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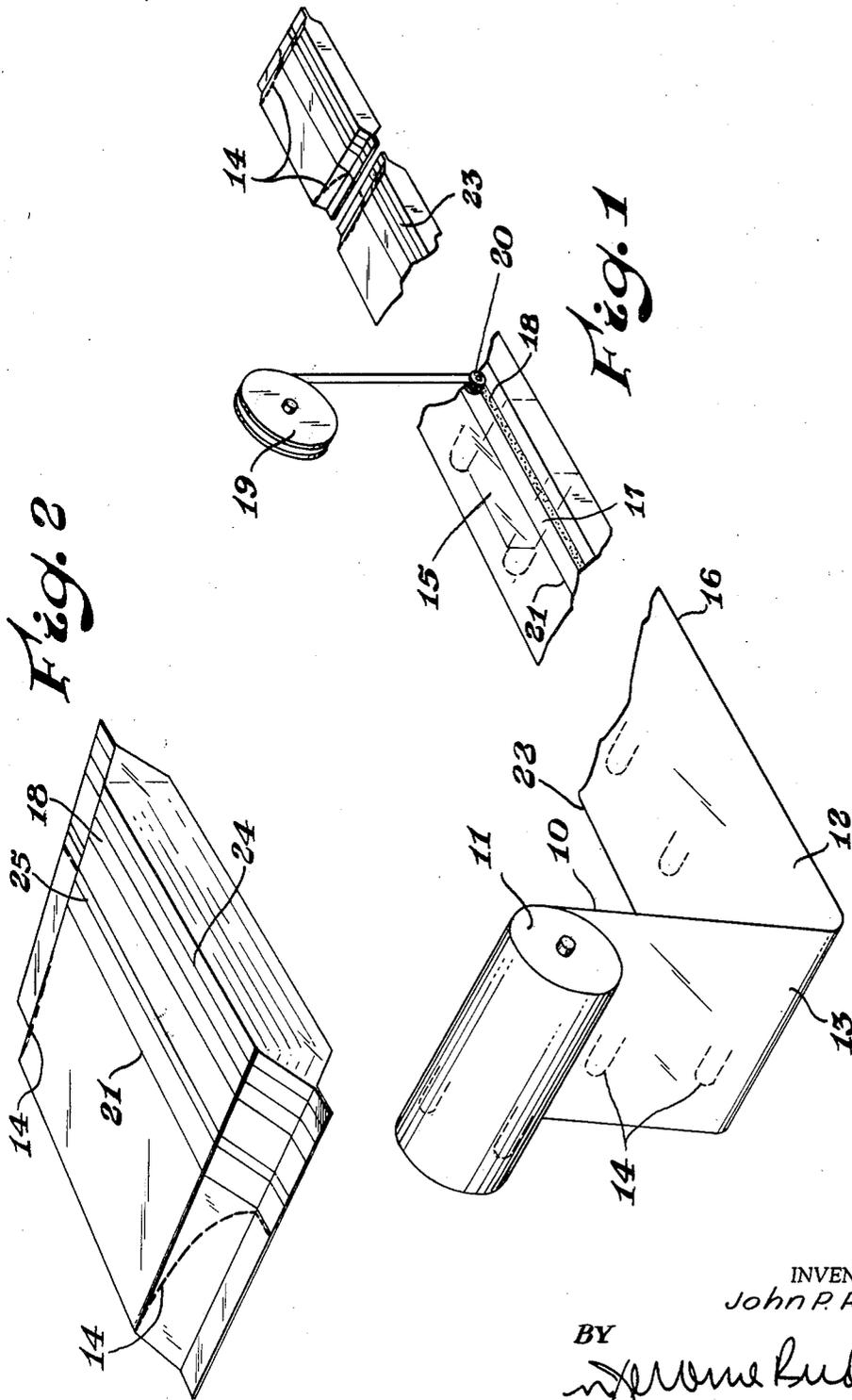
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3,259,303

RESEALABLE FLEXIBLE CONTAINER

Filed Oct. 2, 1964

2 Sheets-Sheet 1



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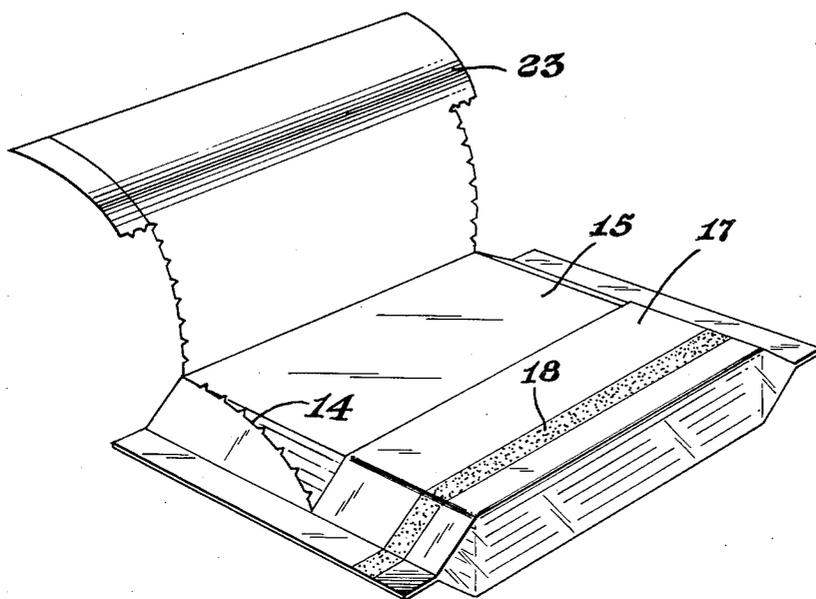


Fig. 3

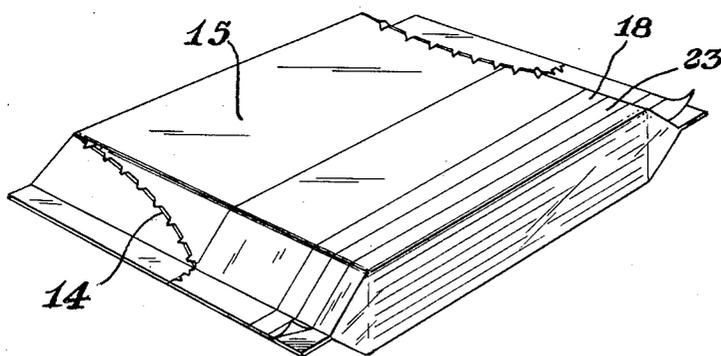


Fig. 4

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1

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## RESEALABLE FLEXIBLE CONTAINER

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This invention relates to a flexible container and more particularly to a flexible container including an easy opening means and a resealing means.

Flexible containers, such as are employed in the packaging of meat, dairy products, and similar foods, are generally produced from a web containing at least one heat sealable, thermoplastic resin surface. The plies of the container, generally of rectangular shape, are heat sealed at two or more edges of the container and may contain gussets for easier accommodation of the product to be packaged. These containers may be provided with an opening means such as a tear string. In many instances when certain types of gases are used as a flush to assure content protection, even in completely sealed packages or where vacuums are drawn, the tear string has proven to be impractical to use as an opening device because of a wicking action (through the string) which allowed loss of gases and/or vacuum causing shorter shelf life and in instances complete spoilage of contents. Therefore, such containers are generally opened by the use of a foreign implement such as a knife or scissors. Frequently the opening of the container is done in such a manner as to make further use of the container impractical. In many instances the contents of the container are only partially used and it is desirable therefore, to provide opening means which do not impair the further use of the container, and, in addition, provide a means for resealing the package to protect the contents from the atmosphere which may cause the contents to lose flavor or even spoil.

It is therefore the object of the present invention to provide a container which seals, hermetically, the contents and provides an easy opening means and a resealing means for further storage of the contents.

It is another object to provide such a container wherein the easy opening means forms a part of the web of material comprising such container and which requires no foreign implements for opening.

Other objects and advantages will become apparent hereinafter.

The objects of the present invention are accomplished by a generally flat, hermetically sealed, pouch-like container having opposite transversely sealed sides, such container being prepared from a thermoplastic web in which at least the inner surface of the web is composed of a heat sealable thermoplastic resin, and being further characterized by having means on a major surface of such container for easy opening, without utilization of foreign implements, and additional means for resealing the container, following removal of at least a portion of the contents thereof.

More particularly, the container comprises a web enveloping the contents so as to overlap on one face of the contents, the inner lap only partially covering a portion of the contents, with the outer lap being hermetically sealed to the inner lap by a reclosable pressure sensitive adhesive means; and having weakened tear lines on the non-overlapped portion of the outer lap of the sealed face, such tear lines being disposed interior of and generally parallel to the transverse hermetically sealed sides.

Reference is now made to the drawings for a more detailed description of the invention in which:

FIGURE 1 is a schematic illustration of the manner in which the easy opening and resealing means of the

2

present invention may be incorporated into a container production line;

FIGURE 2 is a perspective-like view of a container embodying the principles of the invention;

FIGURE 3 is a perspective-like view of a container embodying the principles of the invention, being opened; and

FIGURE 4 is a perspective-like view of a container embodying the principles of the invention, being reclosed.

Referring now to FIGURE 1, a composite web 10 having an inner heat sealable polyethylene resin surface 12 and an outer superimposed cellophane surface 13 said cellophane surface containing a series of perforated tear lines 14 of predetermined pattern, is supplied from roll stock 11. The web is passed under the object 15 to be packaged with the heat sealable surface 12 in contact with the bottom of the object. The edge 16 of the web 10 remote from the tear lines 14 is then folded around one side of the object 15 by means (not shown) to provide an inner web portion 17 extending part way over the top of the object. A double coated, pressure sensitive adhesive tape 18 from supply roll 19 is then affixed to the outermost surface of the inner web portion 17 by the applicator 20 in a position remote from, but essentially parallel to, the edge (21) of the inner web portion. The opposite edge 22 of the web 10 is then folded around the uncovered side of the object by means (not shown) to provide an outer web portion 23 extending along the top of the object and in overlapping relationship with the inner web portion 17 and the adhesive tape 18. Roller means (not shown) are used to apply pressure to the adhesive area to provide the desired seal. These portions of the web extending over the uncovered edges of the object are then transversely heat sealed and cut into desired lengths by means well known in the art thereby forming a hermetically sealed container. The tear lines 14 are positioned in a manner to provide an opening for the removal of container contents 15 when the outer web portion 23 is pulled away from the adhesive 18 and the fixed inner web portion 17.

FIGURE 2 shows substantially the hermetically sealed container prepared by the techniques illustrated in FIGURE 1, and additionally illustrates the uppermost edge 24 of the outer web portion 23 which edge extends beyond the adhesive tape 18 to provide a lift-up means for assist in opening of the container. FIGURE 2 also illustrates an optional heat seal area 25 extending between the transverse heat sealed end portions in a position adjacent to and essentially parallel with the adhesive tape 18. Such additional seal is sometimes advantageous when utilizing webs composed of difficultly bonded materials such as cellophane and polyethylene and, when used with such combination, may be easily separated when opening the container.

FIGURE 3 shows substantially the container of FIGURE 1 being opened. The outer web portion 23 has been pulled away from the adhesive tape 18 and the inner web portion 17 and drawn back over the container contents 15 along the path provided by the tear lines 14, to provide an opening for the removal of the container contents.

FIGURE 4 shows the container of FIGURE 3 being resealed following removal of a portion of the container contents. The outer web portion 23 has been drawn back over the container opening and reapplied to the adhesive tape 18 to form an essentially hermetically sealed container.

The outer surface of the web 10 may be perforated or scored either prior to wind-up as roll stock or just prior to fabrication into a container. When using webs formed of laminated film plies, it is generally desirable to produce the perforated or score ply forming the outer sur-

face of the web prior to lamination with the inner surface of such web.

The nature of the perforations introduced is not critical and may be in any shape, i.e., a continuous row of round holes, square holes, slits, and/or cuts punched at varying intervals or, when using a web composed of a single ply of film material, scoring; the function of such perforations being to assist in the tearing of the web in the line of perforation. Further, the perforation or scoring may be of any desired pattern to provide an opening of desired size and contour for easy removal of the container contents. It has been found to be desirable when packaging items such as sliced process cheese or sliced luncheon meats, for example, to position tear lines along the outermost edges of the top of the container in such a manner as to provide perforations or scoring extending from the lower edge of the inner web portion 21 at a point immediately adjacent the heat sealed ends of the container.

Any conventional adhesive material may be employed in place of the double coated, pressure sensitive tape as herein illustrated. Exemplary of such alternate materials are transparent or opaque liquid or semi-solid adhesives applied in an essentially continuous manner. It is only essential that such adhesive is of the type which retains its adhesive powers even after exposure to the atmosphere, and which will stick to another surface merely by the application of pressure. Further, such adhesive may be applied in a single continuous band of any desirable width, or in one or more rows. Such adhesive may, alternatively, be applied to the heat sealable surface 12 of the inner web portion 17 if desired.

As previously mentioned, the web employed in the manufacture of the containers of the present invention can be formed of one or more polymeric substances such as a polyolefin and particularly polyethylene or polypropylene, a polyvinyl halide, a polyvinylidene halide and copolymers and interpolymers thereof, or may be formed by coating a substrate such as cellophane, paper, foil, or polyester web with one of the aforementioned polymeric materials or one or both of the surfaces of such webs.

Preferred materials employed in the construction of the described containers are laminated web structures of superimposed polyolefins such as polyethylene or polypropylene on transparent materials such as cellophane, saran or polyester; of the polyolefins, polyethylene is preferred.

Although the present invention is described in terms of heat sealing, since such is preferably used, the various components of the container may also be sealed by the use of appropriate adhesive or other means capable of forming a hermetically sealed container.

The container has been described in terms of being composed of flexible webs. Again it is possible to vary

such construction without affecting the use and advantage of the easy opening and resealing means of the present invention by utilization of single or separate webs.

Further, the web employed may in said instances be composed of one or more semi-rigid or rigid sheets. Other combinations and container constructions in which the present invention can be employed will be apparent to those skilled in the art.

It is to be understood that the foregoing description of the invention is not intended to limit the scope thereof, except as defined in the appended claims.

What is claimed is:

1. In a generally flat container having an object packaged therein, said container having first and second hermetically sealed end portions, first and second side portions and a bottom and a top, said container being prepared from a flexible web in which at least the inner surface of said web is heat sealable resin, the improvement consisting of: easy opening and resealing means on said top comprising (a) a fixed inner web portion integral with said first side portion being hermetically sealed to said first and second end portions; (b) pressure sensitive resealable adhesive means affixed to the outermost surface of said inner web portion remote from and essentially parallel to the lower edge of said inner web portion and extending between said first and second end portions; (c) an outer web portion integral with said second side portion and extending in overlapping relationship with said inner web portion and said adhesive means; and (d) first and second tear lines on said outer web portion extending from the lower edge of the inner web portion at a point immediately adjacent said first and second hermetically sealed end portions respectively and extending downwardly in the direction of said second side portion, said tear lines being of a pattern suitable for forming an opening when the outer web portion is drawn away from said inner web portion.

2. The container of claim 1 wherein said web is composed of a cellophane sheet superimposed upon a heat sealable polyethylene sheet.

3. The container of claim 1 having in addition thereto and in combination therewith a continuous heat seal across the top of said container, said heat seal being positioned adjacent to and parallel with said adhesive means.

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