ABSTRACT OF THE DISCLOSURE

A package wherein the articles being packaged are enclosed with shaped partitions and held in desirable packed arrangement by an enveloping flexible bag.

This invention relates to a package in which the articles being packaged comprise the structure defining the shape of the package and wherein the articles being packaged are enclosed and held in desirable packed arrangement by an enveloping flexible bag.

The package disclosed herein and the method of forming it make possible a simple air-tight and water-tight inexpensive package particularly suitable for a plurality of lightweight objects such as, for example, empty polyethylene bottles. The flexible bag used is preferably formed of plastic film such as polyethylene of a gauge heavy enough for the intended purpose and strong enough to hold the assembly of articles being packed in the predetermined and desirable arrangement. The bag is such that it may be preformed as a tubular shape with one end closed and sealed and the other left open so that the various articles may be positioned therein as, for example, by a suitable machine which will assemble and hold the articles in assembled relation while they are inserted in the bag. The open end of the bag is then gathered and secured in air and water-tight relation by a clamping ring to complete the package.

An essential portion of the package comprises a pair of semi-rigid partition members such as portions of cardboard or the like, one of which forms a vertical centrally located partition in the package of a width and height the same as the finished package and the other of which forms a top portion inside the bag of the width and depth of the finished package.

The principal object of the invention is, therefore, the provision of a simple inexpensive air and water-tight package of a shape holding configuration permitting it to be handled, stored, stacked or otherwise moved about in the manner of a conventional rigid walled package.

Packages heretofore known in the art have generally comprised rigid walled containers formed of suitable material such as paste board, corrugated cardboard, wood or the like in which the various articles are positioned. Bulk packages for bulk material such as flour, salt and other pourable commodities have comprised flexible bags. The present invention relates to the formation of a package having all of the advantages of the rigid wall container heretofore known in the art and incorporating the simplicity and inexpensiveness of the flexible bag.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination arrangement of parts and in the details of construction hereinafter described and claimed, it being the intention to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention.

The invention is illustrated in the accompanying drawings, wherein:

FIGURE 1 is a perspective view of a package formed in accordance with the invention.

FIGURE 2 is a vertical section on line 2-2 of FIGURE 1 and illustrates the package and the articles therein.

FIGURE 3 is an end view of the folded flexible bag from which the package is formed.

FIGURE 4 is an end view of the folded flexible bag in partly opened position.

By referring to the drawings and FIGURES 1 and 2 in particular, it will be seen that a package of rectangular shape has been disclosed and that it comprises a flexible bag, the side walls of which are indicated by the numeral 11 and the top 12 is formed by gathering the upper portions of the side walls 10 together as at 13 and securing them by a clamping ring 14. The flexible bag 10 is of a cross sectional shape closely matching the shape of a plurality of articles positioned therein and a pair of semi-rigid partition members, one of which comprises a vertical partition 15 and the other of which comprises a horizontal end portion 16. The partitions 15 and 16 are preferably formed of cardboard. The partition 15 is rectangular and stands vertically and is of a width comparable with the width of the bag between the side walls 10 thereof and of a height comparable with the total height of the bag between the bottom 11 and the top portions 12 thereof. The partition 16 is rectangular of a width and depth conforming with the cross sectional shape of the flexible bag 10 which as heretofore noted corresponds with the shape of the plurality of articles to be enclosed in the package.

As disclosed herein the package is formed around a plurality of empty polyethylene bottles such as, for example, are used in packaging milk for bulk sale and one time use. In a typical package four dozen one-gallon polyethylene bottles indicated by the reference numeral 17 are stacked on their sides with their neck portions in end to end relation and touching the opposite sides of the vertical partition 15 in the package. The side walls 10 of the flexible bag thus closely fit and are held directly in engagement with the sides and bottoms of the polyethylene bottles in the assembled group around which the package is formed.

The vertical partition 15 prevents the polyethylene bottles 17 from moving relative to one another and insures the retention of the desired positioning in the package and in turn adds the necessary rigidity to the package to permit it to be easily handled. The horizontally disposed partition 16 maintains the desired cross sectional shape of the package and the desired cross sectional relation of the bottles 17 therein and additionally facilitates the gathering of the open end portions of the side walls 11 in the formation of the top 12 and its gathered neck portion 13 to which the clamping ring 14 is affixed by suitable clamping apparatus (not shown).

It will thus be seen that a package has been disclosed which is air and water-tight and dust-proof and which maintains its shape which is largely that of the articles packed therein and that the package is formed by assembling a group of the articles to be packaged together with the vertical and horizontal partitions 15 and 16 and then enveloping the same in the flexible bag and completing the package by gathering and securing the end of the bag as hereinbefore described. The completed package maintains its shape and may be handled or otherwise moved from place to place as is necessary and thereby meets the principal object of the invention.

It will thus be seen that a novel package and a method of making the same has been disclosed and having thus described my invention, what I claim is:

1. A package comprising in combination a plurality of rigid articles to be packed, said rigid articles positioned one upon the other in stacks, said stacks of rigid articles arranged in oppositely disposed groups, a rigid vertical...
partition positioned between said oppositely disposed groups of said rigid articles, a rigid horizontal partition positioned in said package on top of said stacks of rigid articles and a flexible bag having dimensions comparable with the dimensions of said vertical and horizontal partitions and enclosing said rigid articles and said partitions, the open end of said bag being gathered above said horizontal partition and means clamping said gathered open end to form a closure, said bag conforming in shape to said rigid articles and partitions therein.

2. The package set forth in claim 1 and wherein the flexible bag is formed of synthetic plastic film.

3. A plastic bottle containing shipping package comprising a plastic bag having an open end, plastic bottles lying in said bag on their sides in several vertical and horizontal rows with their neck ends facing inwardly from two sides of said package, a vertical partition member between said neck ends of said bottles and a horizontal partition member positioned on said bottles in the open end of said bag, said bag having the opposite end bonded to form a closure and the open end arranged to be gathered and clamped to form a second closure.

References Cited

UNITED STATES PATENTS

405,067  6/1889 Arkell 229—64
1,453,480  5/1923 Sanders 206—65
2,802,568  8/1957 Knox 206—65
2,809,896  10/1957 Pierson et al. 229—42
3,063,767  11/1962 Heuer 206—65
3,111,221  11/1963 Chapman et al. 206—65

FOREIGN PATENTS

1,384,305  11/1964 France.

JOSEPH R. LECLAIR, Primary Examiner.
WILLIAM T. DIXSON, Jr., Examiner.