June 13, 1967 B. J. FRYE 3,325,083

NATURALLY RESEALABLE CONTAINER STRUCTURE

Filed Oct. 20, 1965 2 Sheets-Sheet 1

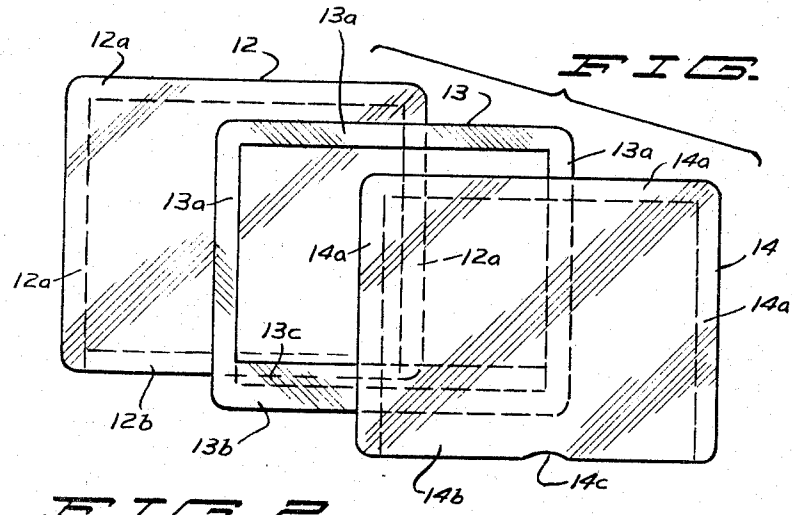
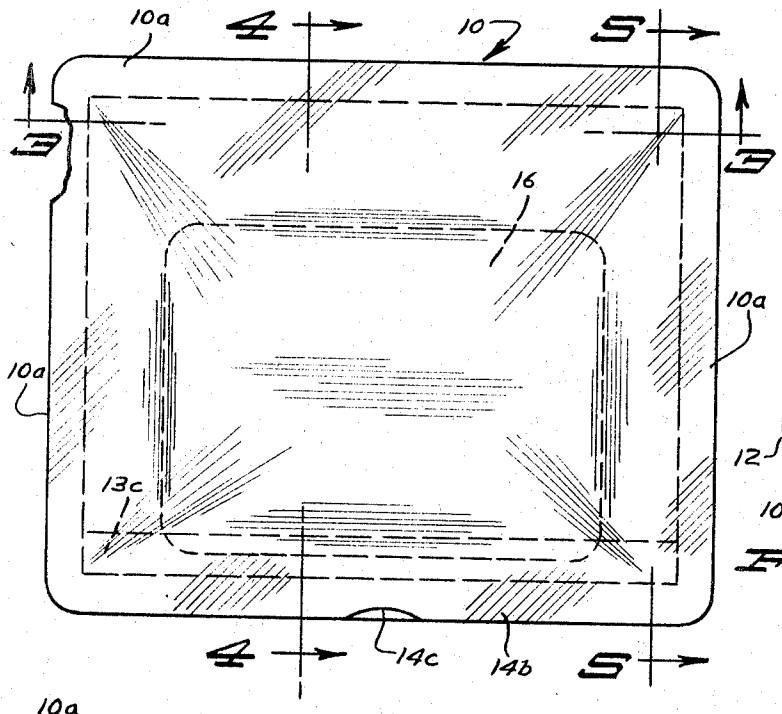


FIG. 2



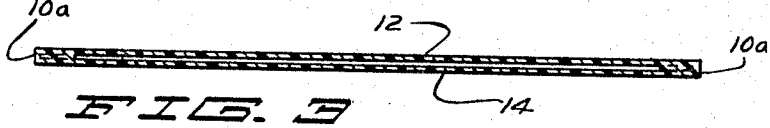


FIG. 3

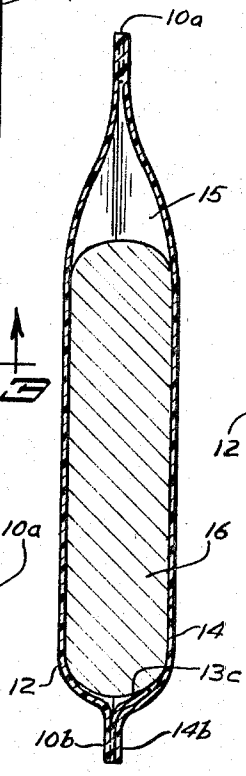


FIG. 4

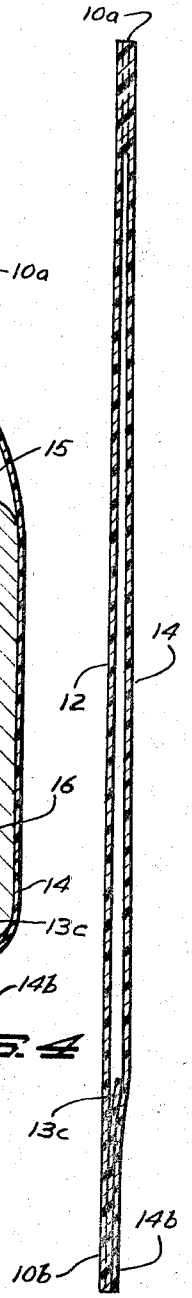


FIG. 5

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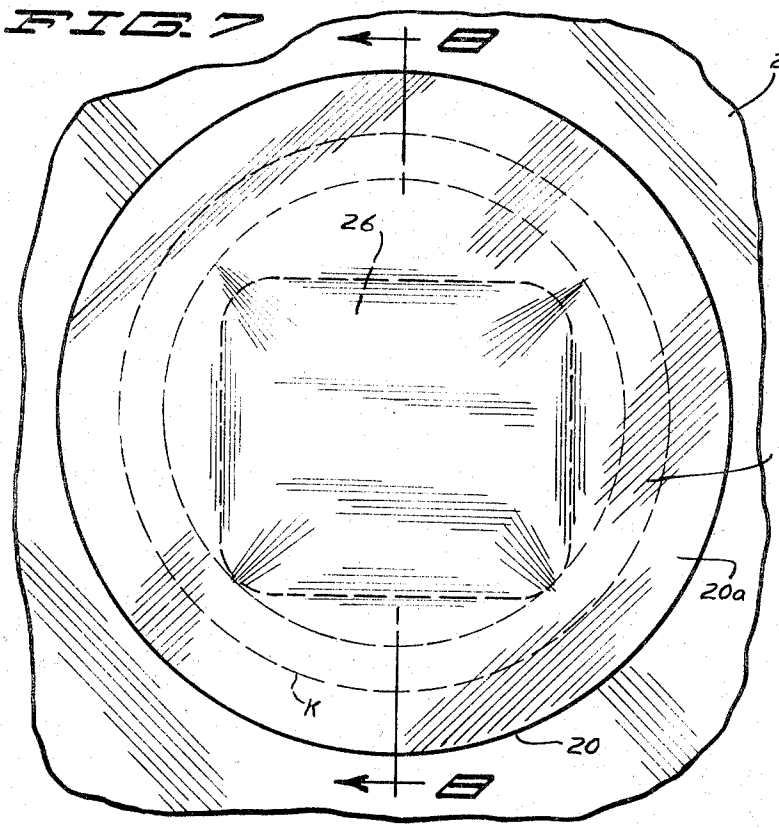
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NATURALLY RESEALABLE CONTAINER STRUCTURE

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FIG. 7



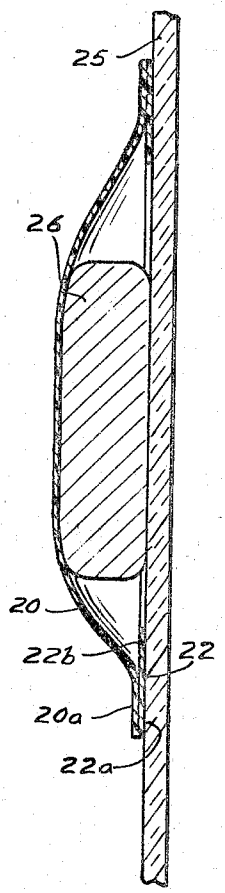


FIG. 8

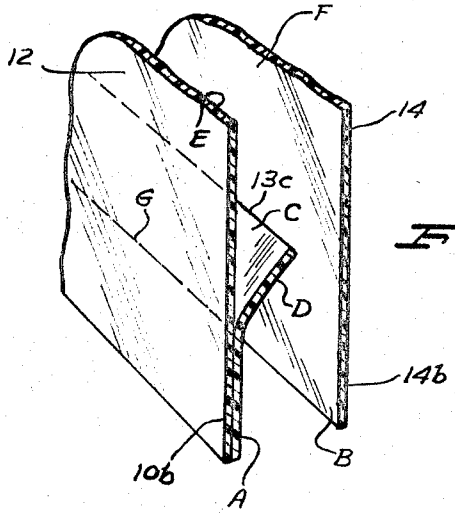


FIG. 6

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NATURALLY RESEALABLE CONTAINER STRUCTURE

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4 Claims. (Cl. 229—62)

This invention relates to an improvement in a naturally resealable container. The scope of the invention herein embodies a container having a resealable peripheral portion thereabout as well as a resealable peripheral or marginal portion partially thereabout. Particular reference is had to a container on the order of a bag or pouch.

Containers are known which have resealable marginal portions, but such containers as are known require the presence of a pressure sensitive adhesive. Such an adhesive has a limited period of usefulness.

The invention herein provides not only for a naturally resealable container, but also embodies a novel construction which protects the sealed surfaces against the tendency of separation by pressure or action of an article contained therein.

It is desirable therefore and an object of this invention to provide a container having a peripheral portion thereof having naturally adherent facing marginal portions.

It is another object of this invention to provide a container having a marginal portion thereof having naturally adherent facing surfaces and means overlying the juncture of said adherent surfaces to protect the same against the tendency for separation thereof as may be caused by a load bearing thereagainst.

It is more specifically an object of this invention to provide a container having adherent facing marginal surface portions, one of said surface portions having a flap portion integral therewith and extending inwardly of said container, said flap portion having a naturally adherent surface facing the other of said surface portions and having a non-adherent surface facing said first mentioned surface portion.

These and other objects and advantages of the invention will be set forth in the following description made in connection with the accompanying drawings in which like reference characters refer to similar parts throughout the several views and in which:

FIG. 1 is an exploded view on a reduced scale showing the portions making up the device herein;

FIG. 2 is a plan view with portions thereof being indicated by dotted line;

FIG. 3 is a view in horizontal section taken on line 3—3 of FIG. 2 as indicated;

FIG. 4 is a view in vertical section on a somewhat enlarged scale taken on line 4—4 of FIG. 2 as indicated;

FIG. 5 is a view in vertical section on an enlarged scale taken on line 5—5 of FIG. 2 as indicated;

FIG. 6 is a broken view showing a detail of structure on a magnified scale;

FIG. 7 is a broken view in plan showing a modification of the device herein; and

FIG. 8 is a view in vertical section taken on line 8—8 of FIG. 7 as indicated.

Referring to the drawings, the character **10** indicates generally the device herein shown in the form of a flexible container.

With particular reference to FIG. 1, there is first shown one method for forming said container **10** in its present embodiment. It will be obvious that it may be otherwise formed. The container herein may be formed of various suitable materials, such as of a flexible polyvinyl chloride which is a preferred material. Said container is made up of three layers of said material consisting of the sheets **12**, **13** and **14** which will be superposed or layered in overlying relation. The sheet **13** is shown in the form of a framework disposed between the marginal portions of said sheets **12** and **14**. Said sheet or framework **13** along its side portion **13***a* will be bonded to the sheets **12** and **14** along the dotted marginal portions thereof extending across the marginal portions **14***b* as indicated in dotted line and by the characters **12***a* and **14***a* in FIG. 1.

The marginal portion **13***b* will be bonded to the marginal portion **12***b*. The marginal portion **14***b* extending across one end of the container between the extensions of its side marginal portions **14***a* will be left free or unbonded and is shown having a small inverted tab **14***c* formed by an arcuate cut out portion.

The portion **13***c* is left free unattached to either of the sheets **12** or **14** save that it is hinged along the line G, as indicated in FIG. 6, and is integral at either end to the side marginal portions **13***a*. This portion **13***c* will hereinafter be referred to as a flap.

The sheets **12–14** will be bonded along the areas indicated in a conventional manner which forms no part of the invention herein.

With the sheets **12–14** bonded as described, their separate identity is lost except as otherwise indicated, and in combined form they make up the container **10** and the sealed or bonded marginal portions about three sides of said container are indicated by the characters **10***a*. The bonded marginal portions **12***b* and **13***b* are indicated by the character **10***b*, with reference to FIG. 5. The flap **13***c* retains its separate identity and continues to be indicated by this character. Thus said container **10** is open along the marginal portions **10***b* and **14***b*.

With particular reference to FIG. 6, the interior or facing surfaces E and F of the sides **12** and **14** of said container but for the exceptions hereinafter noted will be calendered or embossed to be non-adherent with respect to one another. The facing surface portions A and B of the marginal open side portions **10***b* and **14***b* will be smooth and polished. When flexible polyvinyl chloride is provided with a smooth and polished surface such a surface will be naturally adhesive and will naturally adhere to a like surface or to a smooth surface on the order of a glass or ceramic surface. This adherent characteristic is a permanent one. When the surface of the material is calendered or embossed it becomes naturally non-adherent.

The surface D of the flap **13***c*, facing the portion **14***b*, will be a smooth polished adherent surface and the adherent facing surface portion B will be of sufficient height to be coextensive with the over all height of its opposing or facing surface portions A and D. The surface C of said flap **13***c* facing the inner surface E of the side **12** will be embossed or calendered to be non-adherent thereto.

Said container **10** is loaded with an article **16**.

Operation

To open up the container **10** for the insertion of an article, the end portions **10***b* and **14***b* will be spread apart. The notch **14***c* permits the insertion of a finger tip for a separation of the sides. The article **16** to be inserted will then be placed within the container.

The marginal portions **10***b* and **14***b* will then be pulled taut and smoothed longitudinally and then pressed together by hand or finger pressure.

The facing surface portions A and B will adhere to one another. The surface portion D of the flap **13***c* will also overlie and adhere to said surface portion B. The line of juncture of the flap **13***c* with the side **12** will be noted to be along the line G. This line represents the end of the weld or bonding of the portions **12***b* and **13***b* which from the marginal portion **10***b* and thus the line G is a strong line of connection.

Hence with the container sealed, with any tendency to separate the sides **12** and **14**, the pull of such separation will not be along the edges of the flap **13***c* and portion **10***b* but will be along the medial line G thereof. Hence the seal between the portion **14***b* and the portion **10***b* taken with the flap **13***c* at the edges thereof is substantially free from any strain and free from any tendency to break the same.

Further the flap portion **13***c* overlies the juncture between the adhering surfaces A and B having its surface D adhering to the surface B of the marginal portion **14***b*. Hence said juncture is protected by an overlay of the flap **13***c*. The pressure of the article within the container may bear against the flap pressing it against the adjacent wall **14** to which said flap is adherent. The article may bear against the weld line G which represents a strong connection not subject to breakage from the expected usage of the container.

Thus the flap **13***c* in protecting the juncture between the adhering surfaces A and B provides for a strongly sealed resealable end portion of said container.

Modification

Referring to FIGS. 7 and 8, a modification is shown of the container herein embodying the essential principles or elements of structure of the container **10** above described.

The container here is shown comprising a flexible sheet **20** such as of polyvinyl chloride. Said sheet for convenience is shown to be circular in form and it overlies a plate member **25** which will be formed of smooth substantially non-porous material, such as glass or ceramic having a polished upwardly facing surface. It is to be understood however and it is quite obvious that the scope of this invention would embrace the use of a sheet of flexible smooth material, such as polyvinyl chloride.

Said sheet **20** has integral with the underside of its peripheral portion **20***a* a circular strip or ring **22** of like material. The outer peripheral portion **22***a* of said strip is bonded to said peripheral portion **20***a*. The inner peripheral portion **22***b* of said strip **22** forms an inwardly extending flap.

The outward facing surface of the entire strip **22** is polished and smooth to be naturally adherent to a surface such as the facing surface of said plate member **25**.

The undersurface of said flap **22***b* which faces the body portion of said member **20** will be calendered or embossed to be naturally non-adherent.

Overlying said plate member **25** and underlying said sheet **20** is an article **26**.

It will be understood that polyvinyl chloride because of its natural adhesive characteristics represents a preferred material but is not intended to represent the only suitable material.

Operation

The operation here is on the same order as that of the container **10** above described.

The flexible member **20** and the plate member **25** form a container with the member **20** representing the cover.

The portion **22** is identical to the portion **13***b* and the flap **13***c*. Here the adherent surface of the portion **22***a* will adhere to said plate member **25** as will the outer surface of the flap portion **22***b*. The inner surface of the flap portion **22***b* will be non-adherent with respect to the adjacent surface of the member **25**.

The flap portion **22***b* and the adjacent body portion of the member **20** will have a welded line of juncture K which provides a strong connection. The pull of the body portion of the member **20** against the portion **22** will be along the medial line K of said portion **22** which leaves the edge sealed portions of the member **22** substantially free from the strain of pull.

Thus it is seen that I have provided a naturally resealable container of an improved construction particularly arranged to have the sealed portions thereof free from strain at their peripheral or edge portions and to have the line of juncture within the container protected.

It will of course be understood that various changes may be made in the form, details, arrangement and proportions of the parts, without departing from the scope of applicant's invention which, generally stated, consists in a device capable of carrying out the objects above set forth, in the parts and combinations of parts disclosed and defined in the appended claims.

What is claimed is:

1. A naturally resealable container having in combination,

a pair of opposed sides having facing surfaces,

opposed marginal portions of said facing surfaces being naturally self adherent,

one of said opposed marginal self adherent surface portions having a flap portion extending inwardly of said container, and

said flap portion having a self adherent surface portion facing and engaging the adjacent surface portion of said other opposed marginal portion and having its other surface portion non-adherent to the adjacent facing surface portion of said one of said opposed marginal portions.

2. The structure set forth in claim **1**,

said opposed marginal portions having their respective end portions integral with one another, and

said flap portion being integral at its ends with said end portions.

3. A container of the character indicated having in combination,

a flexible side of said container forming a cover portion,

a peripheral portion of said side extending inwardly thereof, said peripheral portion having an outwardly facing self adherent surface and being bonded to said side at its outer marginal portion and forming a free flap at its inner portion, and

the inner surface of said flap facing said flexible side being non-adherent.

4. The structure set forth in claim **3**, wherein

said peripheral portion extends completely about said side.

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