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Wendel

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[54] **PACKAGE FOR DISPENSING THERMOPLASTIC BAGS AND METHOD FOR MANUFACTURE THEREOF**

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[52] **U.S. Cl.** ..... **206/57 A,** 83/29, 83/30

[51] **Int. Cl.** **B65d 71/00,** B26f 1/24

[58] **Field of Search** ..... 206/57 A, 57 R; 83/29, 30

[56] **References Cited**

UNITED STATES PATENTS

3,312,339	4/1967	Million	206/57 A
3,417,863	12/1968	Paxton	206/57 A
2,997,167	8/1961	Westfall	206/57 A
3,126,094	3/1964	Arnold et al	206/57 A
3,145,839	8/1964	Lowry	206/57 A

FOREIGN PATENTS OR APPLICATIONS

1,008,293	10/1965	Great Britain	206/57 A

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[57] **ABSTRACT**

A dispensing package arrangement for thermoplastic bag structures and the like comprising a stack of superimposed, thin, plastic bags characterized by having a lip formed on the rear bag wall comprising an extension of the bag back wall which extends up beyond the open mouth portion of the bag, i.e. above the upper edge of the bag front wall. A header, or retaining means, is folded over the upper portion of the superimposed bag lip members and its lower edge is positioned so that it is above the open mouth portion of the bag structure. Such a header member hold the plurality of bags in a uniform, stacked alignment.

6 Claims, 3 Drawing Figures

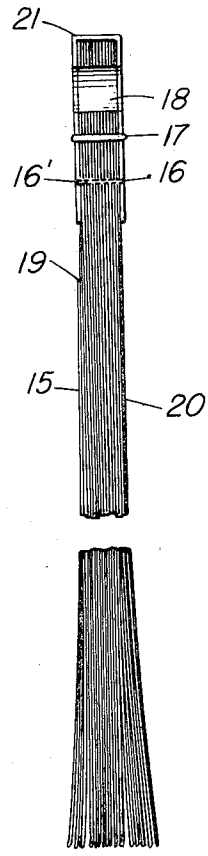
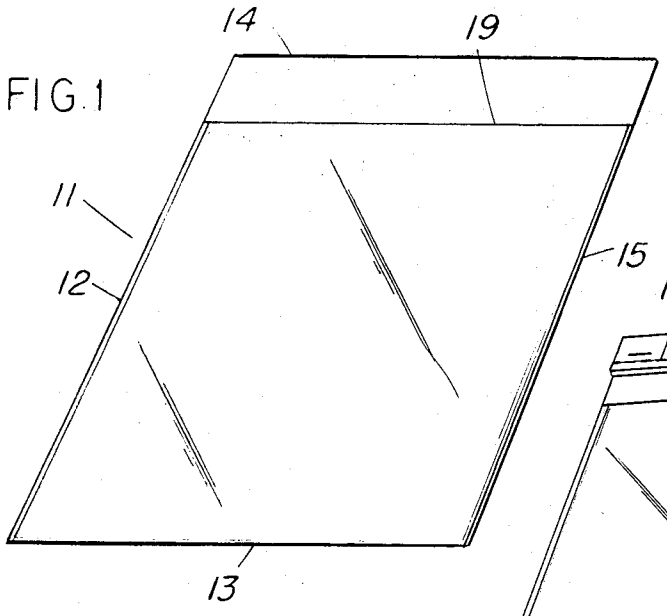


FIG. 1



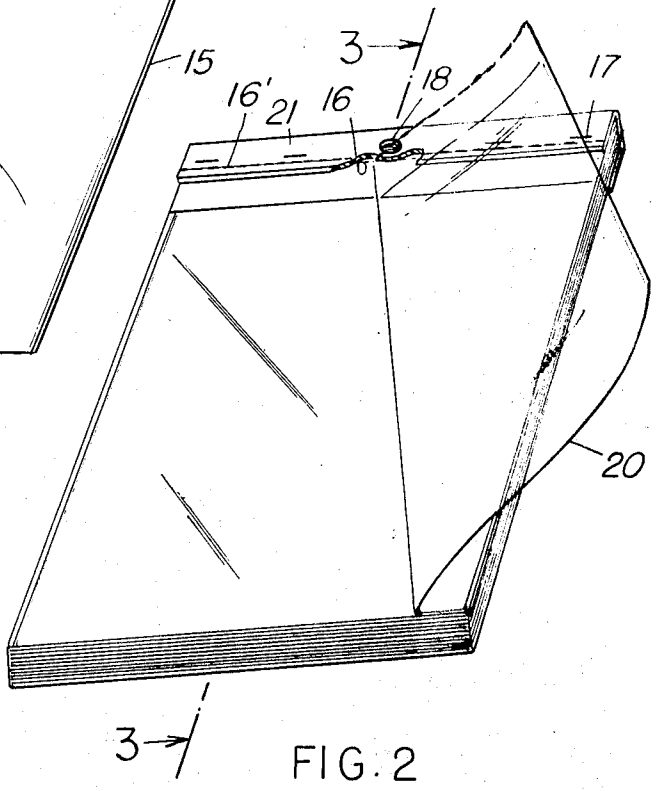


FIG. 2

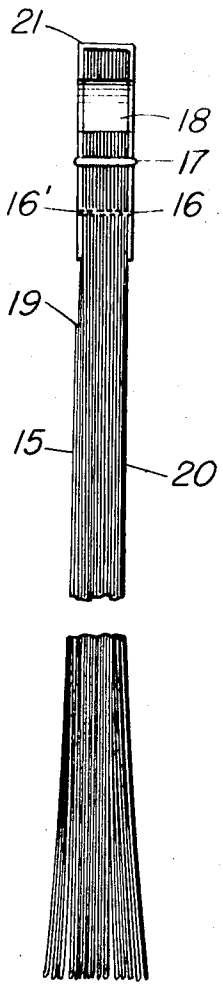


FIG. 3

PACKAGE FOR DISPENSING THERMOPLASTIC BAGS AND METHOD FOR MANUFACTURE THEREOF

BACKGROUND OF THE INVENTION

I. Field of the Invention

The present invention relates to thermoplastic bag packs adapted for employment on automatic packaging equipment such as, for example, Telesonic bag loaders and the like. Such automatic loaders are designed to receive a plurality of packages of thermoplastic bags which are retained on a spring-loaded plate-like member.

The uppermost bag in the plurality of bag packs is opened utilizing a blast of air supplied by the machine to facilitate filling of the individual bag with the items it is desired to package. The individual bags are characterized by having a line of perforations adjacent the upper edge of the bag rear wall so that after a bag has been loaded, the bagged item may be easily removed from the bag package by tearing away the uppermost portion of the bag along its perforated line, thereby freeing it from the bag package.

II. Description of the Prior Art

In the past, dispenser packs for thermoplastic bags which are characterized by having individual lips extending above the rear wall portions of bags in such a pack, i.e. the back wall of the bag being longer than the front wall, have been retained in structured alignment by folding a piece of chipboard, cardboard or the like, which are commonly referred to in the art as bag-headers, along the uppermost portion of of the bag upper wall or "lip" and stapling such a header through the entire stack of bags which constitute an individual pack. The header which retains the bags U.S.Pat. stacked alignment is not perforated, however the bag portions lying adjacent the lower edge of the header front wall contain perforations usually located in the lower portion of the bag wall immediately underlying the upper edge of the bag front wall. Individual bags may be removed from the header retaining means simply by exerting a pulling force at the base or side edges of the bags thereby rupturing the perforated line and freeing the bag from the header. An arrangement of this type is shown and described in U.S. Pat No. 2,997.167. In the prior art, such as that described in U.S. Pat. No. 2,997,167, the bags are perforated individually one at a time. After all of the bags which are to constitute a package of bags have been perforated, the bags are aligned and at that time a header such as the type illustrated in the aforenoted patent is folded around the top of the stack of bags and stapled thereto, thereby securing the bags in an individual stack or package of bags. In order to remove individual bags from such a package of bags the lowermost portion of the bag is manually grasped and pulled free from the header, the upper portion of the bag rupturing along the perforated line as illustrated in the drawings of the aforenoted patent, leaving the upper edge of the bag, i.e. the bag lip, retained in the header. It will be noted that in such an arrangement, i.e. where the bags are pre-perforated prior to being packaged together by overlapping the top of the bags with a header and stapling the header to the uppermost portion of the bags, it is quite difficult, if not impossible to insure that the alignment of the individual perforated lines on the individual bags will not vary due to the difficulties in aligning or manipulating such thin, i.e. on the order of 1 mil or less, bag structures prior to arrangement of the retaining header thereon.

U.S. Pat. No. 3,124,839 discloses a bag pack arrangement comprising a plurality of superimposed side-sealed, thermoplastic bags, the back wall of each bag being characterized by having a lip, the lower edge of which is perforated immediately adjacent the bag opening. A plurality of such bags are pre-perforated and secured together utilizing a chipboard or cardboard header which envelops the upper central portions of the bag lips and is stapled through the extending lip portions of the bag stack to form the completed bag package. It will be noted again that the bags are perforated before the header is afixed to secure the bag package whereby alignment of the perforations of the individual bags in a single bag pack will, as hereinbefore noted, not be uniform. Further it will be noted that when individual bags are removed from such a bag pack the lip portion **60** on the bag back wall of the individual bags is removed so that such a bag, when utilized to package an object, has walls of equal length, affording no extra material at the bag mouth which may be utilized to overlap and seal the open mouth portion of the bag. Further, difficulties have been encountered when utilizing bag packs such as the type disclosed in U.S. Pat. No. 3,145,839 and in particular, when such bags are used on automatic pneumatic bag opening systems such as a Telesonic bag loading machine for example, the bag upper wall as it is automatically blown open, and away from the bag back wall has a tendency to prematurely tear away at perforated line **61** by virtue of force of the blast of air opening the bag. Additionally, as the individual bag package is being used, the lip portions **60** which remain retained in the header and their lower edges exposed below in the header interfere with efficient flow of air into the uppermost bag to provide proper and complete opening of the bag prior to loading thereof.

SUMMARY OF THE INVENTION

The present invention relates to a package of thermoplastic bags comprising a plurality of bags, each individual bag being characterized by having a front wall and a rear wall, the rear wall of the bag extending beyond the upper edge of the front wall thereby forming a bag lip. The bag lip is further characterized by having a perforated line extending completely across the bag lip from one side edge to the other and located at a point approximately intermediate the upper edge of the bag front wall and the upper edge of the bag rear wall lip. The individual bags, which are to form a package of bags, are retained in a uniform, fixed position utilizing a a chipboard or cardboard header for example which envelops the upper edge of the bags' upwardly extending lip located on the rear wall of the individual bags. Such a header is held in place by a plurality of staples which extend through the front wall of the header, through the upper edge of the bag back wall and through the rear wall of the header. The upper edge of the extending lip of the bags' free wall is further characterized by having a plurality of superimposed perforated lines. The perforating operations takes place after the header is affixed to the bag lips whereby the perforations extend completely through the header member and through the superimposed bags themselves. The lower edge of the front wall of the header is positioned

well above, on the order of from about one-fourth up to about 4 inches above the upper edge of the bag front wall.

Materials which may be employed to form the bags contained in the dispenser package of the present invention include thermoplastics such as polyethylene, polypropylene, polybutene-1 and copolymers thereof, other polyolefins, thermoplastic laminates, ethylene-vinylacetate copolymers, non-thermoplastics such as for example cellophane, paper and the like.

BRIEF DISCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the bag structure in accordance with the present invention after it has been removed from a package of bags.

FIG. 2 is a perspective view of a package of bags in accordance with the present invention, the uppermost bag being shown as partially severed from the bag package for purposes of clarity of illustration.

FIG. 3 is a cross sectional view taken on line 3—3 of FIG. 2.

DESCRIPTION OF SPECIFIC EMBODIMENTS

As illustrated in FIG. 1 the bag structures, generally identified as **11**, having been detached from the bag package of the present invention comprise a rear wall **20** and a front wall **15**, integrally joined together along their longitudinal edges **12** and transverse bottom **13**. The upper edge **19** of front wall **15** is not joined to rear wall **20** whereby a bag mouth is provided for filling purposes. It will be noted from FIGS. **1** and **2** that the rear wall **20** of the bag structure extends beyond the upper edge **19** of front wall **15** whereby a bag lip is provided. When such a bag structure is filled with an item it is desired to package such a lip provides a convenient closure whereby it may be folded down to overlap the bag opening at **19** and lip **14** may then be secured to the upper portion of the bag front wall **15**, i.e. using adhesive or other means, thereby affording an effective closure for such a bag structure. As more clearly illustrated in FIGS. **2** and **3** the bag structures of the present invention comprise a plurality of the afore discussed bag, as illustrated in FIG. **1**, in stack alignment, each bag being superimposed upon adjacent bags. The bags are held in stacked alignment utilizing a folded over, semirigid, header **21** which may be formed from a variety of material such as for example relatively thick plastic, chipboard, paper, cardboard, and the like. As shown in FIGS. **2** and **3** the individual bags structures **11** are characterized by having a line of perforations extending across their entire width in the lip area **14**. It will be noted that the header member **21** is also perforated in similar fashion as bag members **11**. The header, which envelops the upper lip portions **14** of the bag structures, is fastened thereto utilizing means such as staples **17**. It will be appreciated that any form of retaining means which securely holds header **21** to the bag stack may be employed within the scope of the present invention. As illustrated in FIGS. **2** and **3** the bag package may be optionally further characterized by having a generally circular aperture **18** located ner the upper portion of the bag package structure and extending throughout the entire thickness of bags and both the front and rear wall of header member **21**. Such aperture **18** may be employed to suspend or position the bag package during filling operations utilizing a spindle or the like which may be placed through aperture **18**.

As illustrated in FIG. **2**, perforated line **16** and **16'** are located at a point approximately midway between the upper edge of the bag back wall and the upper edge **19** of the bag fr6nt wall. The lower edge of header member extends well below perforated line **16** on the individual bags so that after removal of a plurality of bags from such a package that scrap material which remains within the confines of the header does not interfere with ease of bag opening which would be the case if the perforated lines **16** were positioned immediately adjacent or below the front wall of header member **21**.

Although the present invention has been described with preferred embodiments, it is to be understood that modifications and variations may be resorted to, without departing from the spirit and scope of this invention, as those skilled in the art will readily understand. Such variations and modifications are considered to be within the purview and scope of the appended claims.

What is claimed is:

1. A package for dispensing bag structures comprising a plurality of superimposed thermoplastic bags said bags being characterized by having a front wall integrally joined along its edges to a rear wall, an open mouth portion adjacent the upper edges of said walls, said rear wall being further characterized by extending upwardly above the upper edge of said front wall thereby forming a lip portion on the bag, said lip portion being characterized by having a line of perforations extending thereacross approximately midway between the upper edge of the lip and the portion of the back wall adjacent the upper edge of the front wall; said bag dispensing structure being further characterized by having a substantially rigid bag retaining and alignment member, said member being substantially the same width as the width of said bag lips and further characterized by being folded around the upper edges of the super-imposed bag lips and fastened thereto whereby said bags are retained in stacked alignment, said bag retaining means being perforated across its width in alignment with and overlying said line of perforations in said bag lip portion.

2. A package in accordance with claim **1** wherein said retaining member and said bag lips are uniformly perforated throughout their entire thickness.

3. A package in accordance with claim **1** wherein said retaining member is fastened to said bag lip utilizing staples.

4. A package in accordance with claim **1** wherein said upper lip and said retaining member have an aperture extending throughout the thickness of said bag package.

5. A package in accordance with claim **1** wherein said retaining member is fabricated from a member selected from the class consisting of chipboard, cardboard, plastic, and paper.

6. A method for the production of a package of bags as defined in claim **1** whereby said bag lip portions are perforated subsequent to securing said bag structures in aligned and stacked configuration by means of said bag retaining means.

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