag in an open and upright orientation, so that the bag can be filled with the trash or debris by one person.

[0012] Most particularly, this invention allows a person to use a single bag insert for at least two differently sized bags.

BRIEF SUMMARY OF THE INVENTION AND OBJECTIVES

[0013] It is an object of the present invention to provide a bag insert structure that can be selectively placed into either of two differently sized bags to keep the selected bag open, to allow a person to fill the bag with debris without having a second person hold the bag open during filling.

[0014] It is a further object to provide a bag insert that can be selectively placed into any one of two or more differently sized bags, to keep the selected bag open during filling of the bag with debris or other material.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] FIG. 1A shows a detailed plan view of the inventive bag insert. FIG. 1B shows a close-up elevation view of a spike at the top of a seam between two panels (i.e., a “seam-top spike”). FIG. 1C shows a close-up perspective view of a seam-top spike.

[0016] FIG. 2 shows a perspective view of the inventive bag insert in a substantially completely folded arrangement for storage of the insert.

[0017] FIGS. 3-5 show alternative perspective views of the bag insert in use with different sized bags.

DETAILED DESCRIPTION

[0018] FIG. 1A shows a detailed plan view of the insert, 10. The insert is a substantially rectangularly shaped panel having a predetermined height, H, and width, W. The panel, 10, is made of a plurality of side-by-side panels 20 that are attached to respective adjacent panels at creased seams or dotted lines or score lines 22. The creased seams each may each include one continuous score line or a series of score line segments that may penetrate only a partial distance through the thickness of the seam, or alternatively, may include portions of score line segments that penetrate entirely through the seam. However, the score line or line segments do not extend entirely into the very tips of the spikes as shown in more detail in FIGS. 1B (elevation view) and 1C (perspective view). This feature helps to generally increase the strength of the seam-top spikes to better hold the bag. Similarly, the crease extends only close to, but not entirely to the very tip of the spike.

[0019] The panel can be folded in an accordion-fashion by folding in alternating fold directions into a compact arrangement as shown in FIG. 2. In the folded arrangement, the panel can be inserted into an open bag as shown in FIGS. 3-5.
The panel 10 has a top edge 12 and a bottom edge 14. Along the top edge, 12, a plurality of projections or spikes (40 and 42) are provided for attaching the upper lip of a bag to the top of the insert after it is placed inside the bag. For bags that include an additional handle structure, the handle can be wrapped or mounted over the spikes. One set of these projections 40 are provided at the top edge of each pane 20. Another set of projections 42 are provided at the top of each creased score.

A plurality of first apertures 30 are provided along a line that is spaced below the top edge 12, one aperture in each pane 20. Each first aperture includes a projection (e.g., spike 44). The set of projections 44 in the first apertures provide an attachment for the lip opening of a smaller sized bag than is attached to the projections (40 and 42) along the top edge of the insert. This allows the same insert to be used for two differently sized bags. In others, a bag which is large enough, can be attached to the projections 40 and 42 along the top edge of the bag insert, while another smaller bag which is too small to be attached to those projections, can be attached to the projection 44 in the first set of apertures.

A second set of apertures 32 on a horizontal line spaced below the first set of apertures 30, provides hand-holes for use to hold, raise or insert the panel 10 from or into the bag.

In addition, an upper set of slots (62) provides openings for attaching stakes (not shown) to anchor the insert and bag to the nearby ground area to help support a larger bag (e.g., 55-gallon) during filling. Another lower set of slots (64) provides openings for attaching another, smaller set of stakes (not shown), to anchor and support a smaller bag. The stakes used can be any known to be used for staking smaller outdoor structures, such as tents, and can be made of plastic, wood, or metal, for example. Two or more different sized sets of stakes, or types of stakes, can be provided to accommodate any size of bags, or any type of terrain. Although only two slots are shown in the figure for the upper and lower set of slots, any number can be provided that is suitable for any type of bag, type of debris, or type of terrain.

Thus, the same bag insert can then be made to accommodate any of at least two different sized bags, allowing the user to select among at least two different sized bags to fill with debris or other material.

The inventive panel shown in FIG. 1A has 11 panes with creases between adjacent pairs of panes. However, the inventive structure includes any plurality of side-by-side panes including at least 3 panes, that can satisfactorily hold open a bag in an upright position. Also, the bag insert can be constructed of any suitably rigid material, such as cardboard or other sturdy paper material, or of a plastic material (e.g., polyethylene, etc.) or composite material. Cut-outs, seaming and, scoring are performed on a single piece of blank stock having the overall general shape of the insert as shown in FIG. 1A. The thickness of the panel depends, among various other factors, on the rigidity desired to maintain the bag open, i.e., a thicker panel provides greater rigidity, and the weight of the panel, i.e., a thinner panel provides a lighter weight.

1. A bag support insert for selective use with at least two differently sized bags, a larger and a smaller bag, the insert comprising:

   a single multi-pane foldable panel, having a vertical and a horizontal direction, and a top edge and a bottom edge, including a plurality of side-by-side panes, each pane having the same length and width, the panes being arranged along the horizontal direction and pairs of adjacent panes being foldable in the vertical direction along a crease at their respective common edges, wherein each crease includes a projection at the top edge of the panel for attachment of a portion of a bag, each pane including a projection at its top edge, and a first aperture spaced from the top edge of the panel, each first aperture having a projection along its bottom pointing toward the top edge of the panel for use in attaching a portion of the bag to the panel, alternating panels having a second aperture spaced below the first aperture for use as a handle, whereby the insert can be selectively placed inside one sized bag that is attachable to the set of projections along the top edge of the panel or, alternatively, placed inside a smaller sized bag that is attachable to the set of projections in the first apertures.

2. A bag support insert of claim 1, wherein a combination of at least two sized bags, one bag being smaller than at least one of the remaining bags are used.

3. The bag support insert of claim 1, wherein the panel has a height of approximately 33 inches and a width of approximately 66 inches and the panel includes 11 panes.

4. The bag support insert of claim 1, in which the insert is made of cardboard and in which the panes are formed by creasing the panel.

5. The bag support insert of claim 4, in which the creases between the panes of the panel include one or more score lines that penetrate only partially through the thickness of the panel.

6. The bag support insert of claim 5, in which each score line does not extend entirely into the very tips of the spikes in order to make the tip stronger.

7. The bag support insert of claim 1, in which the insert is made of plastic and in which the panes are formed by creasing the panel.

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