United States Patent [19]

Stolt

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[54] **BAG SUPPORT AND SCOOP**

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[52] **U.S. Cl.** **141/108;** 141/313; 248/101

[51] **Int. Cl.**[2] **B65B 1/04**

[58] **Field of Search** 141/10, 98, 108, 109, 114, 141/313–317; 248/99, 101

[56] **References Cited**

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[57] **ABSTRACT**

A hoop for supporting the lip of a plastic bag in a fully opened condition with clips mating to the hoop for securing the bag therebetween and a scoop integral with a number of the clips to aid in scooping material into the bag.

8 Claims, 6 Drawing Figures

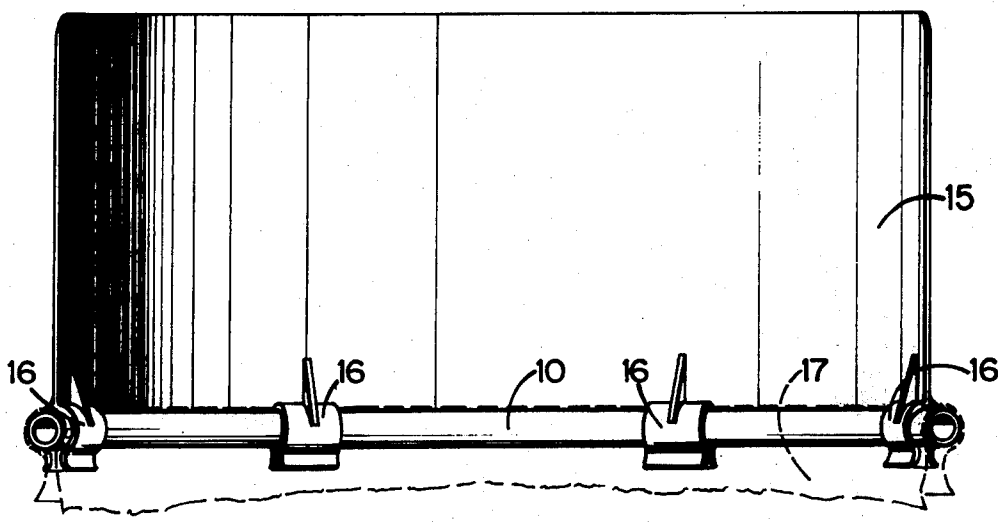
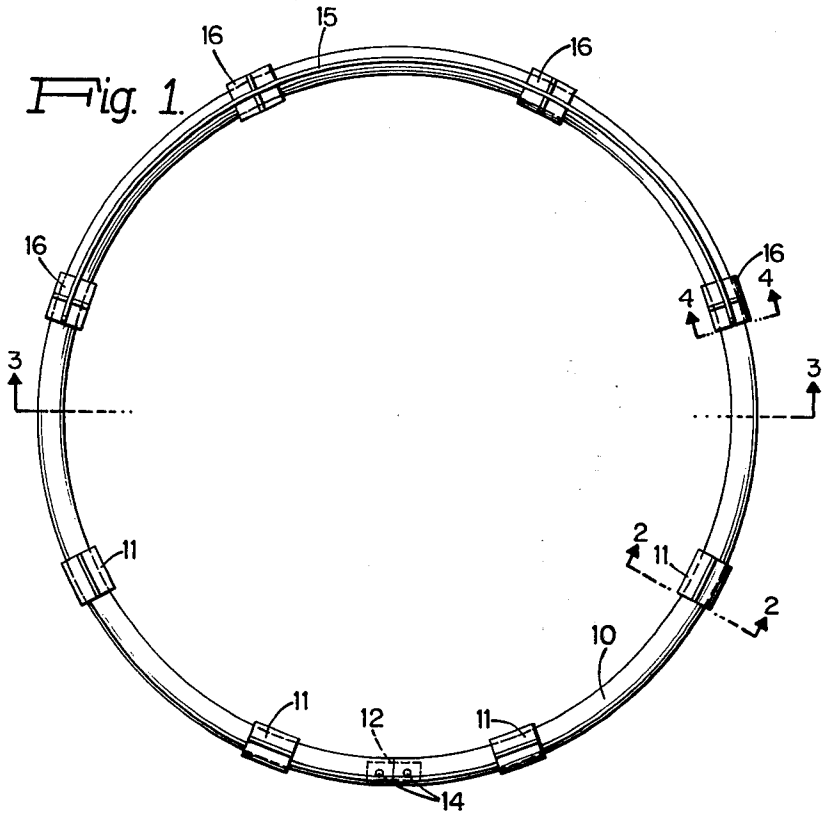


Fig. 1.



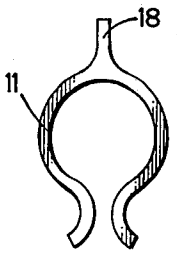


Fig. 2.

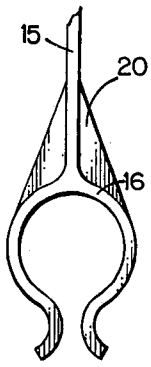


Fig. 4.

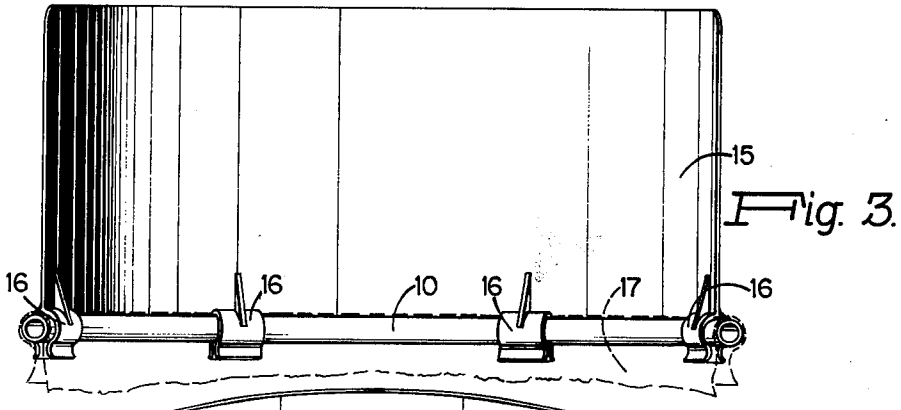


Fig. 3.

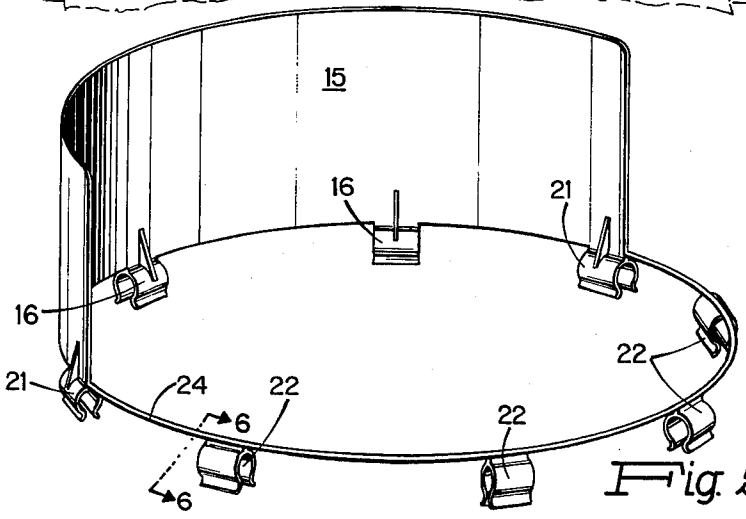


Fig. 5.

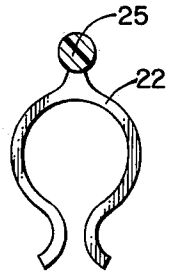


Fig. 6.

BAG SUPPORT AND SCOOP

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to support devices for holding open the mouth of a flexible container and in particular to such a support device including a scoop portion.

2. Description of the Prior Art

Light plastic bags have come into prominent use for trash, garbage, leaves, and the collecting and storing of all manner of lightweight bulky items and materials. When one person tries to hold one of these bags, it is very difficult to fill it at the same time. To overcome this problem, various racks have been made for supporting the entire bag with its mouth open. These racks often have some form of hoop over which the lip of the bag is secured in some manner. These racks are not generally suited for scooping leaves into, but rather the leaves must be lifted and dumped in. If just a hoop were used at the mouth of a bag, it would help a great deal, but the bag tends to collapse behind the hoop so that it is sometimes difficult to push an adequate amount of leaves or other material in before having to raise the bag and shake it down.

SUMMARY OF THE INVENTION

In accordance with the present invention, a bag opening support with scoop is provided which not only facilitates the moving of material toward the bag mouth, but also provides an extended surface for holding an increased bulk of material while the bag is lifted for shaking the material down to the bottom. For this purpose the present invention provides a hoop for supporting the bag lip together with clips for clipping the bag lip to the hoop. A number of the bag clips are made integral with a semirigid scoop which thus acts essentially as part of the bag. A feature of one embodiment is a flexible member holding the individual clips together with the scoop so as to reduce the likelihood of losing individual clips. Thus, it is an object of the invention to provide a novel bag opening support combined with a scoop.

Further objects and features of the invention will become apparent upon reading the following description together with the Drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. **1** is a plan view of the bag opening support hoop with scoop and clips attached.

FIG. **2** is an end elevation of a plastic clip.

FIG. **3** is a section taken along **3—3** of FIG. **1.**

FIG. **4** is a partial end elevation of a clip integral with the scoop of FIGS. **1** and **3.**

FIG. **5** is a plan view of a second embodiment of the bag opening support hoop with scoop and clips attached.

FIG. **6** is an end elevation of a second embodiment of a plastic clip.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Plastic disposal bags are made of thin soft plastic in continuous tubes which are laterally processed at spaced intervals with perforations and heat sealing so that when the tube is torn across the perforations, the section on one side is open while the section on the other side is sealed across. The bags so made tend to lay flat, and in order to hold the open end spread, FIG. **1** depicts hoop **10** about which the lip (top edge) of the bag may be wrapped. Hoop **10** is readily molded from polyethylene or similar plastic as a continuous tube. The tube is bent into a circular hoop and secured by plug **12** over which the ends of the tube pass. Plug **12** is depicted as a wooden dowel to which the plastic may be cemented or riveted. As depicted, rivets **14** are provided which pass through the plastic tubing and the dowel to be headed over on both sides. Instead of the wooden dowel, a plastic or metal plug can be used which may engage the tube by lands and grooves, knobs and apertures or other ready method.

Four clips, **11,** illustrated in end elevation in FIG. **2,** are made of a stiff plastic having a longitudinal opening in the bottom that will spread under pressure to admit hoop **10** into a longitudinal recess. Thus, clips **11** are depicted clipped over hoop **10** at regularly spaced intervals. Raised ridge **18** extends longitudinally along the top of each clip **11** for grasping.

Scoop **15,** integral with additional four clips **16,** has a length in the range of one third to one half the circumference of the hoop and is depicted in FIG. **1** as extending over 150° of the circumference. Scoop **15** is shown in more detail in FIGS. **3** and **4.** FIG. **3** shows a phantom portion of a supported bag **17.** Scoop **15** is made of plastic such as polyethylene, polypropylene, polyester or polystyrene. For convenient use and storage, it is preferably about 8 to 10 inches high, about 1/16 to ⅛ inch thick and is molded flat. Clips **16** are essentially the same as clips **11** except they are integral with scoop **15.** Preferably, additional support struts **20** are molded in also to add some stiffness and additional strengthening between clips **16** and scoop **15.** These struts, oriented perpendicular to the axis of each clip **16,** run from the maximum bulge of the clip up into the scoop. While the strut length is not critical, a length of 1 to 3 inches is suitable. While integral molding of clips **16** with scoop **15** is deemed preferable, clips **16** may also be made integral with the scoop by thermal or other bonding technique.

While for most purposes the clips provide sufficient resistance to rotation for practical use of the scoop, additional rotation resistance is readily obtained by circumferential splines (not shown) around the circumference of hoop **10.** Mating splines (not shown) on the interiors of clips **16** will strongly resist rotation of the clips and connected scoop.

Again not critical, suitable sizes for the bags used generally for leaves and similar refuse are an 18 inch I. D. hoop **10** and a tube diameter of ⅝ to ¾ inch O. D. Clips **11** and **16** are made of a size to fit hoop **10** with a length of about 1 to 2 inches. Since substantial flexural strength is required, particularly in clips **11** and **16** and in scoop **15,** the plastic thickness for these members is determined by the particular plastic utilized and the available specification tables to provide the desired flexural strength.

While scoop **15** is preferably made flat, it will be understood that it at least partially conforms to the curvature of hoop **10** when attached.

FIGS. **5** and **6** depict a further embodiment of the invention incorporating a plastic strip **24** as a connecting strand for all the clips as well as scoop **15.** This serves as an aid both in packaging and in ultimate use by insuring that the clips so not become separated and misplaced or lost. In FIG. **5,** clips **22** all have plastic strip

24 either integrally molded or otherwise bonded to the upstanding graspable portions. Cross-section 25 of plastic strip 24 depicts it as having a circular cross-section about one-fourth inch in diameter. Rectangular or oval cross sections would serve as well, it being primarily desirable that strip 24 is strong enough to avoid accidental breakage in normal use. Clips 21 at the ends of scoop 15 are slightly different from clips 16 only in that the ends of plastic strip 24 are molded or otherwise bonded thereto. While strip 24 is depicted as connected to the top upstanding part of clips 22, it will be seen that this strip may be connected at many alternative points inside or outside clips 22.

While the invention has been described with respect to specific embodiments, many alternative variations are obvious to those skilled in the art. For example, scoop 15 may take on many shapes both in outline and in curvature without departing from the spirit of the invention. Likewise, hoop 10 can readily be square or rectangular. Accordingly, it is intended to cover the invention as set forth within the full scope of the appended claims.

I claim:

1. A bag opening support and scoop combination comprising:

a. a hoop for supporting the opening of a plastic bag;

b. a first plurality of spring clips mating with a first portion of said hoop for clamping a first part of the lip of said bag therebetween; and,

c. a semirigid scoop integral with a second plurality of clips mating with a second portion of said hoop for clamping the remainder of said lip and for providing an entrance scoop to said bag.

2. A bag opening support according to claim 1 wherein said hoop, said clip and said scoop are all molded plastic.

3. A bag opening support according to claim 1 wherein said first plurality of clips each has a spreadable opening at the bottom and a projecting handle portion at the top.

4. A bag opening support according to claim 1 wherein said first and second plurality of clips are all integrally interconnected.

5. A bag opening support according to claim 4 in which said clips are integrally connected by a flexible elongate member connected at spaced distances to each of said first plurality of clips and at each end to one of said second plurality of clips, said second plurality of clips being interconnected by said scoop.

6. A bag opening support according to claim 1 wherein said first plurality of clips are separable and comprise at least half of said first plurality and said second plurality.

7. A bag opening support according to claim 1 wherein said second plurality of clips are clips that grip said hoop to resist deflecting of said scoop about said hoop.

8. A bag opening support according to claim 7 wherein said second plurality of clips are further connected to said scoop by integral struts extending a distance up the sides of the scoop to decrease flexibility between said second plurality of clips and said scoop while increasing the connection strength.

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