Aug. 29, 1967 F. ALTMAN, JR 3,338,398

FLEXIBLE PLASTIC BAG PACKAGE

Filed July 29, 1966 2 Sheets-Sheet 1

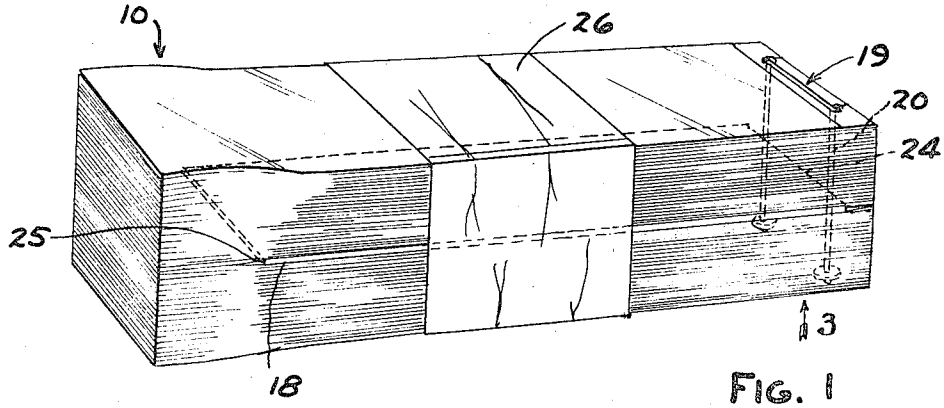


FIG. 1

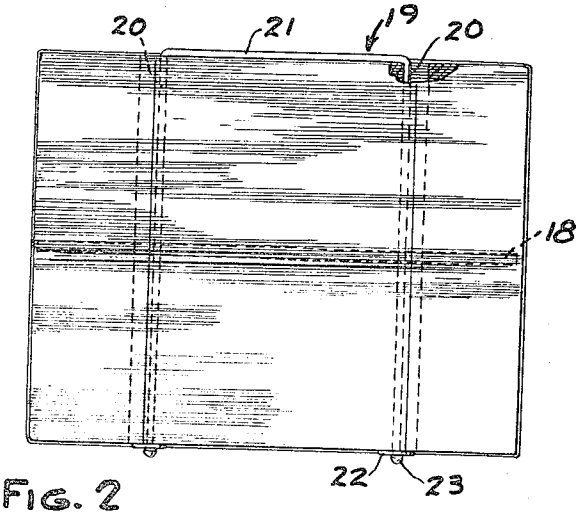


FIG. 2

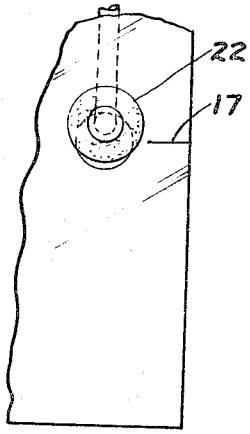


FIG. 3

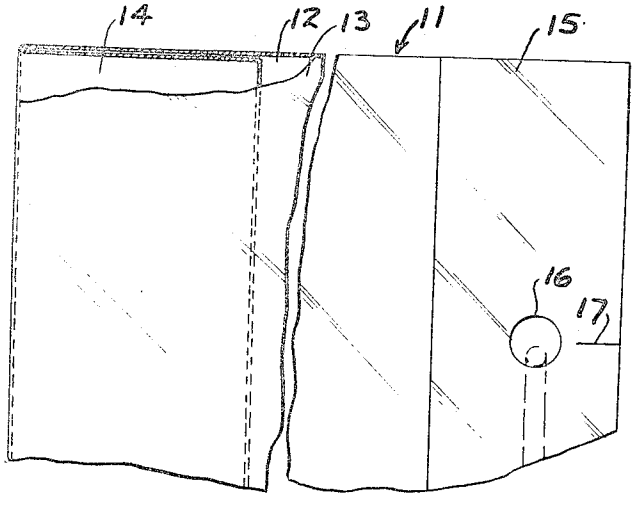


FIG. 5

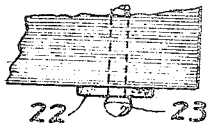


FIG. 4

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Filed July 29, 1966 2 Sheets-Sheet 2

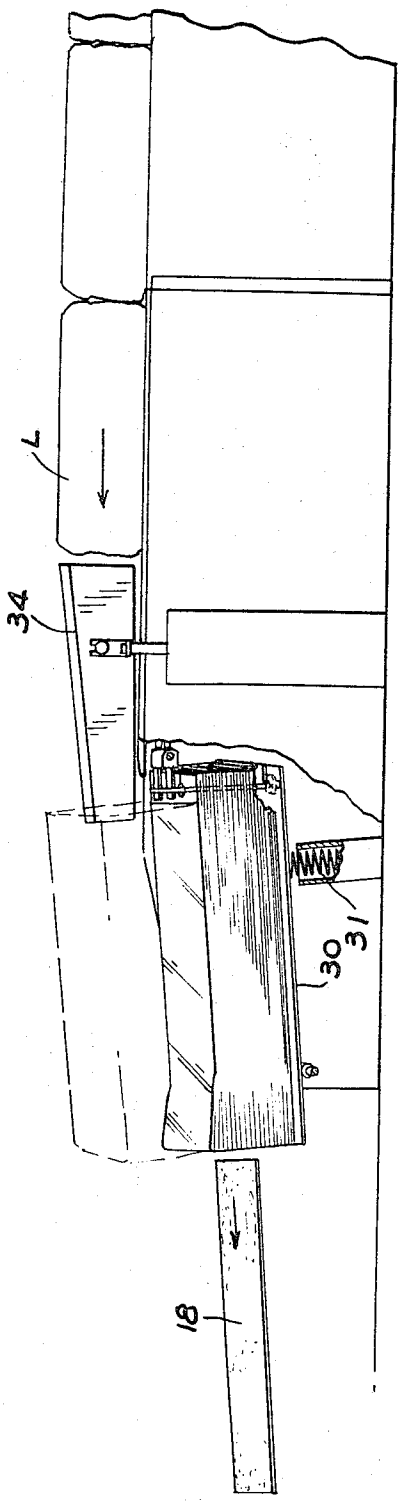


FIG. 6

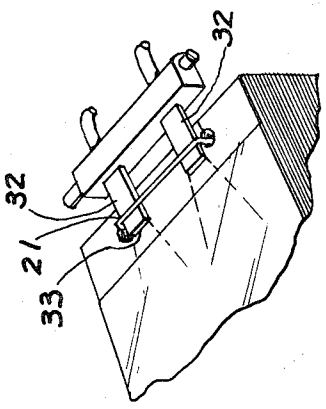


FIG. 7

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FLEXIBLE PLASTIC BAG PACKAGE

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Filed July 29, 1966, Ser. No. 568,940
6 Claims. (Cl. 206—57)

This invention relates to the handling of flexible organic plastic bags and particularly to a package of such bags.

In the packaging of bakery products and the like, it has become conventional to use thin flexible plastic bags which are made of organic plastic such as polyethylene and have a thickness of less than three or four mils.

As is well known, the handling of such bags is extremely difficult because they are very thin and smooth and tend to slip relative to one another. One successful system for handling the bags is shown in the patent to Altman 4,044,233, issued July 17, 1962.

It is an object of this invention to provide a novel package which can be readily handled; which will effectively maintain the bags in proper relation to one another during handling; and which can be readily placed upon a machine to retain the bags in position for operation of the machine.

In the drawings:

FIG. 1 is a perspective view of the package embodying the invention.

FIG. 2 is an end view taken from the right of FIG. 1.

FIG. 3 is a fragmentary view taken in the direction of the arrow 3 in FIG. 1.

FIG. 4 is a fragmentary side elevational view of a bottom corner of the package on an enlarged scale.

FIG. 5 is a fragmentary part sectional plan view of a bag utilized in the package.

FIG. 6 is a partly diagrammatic side elevational view of a machine in which the package may be used.

FIG. 7 is a fragmentary perspective view of the machine shown in FIG. 6.

Referring to FIG. 1, the package **10** embodying the invention is made of a plurality of organic plastic bags such as polyethylene having a thickness on the order of less than three to four mils. Each bag **11** (FIG. 5) comprises a pair of walls **12, 13** which are joined together on three sides. Along the bottom edge of the bag, the bag may be folded inwardly as at **14** to form what is know as a gusset bottom. Alternatively, the two walls may be joined together along a straight line to form a plain bottom bag. The bottom wall **12** of the bag is longer than the wall **13** to form a lip **15**. Each lip **15** is provided with a pair of spaced openings **16**. A slit **17** extends from the edge of the bottom wall **12** to a point adjacent but spaced from each opening **16** to provide a line of weakness in the lip.

The bags **11** are stacked one upon the other with the openings **16** in alignment. Intermediate and substantially halfway between the top and bottom bags of each package, a rigid reinforcing member **18** of cardboard or the like is provided. A fastening member in the form of a bent wire **19** having spaced legs **20** connected by a bight portion **21** is positioned above the pile of bags and the legs **20** are moved downwardly through the aligned openings **16**. The bight portion **21** thus rests on the lip of the topmost bag **11**. A rubber washer **22** (FIGS. 3 and 4) is then pushed over the enlarged end **23** of each leg **20** and is frictionally held thereon to retain the bags and, in turn, the package in assembled relation.

As shown in FIGS. 1 and 2, reinforcing member **18** is substantially rectangular and has a width substantially equal to the width of the bags. The length of the reinforcing member **18** is such that one end **24** thereof terminates adjacent the legs **20** and the other end thereof terminates short of and in spaced relation to the ends of the bags, preferably before the gussets as at **25**. By terminating the reinforcing member **18** short of the gussets, additional space is provided to accommodate the increased thickness of the gussets.

Finally, in order to complete the package, a frangible band such as paper band **26** is wrapped around the package transversely and the ends are fastened to one another as by gluing.

When made in the fashion described, the package can be readily handled during shipping. When it is desired to use the package on a machine such as shown in FIG. 6, it is inserted upon the platform **30** which is yieldingly urged upwardly by a spring **31**. The bight portion **21** of the fastener on the package is engaged over one or more locating and guide elements **32** on the machine. The operator then removes the band **26** by tearing or cutting it and withdraws the reinforcing member **18**. The spring loaded platform **30** urges the bags upwardly against the locating and stop members **32**. The topmost bag of each bag is expanded by air emanating from nozzles **33** so that the articles to be packaged, such as loaves of bread L, can be fed manually or otherwise through a guide trough **34** into each bag. In accordance with well known practice, the insertion of the loaf of bread L into the bag and continued movement of the loaf of bread causes the topmost bag to be torn from the fastener **19** along the weakened lines exposing the next bag and permitting the air to open the next bag.

As shown in FIG. 6, the platform **30** terminates short of the ends of the legs **20** and alternatively has openings therein to permit the legs **20** to pass freely therethrough and the bags to be yieldingly urged upwardly against the stop **32**.

It can thus be seen that there has been provided a package which permits the bags to be readily handled and inserted into a machine.

I claim:

1. A flexible plastic bag package comprising
a plurality of flexible plastic bags,
each said bag comprising two contiguous walls when the bag is in folded condition,
one of said walls extending beyond the other to form a lip,
said lip having a pair of spaced openings therethrough,
said bags being positioned with said openings in alignment and the shorter wall facing upwardly,
a U-shaped fastening element having a pair of legs connected by a substantially straight bight portion,
said legs extending downwardly through said openings with the bight portion extending across the top of the package,
fastening means on the lower ends of said legs,
a substantially rigid reinforcing member interposed substantially midway between the topmost and bottommost bags,
said reinforcing member terminating at one end substantially adjacent said legs,
and confining removable means extending transversely about said pile of flexible bags intermediate the ends thereof.

2. The combination set forth in claim **1** wherein said reinforcing member is substantially rectangular and extends substantially to the sides of said bags,
the other end of said member terminating in spaced relation to the bottom of the bags.

3. The combination set forth in claim **1** wherein each said bag has a gusset bottom,
said reinforcing member having the other end thereof adjacent the gusset terminating short of the gusset.

4. The combination set forth in claim 1 wherein said frangible strap comprises a paper band.

5. A flexible plastic bag package comprising

a plurality of flexible plastic bags,

each said bag comprising two contiguous walls when the bag is in folded condition,

one of said walls extending beyond the other to form a lip,

said lip having a pair of spaced openings therethrough,

said bags being positioned with said openings in alignment and the shorter wall facing upwardly,

a U-shaped fastening element having a pair of legs connected by a substantially straight bight portion,

said legs extending through said openings with the bight portion extending across the top of the package,

a rubber washer frictionally engaging the lower end of each said leg,

a substantially rigid paper reinforcing member interposed between the topmost and bottommost bags,

said reinforcing member terminating at one end substantially adjacent said legs,

said reinforcing member being substantially rectangular and extending substantially to the sides of said bags,

the other end of said member terminating in spaced relation to the bottom of the bags,

and confining removable means extending transversely about said pile of flexible bags intermediate the ends thereof.

6. The combination set forth in claim 5 wherein each said bag has a gusset bottom,

said reinforcing member having the end thereof adjacent the gusset terminating short of the gusset.

References Cited

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LOUIS G. MANCENE, *Primary Examiner.*