

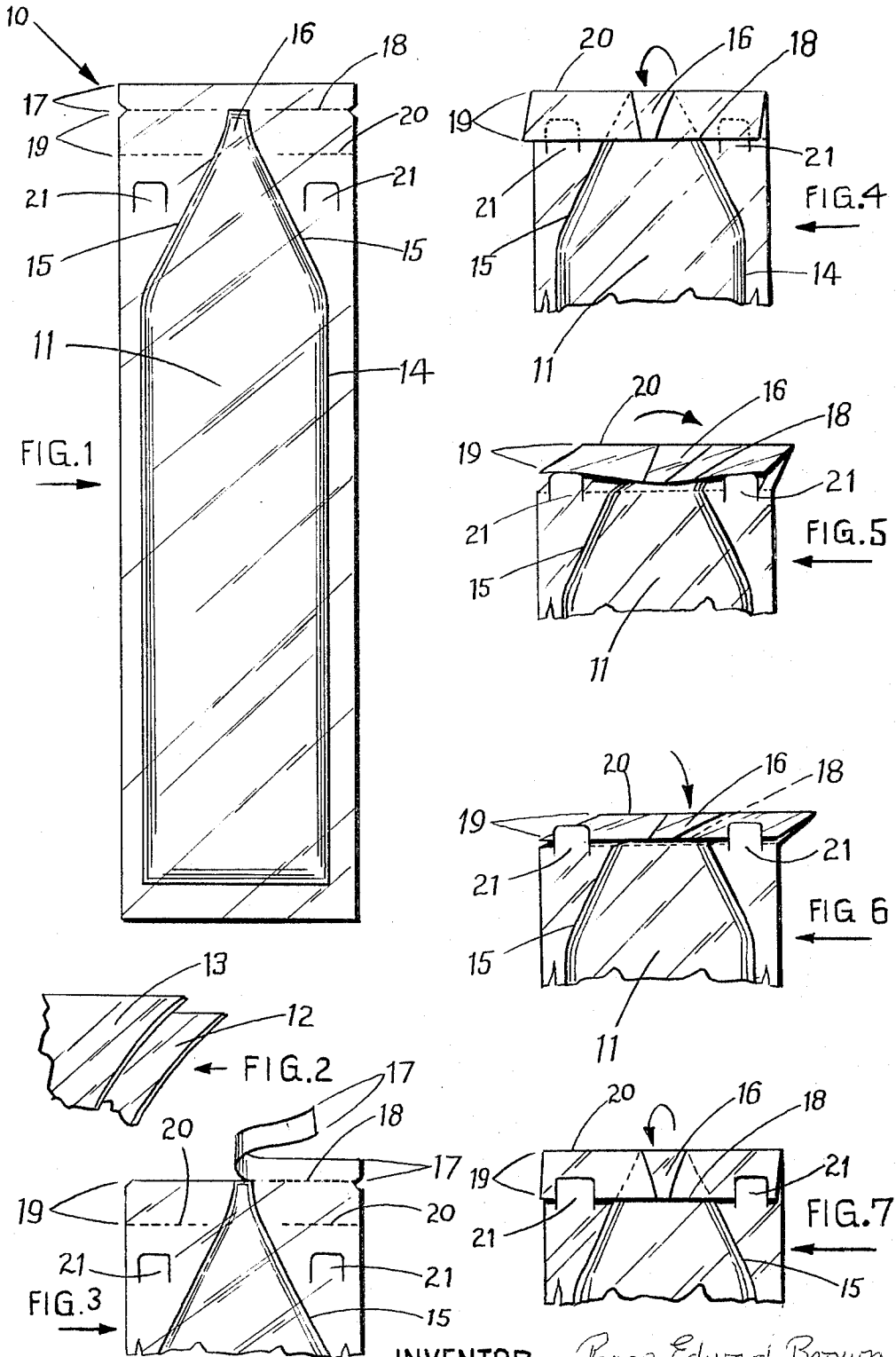
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RE-SEALABLE SACHET CONTAINER

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RE-SEALABLE SACHET CONTAINER
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This invention relates generally to the field of liquid packaging, and more particularly to improvements in deformable sachet or pouch packs, presently being used to retain and dispense liquids, semi-liquids, pastes and the like.

It is conventional practice for manufacturers of commodities such as tooth paste, hand lotions, shaving creams, paints etc. to package their preparations in the well known deformable or collapsible squeeze tube containers, fabricated from impact-extruded blanks of tin, lead, or aluminium alloys, and more recently molded in deformable plastic. These squeeze tubes are usually fitted with snap-on or screw-on detachable closure caps.

Heretofore these containers have been regarded as satisfactory to the purpose for which they were designed. Thus the standard collapsible squeeze tube with its lower end crimp-sealed, and its upper end shouldered and terminating in a threaded discharge orifice, to which is fitted the detachable screw type closure cap, has little changed over the past three decades.

It is also accepted practice for manufacturers of tooth paste, hand lotions, etc., ketchup, mustard, and sauces, to package their products in deformable sachet or pouch packs in unit-of-use, single portions, or sample sizes. These small sachet packs are extremely economical to make on modern fill-form-seal type packaging equipment. They afford their contents the advantages of an hermetical seal against contamination, and they are pilfer-proof. As they are only manufactured in unit-of-use, single portion, or sample sizes, the fact that once the sachet has been opened it cannot be reclosed, is of no consequence, as the contents are emptied out completely, and the empty sachet is then disposed of. These fill-form-seal types of sachet or pouch pack, are formed from continuous roll stock material known as the web. The web can consist of a single ply, or film, of any of the bondable plastics, or it may consist of two three or more plies of plastic film, metallic film, paper, all laminated together. Sophisticated laminated webs of this nature are custom-designed to meet the individual needs of each product and its special packaging problems—e.g. flavour retention, shelf-life, vapour barrier protection, printing, etc.

A close examination of these contemporary packaging systems reveals certain major disadvantages which, taken in conjunction with the method of dispensing the contents therein, provide opportunities for marked improvements in this field.

Taking the conventional collapsible squeeze tube for example. The disadvantages are readily apparent. First there is the matter of cost, this is relatively high in relation to the contents, this is especially so in the smaller sizes. The fact that it is necessary to protect the tube from damage during pre-sale and vending periods, with a secondary container (usually a box), still further raises costs. The highly specialized impact-extrusion method of fabricating these tubes prohibits in-plant manufacturing, and outside tube-manufacturing facilities have to be used, entailing careful shipping, empty-tube warehousing and handling additional inventory and cost. Secondly, with the conventional squeeze tube it is not possible to completely exhaust the contents from the tube due to the un-deformable trap created by the rigid shoulder section of the tube. A third disadvantage of the squeeze tube is, that it relies on a detachable snap-on or screw-on cap to reclose the tube after use. This cap, always small, is

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easily mislaid or lost. Failure to replace the cap causes rapid deterioration of the contents remaining in the tube, caused by the ingress of air.

Similarly, the current types of sachet or pouch pack containers, while they provide extremely economical in-plant methods of packaging, all suffer from the disadvantage that once the pouch or sachet has been opened to allow egress of the contents, no means of reclosing the pouch or sachet is provided, any content remaining in the container after it has been opened would rapidly deteriorate due to contact with atmosphere. This limitation has restricted the employment of this type of packaging to the sample or single portion field.

Having surveyed the prior art in the field of liquid packaging and having determined the inherent disadvantages thereof it is the cardinal object of my invention to provide a deformable container for liquids, semi-liquids, pastes and the like, referred to hereinafter by the abbreviated term "container" which may be used to retain and totally exhaust such preparations as have formally been packaged in conventional squeeze tubes or non-resealable sachet type containers.

Another prime object of this invention seeks to provide a container which, in addition to presenting a complete barrier to the contents therein until dispensing thereof is required, eliminates the necessity of a separate snap-on or screw-on cap, the sealing of the container being a simple and immediate matter.

Still another object of the present invention resides in the provision of a container which is easily handled and roll-formed as the contents are discharged therefrom.

Yet a further object of my invention provides a container as heretofore described which will considerably reduce the cost of packaging such preparations as are used therein.

These and various other pertinent objects and features of the instant invention will become more readily apparent from the following detailed description of parts and assemblies and when taken in conjunction with the accompanying drawings wherein like characters of reference designate like parts in the several views and in which:

FIG. 1 is a perspective view of a preferred embodiment of my container in the pre-opened condition, showing the dispositions of the tear-off section, the closure flap, the locking tabs.

FIG. 2 is a fractional detail view of a preferred system of lamination used in the construction of my container.

FIG. 3 is a fractional perspective detail view of the container showing the tear-off section partially removed from the container.

FIG. 4 is a fractional perspective detail view of the container with the tear-off section removed and the closure flap folded down in the first stage of the reclosing procedure. This view clearly shows how the closure flap folds down over approximately three-quarters of the length of the locking tabs.

FIG. 5 is a fractional perspective detail view of the container and shows the closure flap being tilted backwards. The view shows how the lower edge of the closure flap is being drawn across the top edges of the locking tabs. The locking tabs (because of the fact that their root ends are die-cut below the line of the axis around which the closure flap is being tilted) remaining upright and free-standing.

FIG. 6 is a fractional perspective detail view of the container and shows the closure flap in the fully tilted back position. This views clearly shows how on completion of this second stage of the reclosing procedure, the bottom edge of the closure flap has been drawn clear

of the free standing locking-tabs and has dropped back into a position behind the locking tabs.

FIG. 7 is a fractional perspective detail view of the container after the third and final step of the reclosing procedure has been executed. The third step consists of tilting the reclosure flap back to its original position. This view clearly shows how the locking tabs (now in front of the reclosure flap), retain the flap positively, in the closed position.

Referring to FIGS. 1 and 2, a container embodying my invention is generally designated by the arrow 10 and includes an hermetically sealed sachet 11. The structure of the sachet is conventional and well known to the art, consisting essentially of two laminated web structures having their inner layers 12 of a sealable plastic, bonded to their outer layers 13 of a suitable barrier material, metallic foil or paper. The sachet shape is formed by sealing the inner layers 12 to the desired formation, the seal boundary being referenced by defining line 14. Thus a sealed inner pouch or sachet is formed of a suitable bondable material or the like, and protected by an outer layer of barrier material bonded thereto.

My invention requires that the upper end of the sachet is formed with a tapered shoulder section 15, terminating in a narrow discharge neck 16.

Referring now to FIGS. 1 and 3. The upper "tear-off" section 17, has die-cut perforation formed along its lower boundary line 18 to within three-sixteenths of an inch of the tip of the discharge neck 16. These perforations facilitate removal of the "tear-off" section, this is clearly shown in FIG. 3. Similarly the closure flap 19 has die-cut perforations formed along its lower boundary line 20, to within three-sixteenths of an inch of the tapered shouldered section 15. These perforations ensure accurate folding of the closure flap along line 20.

Referring to FIGS. 1, 3, and 4, during manufacture of the container 10, two die-cut locking tabs are formed, one on each side of the tapered shoulder portion of the sachet 15. These locking tabs are so positioned that when the "tear-off" section has been removed and the closure flap is folded down as in FIG. 4, the lower edge of the closure flap will be approximately three-sixteenths of an inch above the locking tabs 21 base. FIG. 4 clearly shows this juxtaposition.

Referring now to FIGS. 4, 5, 6, and 7, these figures clearly illustrate how the locking tabs 21 remain upright and free-standing throughout the sequence of operations for reclosing the container after use.

The container will reach the consumer as shown in FIG. 1. The user will be required to tear-off section 17 to open the sachet for use. Upon a required volume of the contents being expelled, the closure flap 19 will be pressed flat between the thumb and forefinger to force the contents in this part of the container down into the body of the sachet 11. The closure flap 19 will then be folded down through 180 degrees along line 20. This completely closes the neck 16 along the line 20, and re-seals the remainder of the contents within the body of the sachet 11. To positively lock the closure flap in this position FIG. 4. It is required that the user then tilts the closure flap backwards a full 90 degrees, approximately. (FIG. 5 shows the closure flap 19 partially tilted, and the edge of the flap sliding across the tops of the upright free-standing locking tabs 21. FIG. 6 shows the closure flap 19 fully tilted back, the edge of the closure flap 19 now lies rearward of the upright free-standing locking tabs 21.) FIG. 7 shows clearly how the locking tabs 21 will positively hold the closure flap 19 in the closed position, once the closure flap is tilted upright into its original position as shown in this figure.

From the foregoing it will be seen that my invention

resides in the provision of a container capable of repeated use and immediate resealing thereafter, the contents thereof being preserved from the undesirable effects of the atmosphere and being kept in a fresh condition until completely discharged from the said container. Due to there being no rigid section or shouldering, container 10 is able to have its contents exhausted completely therefrom, there being no waste whatsoever advertising may be pre-printed on the outside layer of the laminated web material of the container.

The general design of the individual parts of the invention as described above may be varied accordingly, the requirements of manufacture, thereof provided that such variations fall within the scope of the appended claim and do not in any way depart from the spirit and principle of the invention thereof.

The embodiment of this invention in which an exclusive property or privilege is claimed are defined as follows:

A resealable container for liquids and pastes, including a deformable sachet, said sachet having an inner layer of sealable material and at least one outer barrier layer bonded thereto; said sachet being capable of receiving and retaining a liquid or paste therein in an hermetically sealed condition; the upper part of the liquid-containing portion of said sachet reducing in width to form a tapered, elongated discharge neck; said sachet being perforated transversely in a first line adjacent to but clear of the outlet end of said discharge neck; said sachet being perforated transversely in a second line parallel to and below said first line; said second line being interrupted about its center to remain clear of said discharge neck; said sachet being tearable along said first line and foldable about said second line; a pair of upwardly opening locking tabs formed in said sachet, equally disposed about said discharge neck; the bottom edges of said tabs being integral with said sachet on a line parallel with said first and second lines and spaced apart from said second line for a distance slightly greater than the distance between said first and second lines so that, upon the upper portion of said sachet being torn off along said first line and the remaining upper portion being folded downwardly about said second line, the new upper edge of said sachet will lie in parallel adjacency with and slightly above said bottom edges of said tabs; said tabs being sufficiently rigid to remain upstanding upon said sachet being bent away therefrom and the material forming said sachet being sufficiently resilient to insure said downfolded upper portion of said sachet being trapped between said sachet and said tabs upon said downfolded portion being placed therebetween and the upper end of said sachet being thereafter released; the tearing of said sachet along said first line weakening the material at the outlet end of said discharge neck sufficiently to render it easily rupturable upon pressure being applied to the liquid within said sachet; and the folding of said sachet about said second line closing off said neck in a leak-proof seal condition.

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