A composite package having three separably connected containers. The containers are initially formed integrally as receptacles in a base sheet of a self-supporting plastic material, each receptacle being open at its upper end and closed at the bottom. A cover sheet is bonded to the upper face of the base sheet to overlie the open ends of the receptacles. The cover sheet is formed with small product dispensing apertures which register with the open ends of the receptacles. A peelable top sheet is applied over the cover sheet to cover the dispensing openings. The three sheets are severed in a predetermined manner and along predetermined lines between the receptacles to facilitate separation of the containers from one another and to provide lift tabs facilitating peeling of the top sheet from the cover sheet when it is desired to dispense the product. The receptacles are filled with product through the open upper ends thereof before the cover sheet is applied thereto.
COMPOSITE PACKAGE AND METHOD OF FORMING SAME

This invention relates to packages, particularly composite packages, which comprise a plurality of separable containers from which product is adapted to be dispensed (such as salt, pepper, sugar, ketchup, etc.) and to the method of forming such packages. More specifically, the invention encompasses a simple and inexpensive composite package consisting of several separably connected receptacles filled with food or other products which may be related in use for some other reason. (Related food products, for example, such as: salt, ketchup, and pepper; sugar, cream and sugar substitute; etc.) Composite packages of this type are admirably suited for institutional use such as in hospitals or on airlines or in cafeterias where packages of such related food products are frequently served. It is an object of this invention to provide a composite package which is of simple and attractive design, which can be manufactured economically, and which is constructed so that from the functional standpoint the containers can be separated from one another and the product dispensed therefrom very conveniently. A further object of this invention resides in the provision of a method of forming such composite packages which lends itself to low cost, high speed production. Other features and objects of the present invention will become apparent from the following description and drawings, in which:

FIG. 1 is a plan view showing the progressive steps employed in forming the composite package of the present invention.

FIG. 2 is a plan view of the completely formed package.

FIG. 3 is a plan view of one of the receptacles of the composite package separated from the remaining receptacles.

FIG. 4 is a perspective view showing the manner in which the top sheet on one of the containers is removed for dispensing product.

FIG. 5 is a plan view of another of the containers shown in FIG. 2 separated from the other containers.

FIG. 6 is a sectional view along line VII—VII in FIG. 2.

FIG. 8 is a view similar to FIG. 1 and showing a modified form of package and the method of making the same.

Referring to FIGS. 1 through 7, the composite package of the present invention, generally designated 10, and the method of forming the same are illustrated. Package 10, generally speaking, comprises three individual containers such as two generally cylindrical salt and pepper shakers 12 and 14 and a container 16 for sugar, ketchup, etc. Containers 12 and 14 are of the same shape and include a cylindrical side wall 18, a bottom wall 20 and an outwardly extending peripheral lip 22 around the upper open end thereof. Container 16 is likewise provided with a side wall 24 which is generally trough shaped at one end thereof as at 26, a bottom wall 28 and a peripheral lip 30 around the upper open end thereof.

The manner in which the composite package 10 is formed is generally illustrated in FIG. 1 which shows the progressive steps in the formation of the package. Initially a base sheet of plastic material 32 of suitable width and of continuous strip form is formed with cavities or pockets 34, 36 and 38. These pockets eventually form the receptacles of containers 12, 14 and 16, respectively. Base sheet 32 is formed of a self-supporting plastic material and pockets 34,36,38 are preferably formed therein by any suitable means such as a vacuum forming process. The pockets are formed in base sheet 32 in groups of three as illustrated and each group of pockets is spaced from the adjacent group of pockets in a predetermined manner as illustrated in FIG. 1.

After the pockets are formed in base sheet 32 the sheet is advanced to a first station designated A in FIG. 1. At each of the pockets or receptacles is filled with a selected product through its open upper end. For example, receptacle 34 may be filled with salt, receptacle 36 filled with pepper and receptacle 38 filled with sugar, mustard, ketchup, etc.

Base sheet 32 is then advanced to a successive station B where a cover sheet 40 is applied over and bonded to base sheet 32. Cover sheet 40 may be in the form of a thin plastic film or other sealable flexible sheet material such as a plastic coated paper and is permanently bonded to base sheet 32 at the lip portions around the open upper ends of receptacles 34,36,38. Cover sheet 40 is formed with a plurality of successive openings 42 wherein which are spaced apart lengthwise of sheet 40 so as to register with the trough-shaped end wall portion 26 of each receptacle 34. Cover sheet 40 is also provided with two groups of small apertures 44 which register with the upper open ends of receptacles 34 and 36.

After cover sheet 40 is bonded to base sheet 32 as indicated at station B in FIG. 1, the bonded sheets are advanced to a successive station C wherein both sheets are punched to form an aperture 46 slightly forward of aperture 42. At the same time both sheets 32 and 40 are die cut along the lines indicated at 48,50. Slot 48 is spaced between receptacle 34 and receptacle 38 and slit 50 is located between receptacle 36 and receptacle 38.

After the die cutting operation illustrated at station C in FIG. 1 the composite sheet is advanced to a successive station D where a top sheet 52 is applied to cover sheet 40 and is bonded thereto. Top sheet 52 can be in the form of a pressure sensitive adhesive strip of paper, foil or plastic film, depending primarily upon the products being packaged and the manufacturer’s preference. Top sheet 52 is bonded to cover sheet 40 so as to be readily peelable therefrom. Depending on the materials used for sheets 40,52, the bond may be effected either by a pressure sensitive adhesive, by means of a heat sealing operation or by any other suitable operation.

The use of a pressure sensitive adhesive is preferred to obtain a peelable bond. As shown at station D, top sheet 52 overlies the entire cover sheet 40 and thus closes openings 42,44 and 46. After top sheet 52 is bonded to cover sheet 40, all three sheets are die cut along the lines designated 54,56. It will be observed that lines 54,56 are located to form extensions of the die cut lines 48 and 50. If it is desired, the adjacent ends of lines 48 and 54 and the adjacent ends of lines 50 and 56 may be spaced apart slightly. The other ends of lines 54,56 extend slightly beyond the edge of aperture 46 formed in cover sheet 40 and base sheet 32.

The final step in the formation of the composite package is shown at the next successive station E illustrated in FIG. 1. At station E all three sheets are die cut to provide the desired outline configuration of the composite package. The die cut which forms the outer peripheral edge of the composite package is designated 58. It will be noted that around the three straight sides of receptacle 38 the peripheral edge of the package is spaced slightly outwardly beyond the side walls of receptacle 38. The peripheral edge then curves around each of receptacles 34 and then straight across the opposite end of the composite package. The latter straight edge, designated 60, extends generally diametrically across aperture 46 in base sheet 32 and cover sheet 40.

As is indicated in FIG. 2, the slits designated by lines 54,56 terminate at their opposite ends inwardly of the peripheral edges of the package. Thus, even though the slits 54,56 extend through all three sheets, the three containers 12,14 and 16 are connected by the portions of the top sheet 52 which overlie the slits 48,50 at one end of the slits 54,56 and by the uncovered portions of the top sheet overlying aperture 46. While these slits can be formed as shown in FIG. 2, if desired, each slit 48,54 and 50,56 can be other than straight and thus further reduce the tendency to produce a hinge action of the containers along these slits as axes.

It is contemplated that the user will receive composite package 10 in the form illustrated in FIG. 2 and that he will be able to selectively dispense the contents of each of the containers 12,14,16. The three containers can be separated from...
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one another by merely pulling them apart, thus rupturing the
top sheet at the portions overlying the slits 48, 50 and at the
Tab 58 overlying aperture 46. When the containers are
separated in this manner containers 12 and 14 have the ap-
pearance illustrated in FIG. 3 and container 16 has the ap-
pearance illustrated in FIG. 5. In view of the manner in which
the containers are separated, it will be observed that con-
tainers 12 and 14 are each provided with a small triangular
pull tab 61 and container 16 is provided with a pull tab 62.
These tabs comprise the portions of Tab 58 of top sheet 52
which overlies aperture 46.

When it is desired to dispense the contents of containers 12
or 14 top sheet 52 is peeled therefrom by simply pulling up-
wardly on lift tab 61 so as to expose dispensing openings 44.
The portion of cover sheet 53 on container 16 may be peeled
therefrom by pulling upwardly on Tab 62 to thus expose
dispensing opening 42.

The arrangement shown in FIG. 8 is substantially identical
to that previously described except, however, that tip sheet
(designated 64) completely overlies receptacles 34 and 36 but
only partially overlies receptacle 38, namely, that portion of
the latter provided with the dispensing opening 42. Thus, at
station D top sheet 64 is applied to only the upper portion of
the composite package, that is, that portion which contains all
dispensing openings. Top sheet 64 is preferably in the
form of strips of sheet material having pressure sensitive adhe-
sive applied to the under face thereof. These strips may have a
length slightly less than the width of base sheet 32 so that the
opposite ends thereof are spaced slightly inwardly of the side
edges of the base sheet. In other respects the composite
package shown in FIG. 8 and its method of formation is the
same as the embodiment previously described. In each in-
stance the composite package can be separated into individual
containers which are at least of semi-rigid construction.

I claim:

1. A composite package having a plurality of separably con-
ected containers comprising a self-supporting base sheet hav-
ing a pair of spaced apart receptacles therein which are closed
at the bottom and open at the top, each receptacle having a
generally flat peripheral lip portion extending around its upper
end, a cover sheet overlying said base sheet and bonded to
said lip portions around the periphery of each receptacle, said
cover sheet having a dispensing opening therein overlying the
open upper end of one of said receptacles, said dispensing
opening being substantially smaller in size than the open end
of the receptacle which it overlies to permit controlled
dischARGE of the contents of said one receptacle wherein the
latter is inverted, a top sheet overlying that portion of the
cover sheet which contains said discharge opening and also
overlying the portion of the cover sheet extending between the
two receptacles, said top sheet being bonded to the cover
sheet so as to be readily pealable therefrom, said base, cover
and top sheets being severed along registering lines extending
between said receptacles, said registering lines terminating at
opposite ends thereof slightly inwardly of edge portions of the
package so as to retain the containers in a separably con-
ected condition.

2. A composite package as called for in claim 1 wherein one
of said edge portions of the package is defined by a laterally
inwardly extending recess in the free edge of the base sheet
and cover sheet, said top sheet overlying said recess, said reg-
sitering lines extending into said recess at one end whereby
when the receptacles are separated the portions of the top
sheet overlying the recess provide pull tabs for facilitating
peeling the top sheet from the cover sheet on each receptacle.

3. A composite package as called for in claim 1 wherein said
cover and base sheets are severed along registering lines which
extend from a point adjacent but spaced from one end of the
first-mentioned registering lines of severing to at least closely
adjacent one of said edge portions, the portion of the top sheet
overlying the second-mentioned lines of severing being imper-
forate.

4. A composite package as called for in claim 3 wherein the
first-mentioned registering lines of severing are substantially
longer than the second-mentioned registering lines of sever-
ing.

5. A composite package as called for in claim 1 wherein the
top sheet overlies the cover sheet substantially completely.

6. A composite package as called for in claim 1 wherein the
cover sheet has a dispensing opening therein which registers
with the other receptacle and which is substantially smaller in
size than the open end of said other receptacle.

7. A composite package as called for in claim 6 wherein the
second-mentioned dispensing opening is located at a portion
of said other receptacle which is adjacent said one receptacle,
said top sheet overlying the second dispensing opening and
only partially overlying said other receptacle.