Feb. 2, 1965 A. SCHECHTER 3,168,193

FORMED CONTAINER MULTIPACK

Filed Aug. 20, 1962

FIG. 1

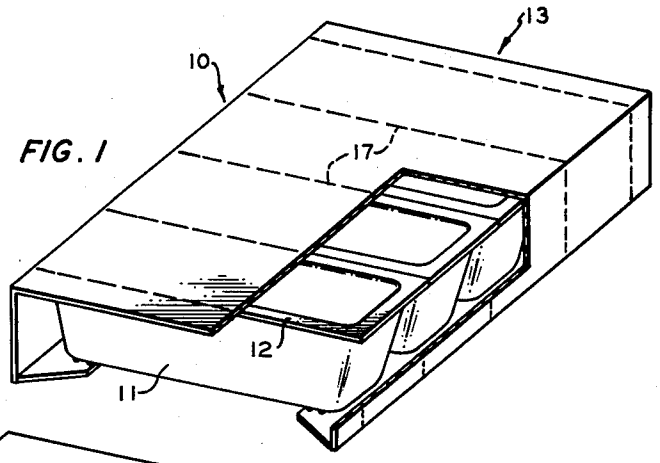
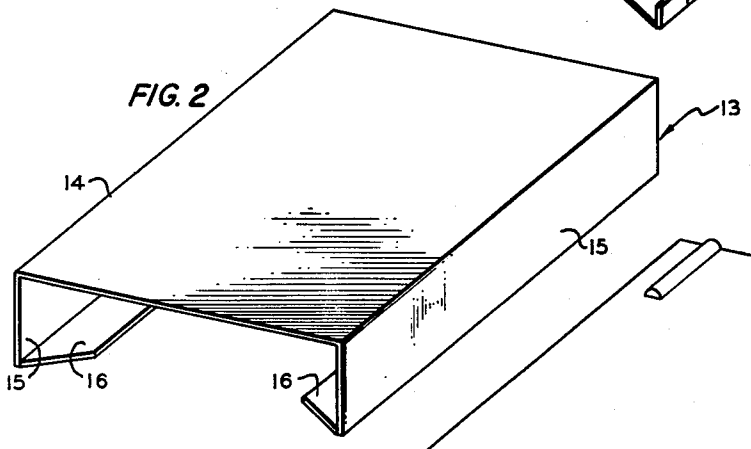


FIG. 2



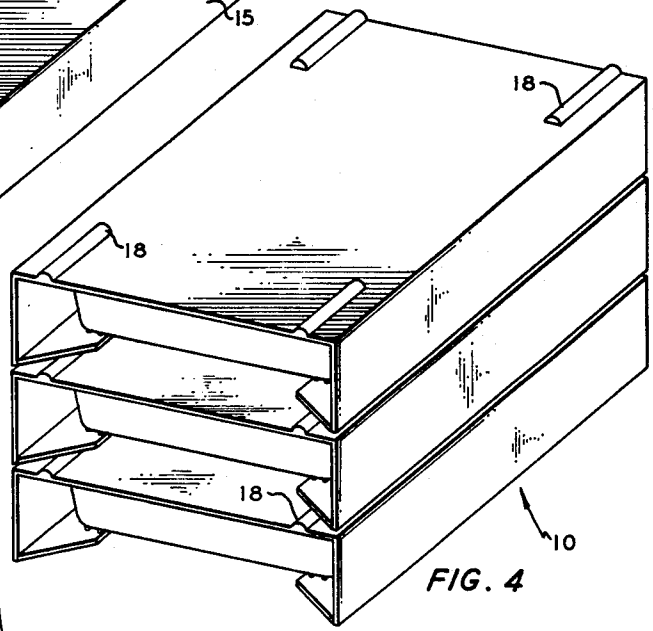


FIG. 4

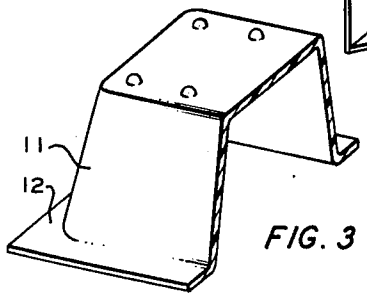


FIG. 3

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FORMED CONTAINER MULTIPACK

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This invention relates to a novel plural unit package of rigid character. In accordance with one aspect, this invention relates to the joining of two or more formed containers into an integral package which can be readily broken into individual units by the consumer.

It is well known in the art to package a plurality of articles by utilizing flexible strips to tie the individual articles or units together. These packages appear to be characterized by the fact that a connecting strip is also part of the protective package and, therefore, must be dealt with carefully to avoid rupture of the common covering and exposure of the product to spoilage or spilling.

In the newer food packaging process of packaging perishable edibles in formed plastic containers, it is often desirable, from a retailing viewpoint, to provide the individual food containers in plural packs when on multiitem sale, or simply for ease in handling when the shopper wants to purchase several standard packages. Although a continuous film has been used as a common cover to tie single packs together, it is too flexible and makes the package cumbersome for convenient handling. Thus, a means of simply and economically forming rigid multipacks of a plurality of formed containers, which multipacks still can be broken and used individually as required, would be most desirable in the packaging and handling of foodstuffs.

The present invention relates to a novel multipack, whereby a plurality of container units are secured together by a common cover and wherein the cover also imparts rigidity to the multipack plus facilitating handling and shipping of the multipack.

Accordingly, an object of this invention is to provide means for producing a multipack having the necessary desired rigidity.

Another object of this invention is to provide a multipack of formed containers for perishable items and other foodstuffs from which a container can be broken as required without exposing the remaining containers to rupture and exposure of their contents.

Another object of this invention is to provide a multipack plastic package which is simple, economical to manufacture, and efficient in use.

Other objects, aspects as well as the several advantages of the invention will be apparent to those skilled in the art upon further consideration of the specification, the drawings and the appended claims.

According to the invention, a multipack is provided comprising a plurality of formed container units and a semi-rigid common cover member secured over the openings of said units, said cover having side flaps extending from opposite edges of said cover folded over the container units to retain the container units in a stored position and to impart rigidity to the multipack.

In a preferred embodiment of the invention, the cover has side flaps with extensions which are folded inwardly of and about the bottom of the formed container units. In another embodiment, the extensions on the flap slope upwardly to engage the bottom of the container units thereby providing cushioning during handling. When desired, instead of the upwardly sloping flaps, small protrusions on the bottoms of each container unit can be provided to provide cushioning during handling. In another embodiment, ridges are provided on the cover to facilitate stacking of multipacks during storage.

The cover member of the invention, if of a material similar to the formed plastic containers, can be heat sealed thereto. If a dissimilar material is employed as the cover member, a conventional adhesive substance can serve to bond the individual container units to the cover member. To facilitate the separation of the individual containers in the multipack, as needed, the cover member can be perforated on the top and flaps of the cover can be scored so that each container unit within the multipack can be opened by breaking along the scores or breaking along perforations.

For the purpose of more clearly describing the invention and providing a better understanding thereof, reference is made to the accompanying drawings, in which like parts have been designated with like reference numerals wherein:

FIGURE 1 is a schematic perspective (partially cut away) illustrating the novel multipack;

FIGURE 2 is a schematic perspective of one embodiment of the cover member of the invention;

FIGURE 3 is a perspective of one type of formed container unit having cushioning protrusions that can be enclosed in the cover member; and

FIGURE 4 is a perspective view showing several multipacks stacked during storage whereby the cover member is provided with ridges to prevent the multipacks from slipping off one another.

Referring to the drawings, and to FIGURE 1 in particular, there is shown a multipack generally designated **10**, comprising, typically, four units of formed containers **11**, filled with foodstuffs.

The container units **11** can be formed from a continuous plastic strip by the action of heat, pressure and suitable forming dies in a manner well known to those skilled in the art. A margin or lip **12** of undeformed plastic is left around the container units to provide a horizontal surface to which the plastic cover **13** can be sealed. As shown in the drawings, the food container units are rectangular in shape having a bottom, sides, ends, and an open top. However, it is within the scope of the invention to utilize container units having other shapes, for example box-like or square, cylindrical and the like. The containers in the drawings are represented as having tapered sides although it is within the scope of the invention to use container units not tapered.

Referring to FIGURE 2, in particular, cover member **13** comprises a flat surface or top panel **14**, side flaps **15**, and flap extensions **16** turned inwardly and upwardly from the ends of flaps **15**. In the drawings, flaps **15** are at a right angle to panel **14** and extensions **16** are at an acute angle to flap **15** (sloped upwardly) to engage the bottom of the container units nested within the cover. However, it is within the scope of the invention to provide flap extensions which do not slope upwardly to engage the container units. If desired, cover member **13** can be comprised of panel **14**, side flaps **15** which preferably slope inwardly, i.e., at an angle less than 90° between panel **14** and flaps **15**, with or without inwardly extending flap extensions. Side flaps **15** preferably extend below the bottom of the container units nested within the multipack.

In actual operation in assembling a multipack of the invention, the cover member can be preformed and the individual container units can be inserted individually or as a group. In assembling a multipack without a preformed cover member, the container units can be filled with ingredients and a sheet of material can be used to cover the open tops of the container units, which are preferably in side-by-side relationship. The ends of the cover then can be folded over the ends of the container units and then the extensions of the flaps folded inwardly and upwardly to engage the bottom of the containers. As indicated previously, the cover unit can be bonded to the container units by heat sealing, if both materials are plastic, or an adhesive can be employed when the materials are dissimilar. The extensions on the flaps can also be sealed to the container units when desired.

In storage or transportation, packages 10 can be nested as indicated in FIGURE 4 to provide neat piles on shelves for economizing on storage space. This nesting feature of package 10 allows storage of the multipack in open shelves without the need of bins or boxes usually needed to confine small parts to specific areas. Panel 14 of cover 13 in package 10 is provided with ridges 18 or other protrusions to prevent the individual multipacks from slipping off one another.

Line 17 or scores are provided on package 10 to facilitate the detachment therefrom of a single container unit 11. Lines 17 allow individual container units 11 to be detached from package 10 with efficiency and ease even though a very strong material is used for cover member 13.

The formed containers to which the instant invention is applied are conveniently fabricated from the thermoplastic normally solid polymers and resins, such as the polyolefins, and particularly high density ethylene polymers, especially polyethylene, because of the packaging properties and heat sealability. In general, any solid polymer of an aliphatic mono-1-olefin can be used within the scope of this invention. Examples of such starting materials include homopolymers and copolymers of aliphatic mono-1-olefins such as ethylene, propylene, butene-1, hexene-1, octene-1 and the like. Ordinarily, solids polymers, which include both homopolymers and copolymers, of aliphatic monoolefins having from 2 to 8 carbon atoms are preferred since these materials provide thermoplastic containers having desirable packaging properties. Homopolymers and copolymers as well as mixtures of homopolymers and copolymers are suitable polymeric materials for the multipack of the invention.

Generally, the invention is applicable to all types of extrudable or deformable plastic resins such as polyvinylchloride, polystyrene, nylon and Teflon. In fact, any material that containers can be fabricated from such as paper or wood can be subjected to the invention.

Similarly, the cover member of the invention can comprise a several mil thick sheet of solid polyolefin. Other materials such as cardboard, heavy paper, wood, and the like can likewise serve as the cover member. If compatible polyolefins are used for both containers and cover member heat sealing will be a convenient method of joining the two together. If cardboard or the like is employed as the cover member, the use of any standard adhesive compound will be more convenient to secure the container tops to the cardboard cover. The cover member of the invention including the top panel, side flaps, as well as the extensions can be printed with the product identification.

As will be evident to those skilled in the art, many variations and modifications of this invention can be practiced in view of the foregoing disclosure. Such variations and modifications are clearly believed to come within the spirit and scope of the invention.

I claim:

1. A pack comprising a plurality of independent, formed container units, a semi-rigid common cover member at least partially enclosing said container units to form a single unitary pack, said cover member being composed of a plastic and having on its upper surface a series of protrusions to aid in nesting said unitary packs on top of one another, said cover having semi-rigid side flaps extending from opposite edges of said cover folded over said units and inwardly of the bottoms of said units and upwardly in stressed condition against the bottoms of said units, the distance between the under surface of the cover and the free edges of the upwardly extending portions of the side flaps, in unstressed condition, being less than the height of the container units and thereby provide by a single means an element which imparts rigidity to said unitary pack by forcing said container units against said cover member while at the same time providing cushioning for said unitary pack.

2. An article of manufacture according to claim 1 wherein the bottoms of said units have protrusions which act as cushions for said unit when separated from the rest of said units and which also act to engage the upwardly folded side flap and thereby impart even more rigidity to the unitary member.

3. An article according to claim 2 wherein said cover has transversely extending lines of weakness which lie in a plane passing between said container units such that individual containers may be readily severed.

4. A pack comprising at least two formed container units, each having a bottom, sides, open top and a lip around said open top to provide a surface which can abut another surface, a semi-rigid common cover member at least partially surrounding said container units to form a single unitary pack, said cover member being composed of a resilient material and having semi-rigid side flaps extending from opposite edges thereof folded over said units and inwardly of the bottom of said units and upwardly in stressed condition against the bottom of said units, said surface abutting said cover member thereby closing said open top of said container, the distance between the under surface of the cover and the free edges of the upwardly extending portions of the side flaps, in unstressed condition, being less than the height of the container unit and thereby provide by a single means an element which imparts rigidity to said unitary pack by stressing said lip against said cover member, said semi-rigid flaps also providing cushioning for said unitary pack.

5. An article of manufacture according to claim 4 wherein said cover has transversely extending lines of weakness which lie in a plane passing between said container units such that individual containers may be readily severed.

6. An article according to claim 4 wherein said lip is a substantially horizontal surface and said cover member is sealed to said lip members to make said unitary pack fluid tight.

7. An article according to claim 4 wherein the portion of said side flap which extends inwardly of the bottom of said unit and upwardly to engage in stressed condition against the bottom of said unit is displaced from the portion of said side flaps extending from opposite edges of said cover at an angle of less than 90 degrees.

8. A pack comprising at least two formed container units, a semi-rigid common cover member at least partially enclosing said container units to form a single unitary pack, said cover member being composed of a resilient material and having semi-rigid side flaps extending from opposite edges thereof and folded over said units and inwardly of the bottom of said units and upwardly in stressed condition against the bottom of said units, the distance between the under surface of the cover and the free edges of the upwardly extending portions of the side flaps, in unstressed condition, being less than the height of the container unit and thereby provide by a single means an element which imparts rigidity to said unitary pack by forcing said container units against said cover

member in a closing relationship while at the same time said side flaps provide cushioning for said unitary pack.

9. An article according to claim 8 wherein said cover has transversely extending lines of weakness which lie in a plane passing between said container units such that individual containers may be readily severed.

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