Oct. 10, 1967 J. R. MARSH 3,346,104

BAG PACKAGE

Filed Dec. 17, 1964 2 Sheets-Sheet 1

FIG. 1

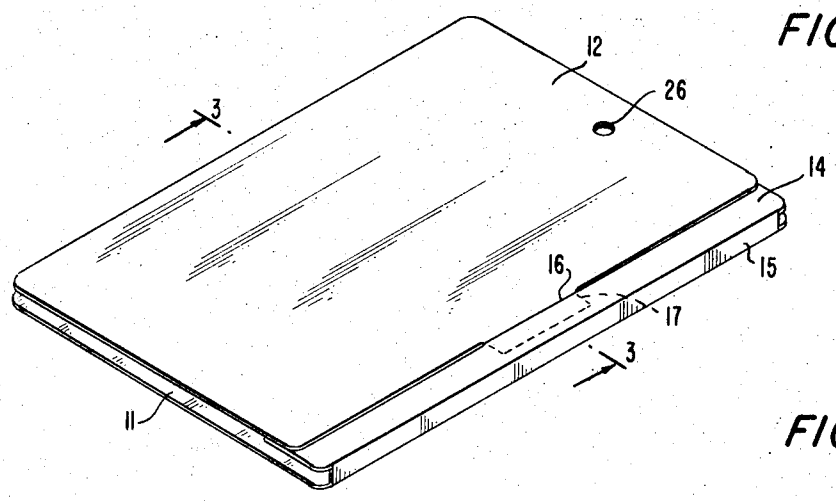


FIG. 4

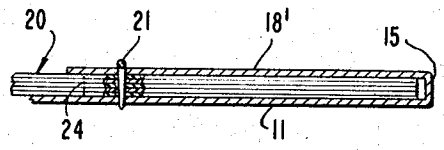
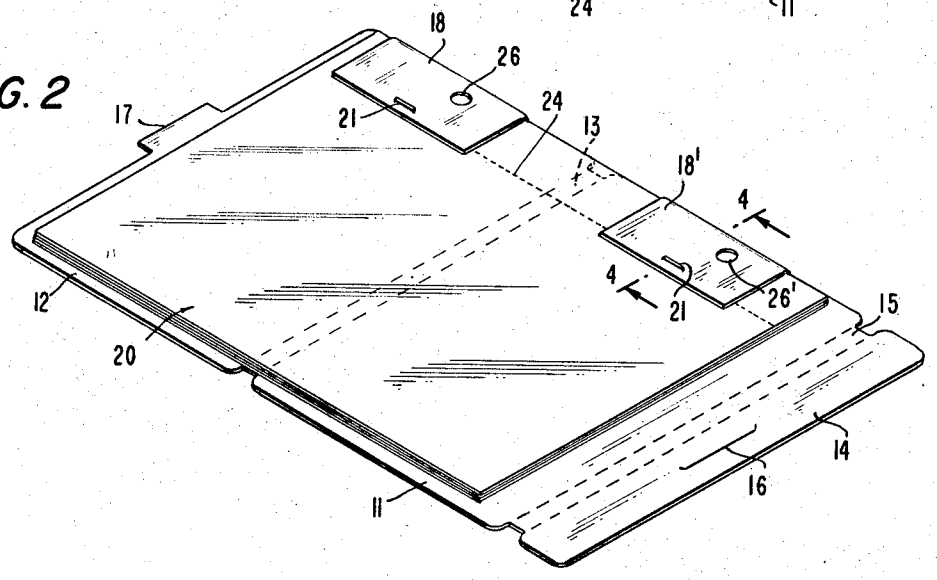


FIG. 2



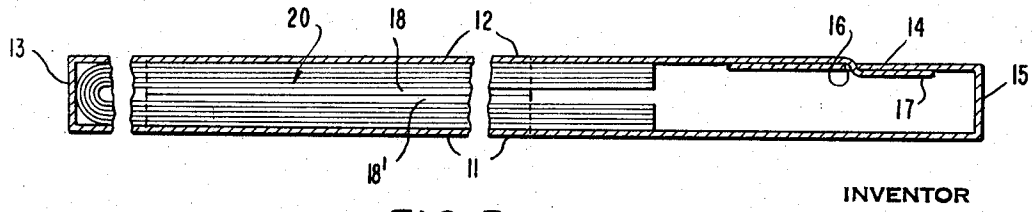


FIG. 3

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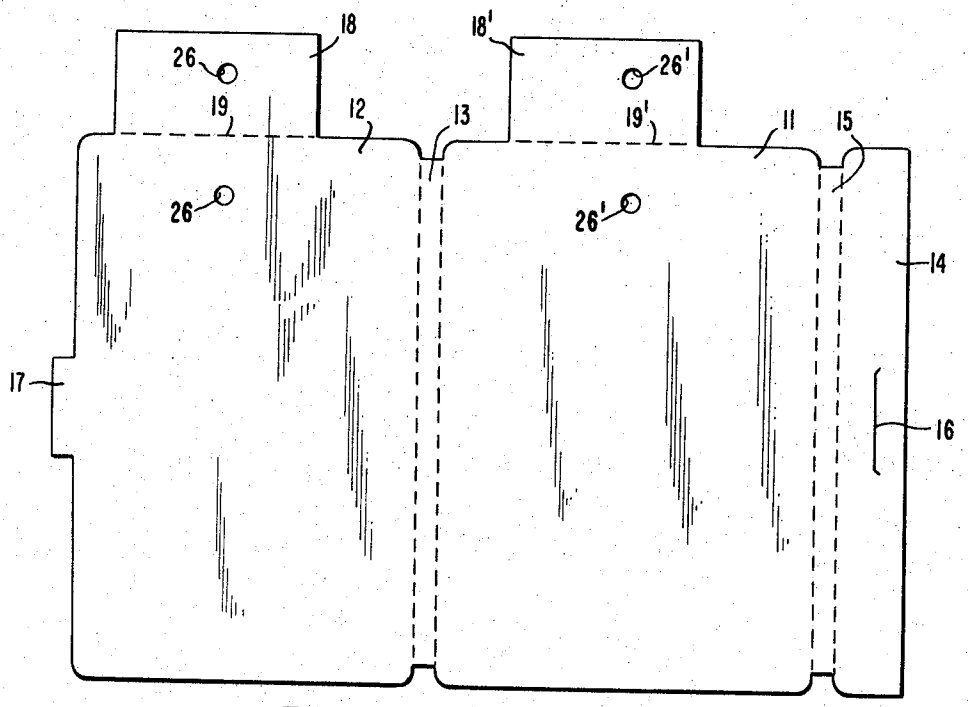

FIG. 5

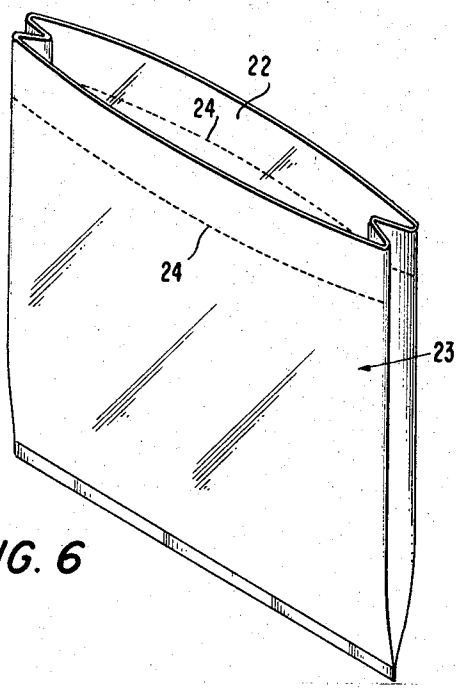

FIG. 6

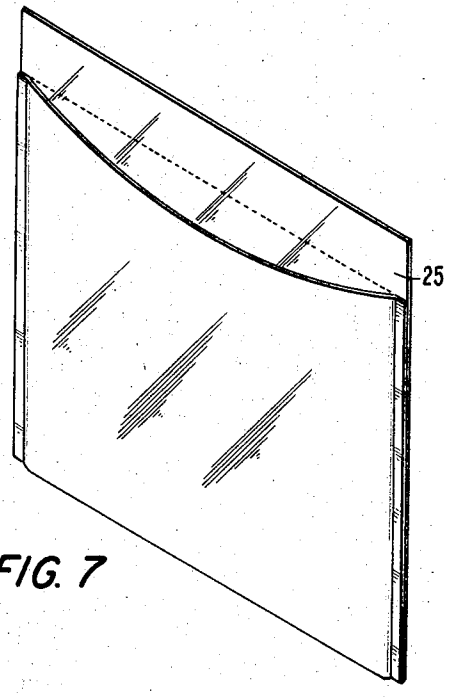

FIG. 7

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3,346,104

BAG PACKAGE

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2 Claims. (Cl. 206—57)

The present invention relates to package structures and more particularly to package structures which may be employed for the packaging of a plurality of bags or bag-like containers.

In the past, there have been numerous techniques employed for the packaging of a plurality of individual bag containers, all of which have certain disadvantages. In particular, plastic bags for example, due to the fact that they are normally fabricated from very thin, limp material which is especially difficult to handle, require very special packaging attention. Additionally, the package must be designed so that the individual bags may be easily dispensed from the package by the user. One package type, commonly employed for the packaging of such bags, is sometimes referred to as a "loose pack." In such a pack, the bags are merely folded or packed flat and then wrapped in an outer covering material such as a paperboard carton or a plastic envelope. An outstanding disadvantage of such a pack is the tendency of bags contained therein to become wrinkled or loose and disorganized after initial use of the pack so that subsequent withdrawal of individual bags by the user becomes quite difficult. Another package type commonly employed for packaging and dispensing plastic bags is the "bag-on-a-roll" package. This type of package constitutes an improvement over the "loose pack" in that the individual bags on the roll are consecutively connected along a perforated line for easy tear-off and the entire roll of bags is usually contained in a paperboard box. However, there are limitations on the ease and speed of dispensing as well as the fact that the user must employ both hands, one to secure the box and the other to draw out a bag from the box. The bag packs of the present invention, in addition to overcoming the inherent disadvantages of the prior art bag packaging systems, offer hitherto unavaliable advantages relative to the packaging systems described above. In particular, the present bag packs offer complete ease of dispensing individual bags as well as maintaining and securing the individual bags in a readily accessible, neat, superposed order during the dispensing operation and also forming a convenient storage pack for the unused bags.

More particularly, the bag packs of the present invention are useful for packaging thin bags, as for example thin plastic bags, which are fabricated having a line of perforations extending transversely across the entire top portion of the bag. The bags are then stacked together, one on top of the other, forming a flat stack of bags having perforated top portions in substantially superposed alignment with one another. The number of bags constituting a complete stack may naturally vary depending on the quantity of bags which are desired in a single pack. Subsequently, the stack of bags is packaged in the container pack of the present invention.

For a more complete understanding of the package structure of the present invention and for purposes of illustration, reference may be had to the accompanying drawings.

FIG. 1 is a perspective view of the bag pack of the present invention;

FIG. 2 is a perspective view of the bag pack shown in FIG. 1, but in an open condition to further illustrate the structure of the assembly;

FIG. 3 is a cross-sectional view along line 3—3 of FIG. 1;

FIG. 4 is a cross-sectional view along line 4—4 of FIG. 2;

FIG. 5 is a face view of a blank from which the container, constituting a part of the present invention, is made; and

FIGURES 6 and 7 are illustrative examples of the types of bag construction which may be employed in the dispenser pack of the present invention.

The package structure, illustrated in FIGS. 1 through 5, comprises a continuous protective sheet enclosure having a backing sheet **11** and a cover sheet **12** secured to said backing sheet with an integral connecting hinge member **13**. Along the opposite longitudinal edge of backing sheet **11** locking lip **14** extends longitudinally thereof and is affixed thereto by hinge member **15**. Locking lip **14** contains a longitudinal slit **16** which is substantially centrally located in said lip. Cover sheet **12** has a locking tab **17** extending along the side edge thereof of substantially the same length as longitudinal slit **16** contained in locking lip **14**, whereby, when cover sheet **12** is folded around hinge member **13** and over backing sheet **11**, backing sheet **11** and cover sheet **12** are secured in superposed relationship by the insertion of locking tab **17** into the longitudinal slit of locking lip **14**.

The bags themselves are secured in this package structure by a pair of bag retaining flaps **18** and **18'** extending transversely across the upper edges of cover sheet **12** and backing sheet **11** respectively. These flaps are adapted to be folded downwardly along the prescored hinge lines **19** and **19'**. As illustrated in the drawings, a superposed stack of bags **20** perforated transversely near their open ends, as illustrated in FIG. 6, is placed upon the backing sheet and cover sheet portion of the continuous protective enclosure of the present invention. The bag retaining flaps **18** and **18'** are folded down over the top portion of said bag stack and are secured thereto by means of wire staples **21** or other suitable fastening means, which are passed through folded down retaining flaps **18** and **18'**, upper end portion **22** of the bags and finally through cover sheet **12** and backing sheet **11** respectively, thereby firmly securing the top portion of each individual bag to the container. As illustrated in FIG. 6, the upper end portion **22** of the bags is that area of the bag intermediate, the transverse perforate line and the open mouth of the bag. The staples, or other suitable fastening means are affixed to and secure the bags in this area. Thus, the fastened upper end portions of each bag constitutes the connection of the bag to the continuous protective cover and to the other bags fastened to the protective cover. Such an arrangement allows the free suspension of the bags in front of the backing sheet and the cover sheet, so that each may be removed individually by merely grasping the bottom of the bag and tearing it off across the transverse perforate line which separates the upper end portion of the bag from the bag proper **23** in FIG. 6. The package facilitates ease of removal of the individual bags from the container without disturbing the arrangement of the other bags which remain firmly secured to the container and ready for dispensing.

As heretofore described, when the bag dispenser is not in use, the package may be closed to afford protection to the remainder of bags by folding cover sheet **12** around hinge member **13** and inserting locking tab **17** into slit **16** of locking lip **14**. As illustrated in FIG. 3, when the dispenser pack is in a closed position, the stack of bags contained therein necessarily assume a folded over configuration, i.e. they are folded longitudinally approximately along their center, and when the pack is open the stack of superposed bags again assumes a flat, unfolded configuration as illustrated in FIG. 2.

It has been found that when particularly thin gauge bags are arranged in a superposed stack, such as polyethylene or polypropylene for example, it is sometimes difficult to grasp the bottom of a single bag so that it may be removed by merely pulling the bottom of the uppermost bag and thereby tearing it across the transverse perforate line described above. There is a definite tendency for the bags to cling and stick together so that it is difficult to grasp the bottom of the uppermost bag in the stack without disturbing or having the remainder of the bags interfere with the rapid removal of a single bag. Moreover, if bags are dispensed or torn off in such a manner, when the user attempts to open the top portion of the bag which has been severed along the transverse perforate line, there is a tendency of the edges of the bag top to stick or block together thereby necessitating extra handling by the user to gain access to the interior of the bag.

The structure of the present dispenser pack remedies the foregoing dispensing problems by allowing access to the transverse perforated line located at the top portion of the uppermost bag in the stack. As illustrated in FIG. 2 bag retaining flaps **18** and **18'** are located in such a manner so as to leave exposed a portion of the transverse perforate line extending across the uppermost bag in the pack, in an area intermediate the retaining flaps. This enables a user, when dispensing individual bags from the dispenser, to draw, using slight finger pressure, down across exposed portion **24'** of the perforate line, thereby easily rupturing the perforate line across the upper, exposed side of the uppermost bag and by continued drawing in a single downward motion, severing a single bag from the stack of bags and simultaneosuly opening the bag itself to allow for immediate access to the bag's interior. Thus, in a single continuous movement, the individual bag is easily separated from the remainder of bags in the stack, severed from the retaining means, and opened for immediate use.

It will be understood that for large bags, i.e. bags whose length exceeds the desired finished package length, the bottom portion of the bags may be folded over to the extent required by the final package length, and the cover sheet folded over the folded bag stack and locked into place as described above.

When the individual bags, for use with the package of the present invention, are fabricated, the bags are formed so that their finished length exceeds the length of the bag required for final use. This extra material is separated from the bag proper as the bag is dispensed by tearing across the perforate line, the extra material remaining secured, by the staple retaining means, to the container itself. The exact length of the extra material, i.e. the distance between the bag top and the transverse perforate line, may vary depending upon the type of bags that are packaged, however, for purposes of the present invention it has been found that from about 0.5 inch to about 1.5 inches of extra material is generally suitable, i.e., the transverse perforate line along which the bag is severed may be located, for example, from about 0.5 inch to about 1.5 inches below the open bag top.

The bags which may be packaged in the dispenser pack of the present invention are generally of a design common to this type of bag. For example a bag as illustrated in FIG. 6, is essentially a flattened tube of plastic film sealed along the bottom edge and opened along the top portion thereof. A transverse line of perforations **24** extends transversely across the top portion of the bag to facilitate ease of removal of the individual bags from the dispenser pack of the present invention.

FIG. 7 illustrates another type of plastic bag which may be employed with the present dispenser pack. In this instance the bag, again, is essentially a flattened tube of thermoplastic closed at the bottom and open at the top. This type of bag, however, differs from the bag illustrated in FIG. 6 by virtue of the fact that the back wall portion

is slightly longer than the front wall thereby forming a lip extension **25** extending beyond the open bag mouth. This type of thermoplastic bag is commonly referred to as a side-seal bag. When this type of bag is employed in the dispenser pack of the present invention, a transverse perforate line extends across the entire length of said lip portion at its base or adjacent to the open mouth of the bag. When this type of bag is fastened in the present dispenser pack only the lip extension **25** of the bag is engaged by the staple fastening means, so that when an individual bag is dispensed by tearing across the perforate line, bag lip extension **25** remains fastened to the dispenser pack.

The thermoplastic bags employed in the present invention may also be gussetted along their bottom or side edges dependent upon their end use application.

It may be desired to suspend the package structure of the present invention at a convenient height while bags are being dispensed from the package. This may be accomplished by providing the package with apertures, **26** and **26'** in FIG. 2, extending through retaining flaps **18** and **18'**, the upper portions of the bags above the transverse perforate line, and through the upper edges of cover sheet **12** and backing sheet **11** respectively. These openings, extending through the top of the bag pack, allow for convenient suspension of the pack on any suitable extension or protrusions, such as a pair of spaced apart nails for example, either when the bags are being dispensed or when the pack is not in use.

In some instances, in order to protect the contents of the bag pack of the present invention from contamination, which may enter through the open side edges of the pack, it has been found desirable to encase the entire package of bags in a thermoplastic, tight-fitting, continuous, protective enclosure. This may be accomplished by inserting the bag pack into a bag or pouch constructed of a thermoplastic, heat shrinkable, film such as polyethylene, irradiated polyethylene, or polypropylene for example. Next, the top of the pouch containing the bag package is sealed. Finally, the exterior of the thermoplastic encased package is exposed to heat, sufficient enough to cause the pouch to shrink tightly about the package, thereby providing the bag package with a tight-fitting, continuous protective enclosure. When the package is ready for use, the thermoplastic protective covering may be easily removed from the bag pack by simply tearing it open.

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 in the purview and scope of this invention.

What is claimed is:

1. A package of bags comprising a superposed stack of thermoplastic bags, each of said bags having a transverse line of perforations extending across the top portion thereof; a continuous protective cover enclosing said stack of bags, said cover comprising a backing sheet and a cover sheet hinged together along a side edge and upon which the bags are stacked, a pair of bag retaining flaps extending transversely across the upper edge of said backing sheet and said cover sheet respectively, and folded over the top portion of said bag stack and fastened thereto; said pair of bag retaining flaps being further characterized in that they are spaced apart whereby a central portion of said perforate line is exposed when said package is in an open condition; a backing sheet locking lip hinged along the side edge of said backing sheet, said lip containing a centrally located slit, a locking tab extending along the side edge of said cover sheet and adapted for insertion into said slit when said package of bags is closed by folding said cover sheet over said backing sheet.

2. A package of bags as defined in claim 1 wherein said package is encased in a tight-fitting, continuous thermoplastic protective enclosure.

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