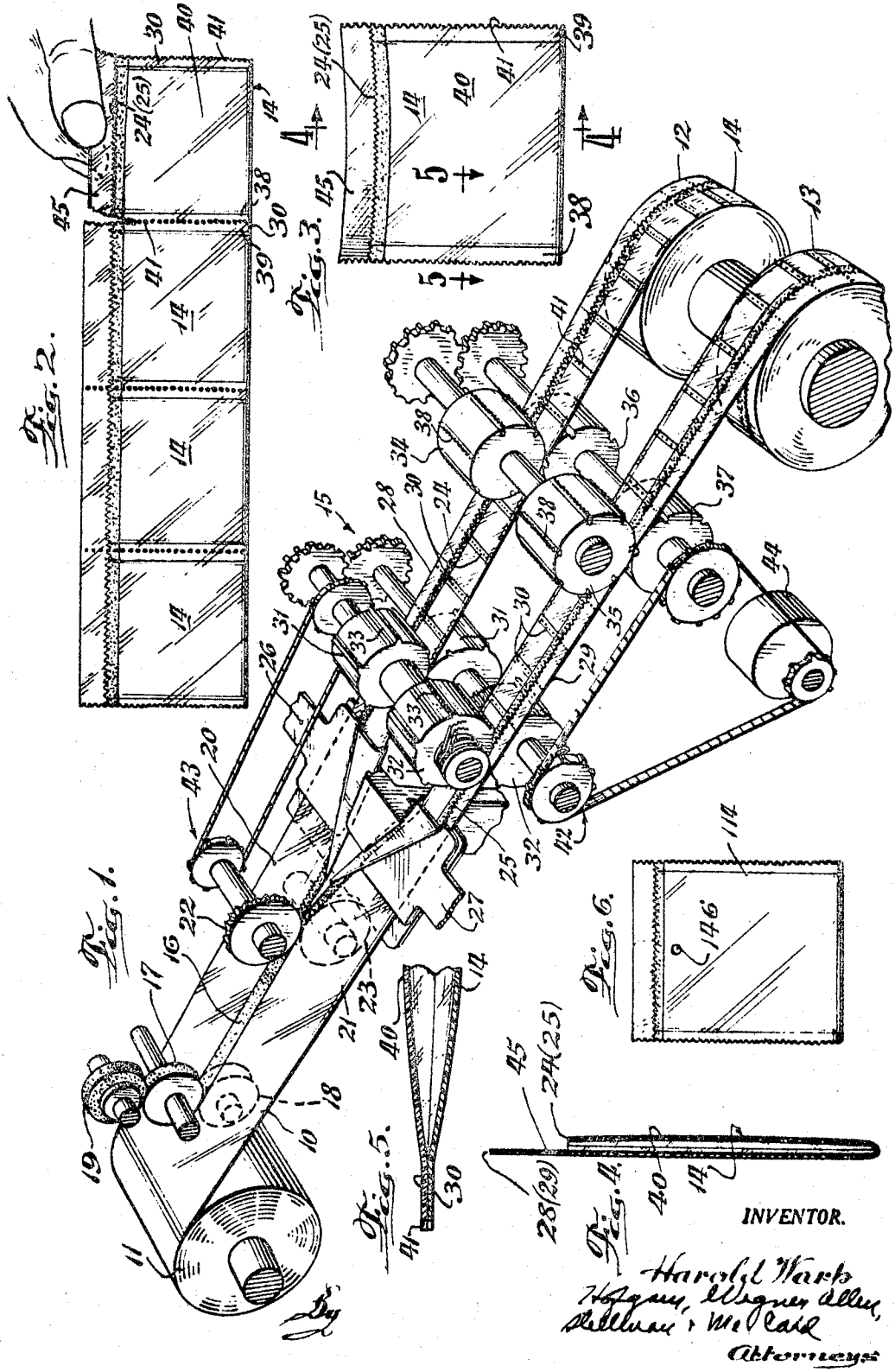
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TEAR-OFF BAG SUPPLY

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3,263,904

# TEAR-OFF BAG SUPPLY

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5 Claims. (Cl. 229—68)

This application is a division of my copending application, Serial No. 153,006, filed November 17, 1961, and now Patent Number 3,194,124.

This invention relates to bags and in particular to bags arranged for facilitated dispensing.

Bags, such as for use by a housewife, have conventionally been provided as separate bags retained in a suitable container to be withdrawn by the housewife one at a time as desired. In one improved arrangement, the bags are arranged in a continuous strip to be torn seriatim therefrom. A serious problem arises, however, in such strip arranged bags, namely the difficulty of opening the bag torn from the strip as the confronting surfaces thereof are urged into facial engagement and resist separation, making it difficult for the housewife to open the bag. This problem is aggravated where the bags are formed of a material such as polyethylene plastic having electrostatic characteristics causing adhesion of the confronting surfaces.

Another disadvantage of the presently known strip arranged bags is the formation thereof from tubular stock which is relatively costly and difficult to control during the bag forming operations.

The present invention comprehends a new and improved bag arrangement providing for facilitated opening of the individual bags subsequent to the dispensing thereof from the strip.

Another object of the invention is to provide such a bag arrangement wherein the portion of the bag to be opened by the user is serrated.

A further object is to provide such a bag arrangement wherein the portion of the bag to be opened by the user is provided with means presenting a different visual aspect from the remainder of the bag to facilitate finding of this portion by the user.

A still further feature of the invention is the provision of a new and improved bag structure for facilitated use as a garbage can liner.

Other features and advantages of the invention will be apparent from the following description taken in connection with the accompanying drawings wherein:

FIG. 1 is a fragmentary perspective view illustrating the formation of a strip of plastic bags embodying the invention;

FIG. 2 is a fragmentary elevation of the strip illustrating the facilitated dispensing of a bag therefrom;

FIG. 3 is an elevation of a dispensed bag;

FIG. 4 is a transverse section taken substantially along the line 4—4 of FIG. 3;

FIG. 5 is a fragmentary longitudinal section taken substantially along the line 5—5 of FIG. 3; and

FIG. 6 is an elevation of a modified form of bag embodying the invention providing for facilitated use as a garbage can liner.

In the exemplary embodiment of the invention as disclosed in FIGS. 1–5 of the drawing, an elongated plastic sheet **10** of a suitable material, such as polyethylene plastic, is provided in the form of a roll **11** for forming a pair of ribbons **12** and **13** of seriatim connected bags **14**.

In illustrating the invention, an apparatus **15** is shown for use in performing the different steps in the forming of the bags **14**; it is to be understood that the apparatus **15** is exemplary only and variations of the mechanism illustrated may be employed for performing these steps. As shown in FIG. 1, the first step in forming the bags **14** comprises the application of a marking ink in the form of band **16** to the upper surface of the sheet **10**. Illustratively, the band **16** may be applied by an inking roller **17** bearing against the upper surface of the sheet, the sheet being held by a subjacent roller **18** bearing against the under surface of the sheet. A conventional ink delivery roller **19** may be employed for delivering ink to the inking roller **17** in the conventional manner.

Subsequent to the placement of band **16** on the sheet, the sheet **10** is cut into two ribbons **20** and **21** by a pair of confronting serrated cutters **22** and **23** longitudinally aligned with the center of the sheet. Thus, the ribbons have either confronting edges **24** and **25** both inked and serrated when they pass from the cutters **22** and **23**.

The next step in the forming of the bags **14** as illustrated in FIG. 1 comprises the folding over of the respective ribbons by suitable guides **26** and **27**. As shown, the ribbons are folded by the guides **26** and **27** along a line displaced from the longitudinal centerline thereof so that the edges **24** and **25** are displaced inwardly of the outside edges **28** and **29** of the ribbons.

From the folding guides, the folded ribbons are next passed to suitable means for bonding the sheets at longitudinally spaced intervals along transversely extending bands **30** thereby defining closed side portions of the successive partially formed bags. As indicated above, the sheet **10** may comprise a thermoplastic material such as polyethylene and, thus, the facial joining of the confronting surfaces of the ribbons to define the bands **30** may be effected by suitable heated cylindrical members **31** and **32** having projecting sealing ribs **33** circumferentially spaced corresponding to the desired bag width.

From the band forming means, the ribbons are delivered to perforating means herein illustratively comprising toothed cylinders **34** and **35** co-operating respectively with grooved cylinders **36** and **37**. The teeth **38** of the cylinders **34** and **35** are arranged linearly transversely across the cylinders and the rows thereof are spaced circumferentially in accurate correspondence with the spacing of the ribs **33** of the rollers **31** and **32** so as to perforate the ribbons **20** and **21** on a line bisecting the bands **30** whereby one-half of each band **30** defines the closed side **38** of a preceding bag and the other half of the band **30** defines the closed side **39** of a succeeding bag. It should be noted that the mid-portion **40** of each bag **14** is spaced substantially from the bands **30** and the perforations **41** therein provided by the teeth **38** whereby the facially confronting portions of the bag may remain substantially free from surface engagement with each other at the edge **24** (**25**) assure a facilitated opening of the bag subsequent to its removal from the strip.

To assure accurate alignment of the perforations **41** and bands **30** and to provide synchronization of the apparatus **15** as a whole, suitable drive means, such as chain drives **42** and **43**, may be provided for driving the apparatus **15** from a suitable drive means such as motor **44**.

In utilizing the bags **14**, the housewife as shown in FIG. 2 merely grasps the end bag and tears across the strip along the line defined by the perforations **41** to separate the end bag from the remainder of the strip. During this separating operation, the projecting edge portion **45** of the bag may be grasped, obviating gripping of the confronting surfaces of the mid-portion **40** of the bag thereby permitting the bag to remain open at the edge **24** (**25**).

The serrated arrangement of the edge **24** (**25**) facilitates the opening of the bag for insertion of material thereinto. The marking of the edge **24** (**25**) further facilitates the opening of the bag, particularly where the

plastic material comprises thin transparent material such as conventional polyethylene sheeting.

Referring now to FIG. 6, a modified form of bag **114** is shown to comprise a bag generally similar to bag **14** but having an opening **146** therein permitting air to pass therethrough. Thus, the bag **114** may be installed in a garbage can by inserting the bag coaxially therethrough and draping the upper end of the bag over the upper edge of the garbage can whereby the bag hangs downwardly therefrom to the bottom of the garbage can. When garbage is dropped into the bag, the bag enlarges laterally to accommodate the garbage and the air between the bag and the inner surface of the garbage can walls is displaced upwardly and outwardly through the opening **146**. Thus, garbage may be added to the bag to substantially fill the entire interior of the can.

While I have shown and described certain embodiments of my invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made without departing from the spirit and scope of the invention as defined in the appended claims.

I claim:

**1.** A bag comprising a sheet of transparent plastic material folded along a line extending longitudinally of the sheet and closely spaced from the longitudinal centerline of the sheet to define first and second facially juxtaposed portions, said portions being joined along their side edges, said bag being open at the end opposite said line, the end edge of the first of said portions of the sheet at said open end being spaced from said line less than the spacing of the end edge of the second of said portions at said open end, one of said end edges being arranged to be juxtaposed to the sheet portion carrying the other of said end edges, the transparency of said sheet material being such as to make the juxtaposed sheet edge substantially invisible when viewed against the sheet portion to which it is juxtaposed, and opaque means on said sheet at said open end for visually indicating the location of one of said edges to facilitate the manipulation of said indicated edge for spacing the sheet portions apart at said open end of the bag.

**2.** The bag of claim **1** wherein said indicating means comprises a band extending fully across said sheet to overlie said side edges of the bag.

**3.** The bag of claim **1** wherein said end edge of said first sheet portion is serrated and said indicating means overlies said serrated edge.

**4.** The bag of claim **1** wherein the end section of said second sheet portion defines a flap adapted to be folded to overlie said end edge of said first sheet portion and thereby close said open end of the bag and said indicating means is arranged to be viewable through said flap to indicate the edge location and thereby facilitate the manipulation of said flap to open the bag by unfolding the flap.

**5.** The bag of claim **1** wherein said first sheet is provided with an opening intermediate said indicating means and said folded line.




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