July 28, 1970 F. A. WARD 3,521,805

DISPENSING PACKET

Filed Sept. 27, 1968 2 Sheets-Sheet 1

Fig. 1

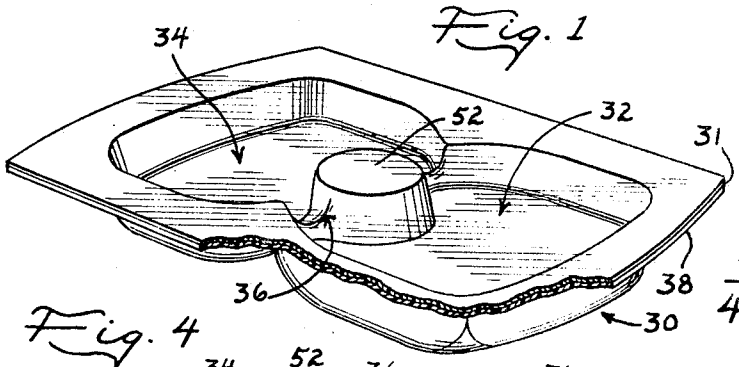


Fig. 2

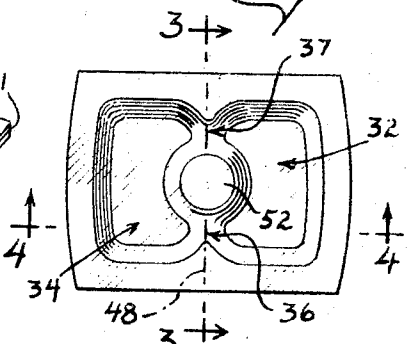


Fig. 4

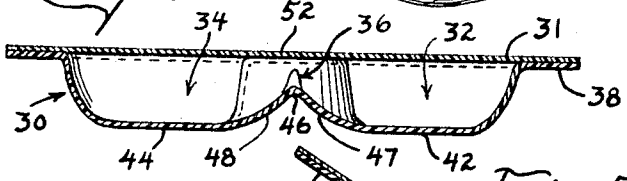


Fig. 3

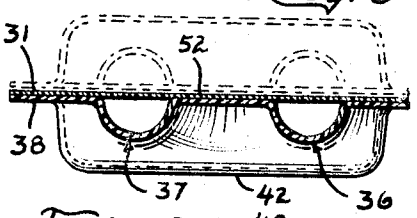


Fig. 5

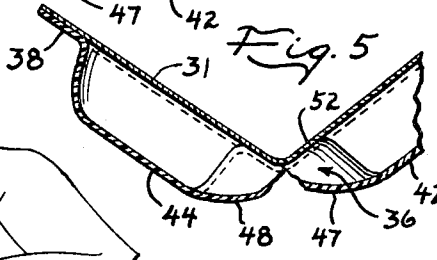


Fig. 6

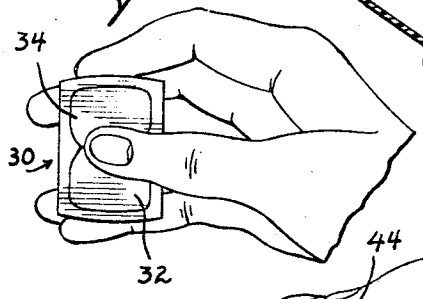


Fig. 8

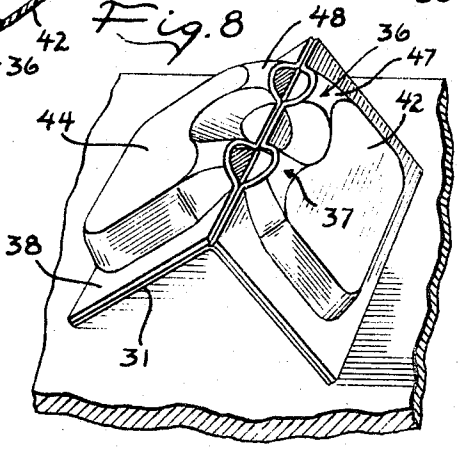


Fig. 7

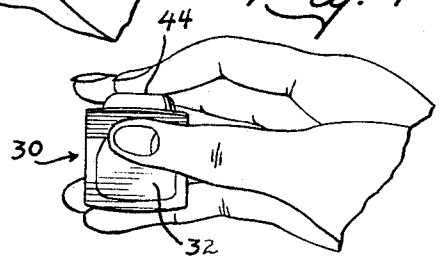


Fig. 9

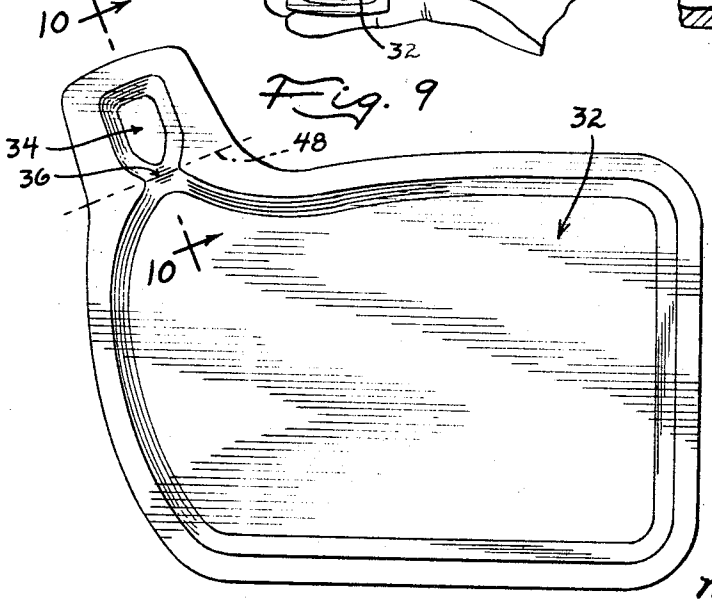
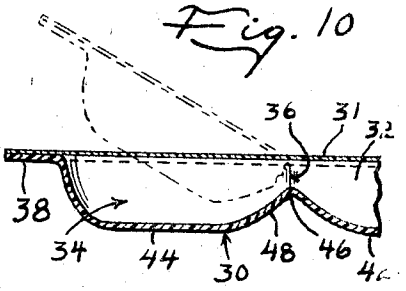


Fig. 10



Inventor
Frank A. Ward

By
McCanna, Morsbach, Pillote & Mus
Atty's

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DISPENSING PACKET

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Fig. 18

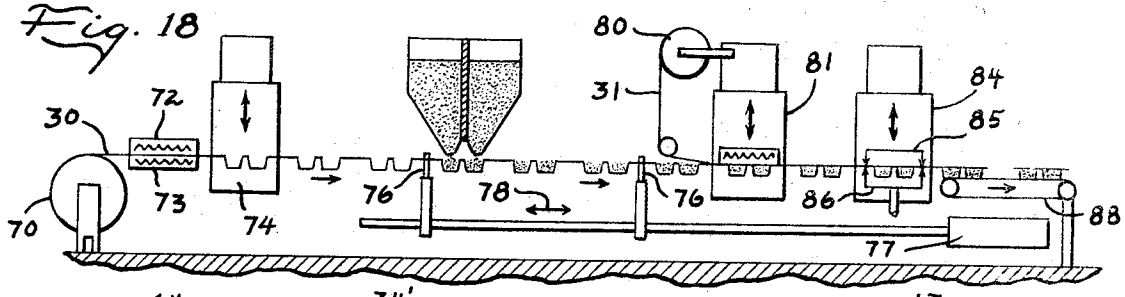


Fig. 11

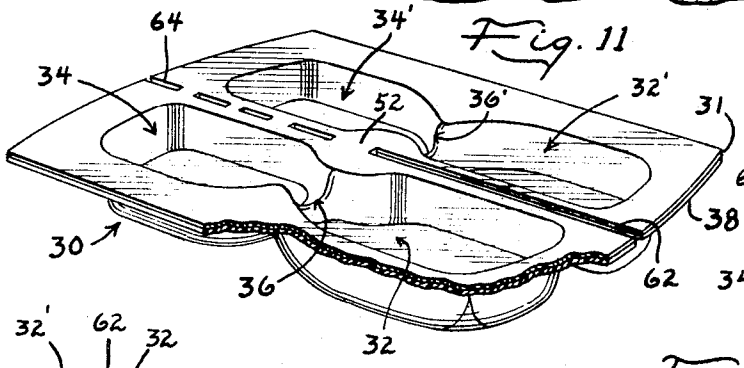


Fig. 12

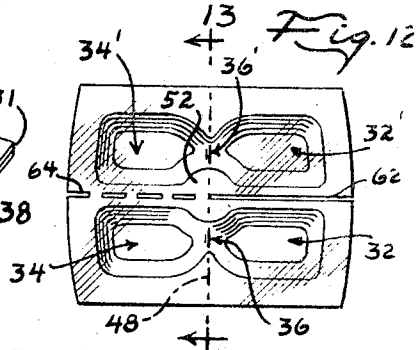


Fig. 13

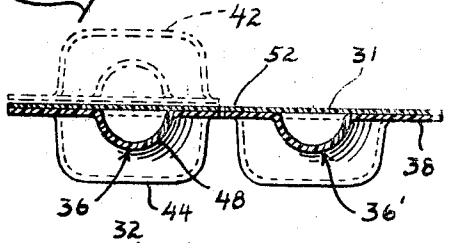


Fig. 14

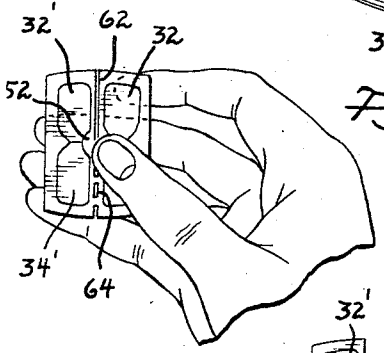


Fig. 15

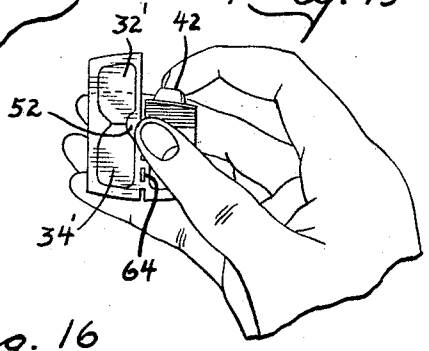


Fig. 16

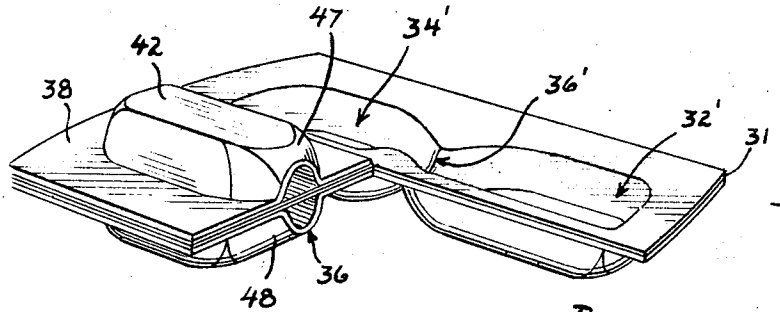
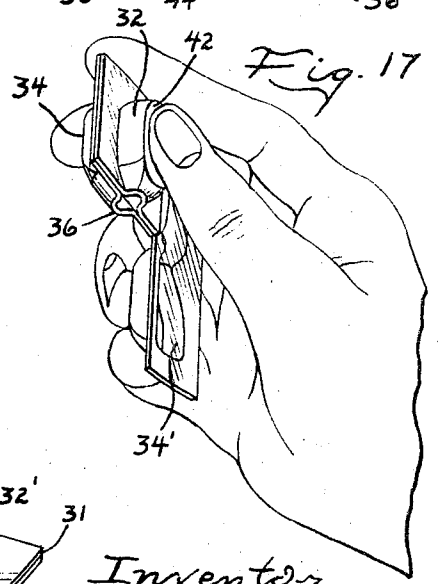


Fig. 17



Inventor
Frank A. Ward

By McCanna, Morsbach, Pillote & Muir

Attys

United States Patent Office 3,521,805 Patented July 28, 1970

3,521,805

DISPENSING PACKET

Frank A. Ward, Rockford, Ill., assignor to Anderson Bros. Mfg. Co., Rockford, Ill., a corporation of Illinois

Filed Sept. 27, 1968, Ser. No. 763,107
Int. Cl. B65a 39/00
U.S. Cl. 229—7 10 Claims

ABSTRACT OF THE DISCLOSURE

Two recessed pockets are formed with an intercommunicating neck and a peripheral flange. A cover is sealed to the flange to retain a product in the pockets. The neck has a reduced throat at a well-defined juncture between the pockets. The packet is swingable about a line at the flange and extending crosswise of the neck to rupture the neck for dispensing.

CROSS-REFERENCE

Reference is made to application Ser. No. 763,076, filed Sept. 27, 1968, entitled, "Dispensing Packet," invented by Lucius D. Richardson, and assigned to the assignee of the present invention.

BACKGROUND

The invention pertains to packages of the type for dispensing a product contained therein.

Many varieties of dispensing packets are known. In some, opening has been provided through perforations, either in the flange or in the pocket or receptacle portion. Others anticipate tearing of the flange, removal of a cover, or pulling a tab. Each has certain drawbacks and an improved opening feature is desirable.

SUMMARY

The present invention relates to dispensing packets and more particularly to such a packet having an improved opening feature.

A general object of the present invention is to provide a new and useful dispensing packet which can be easily opened.

Another object is to provide a dispensing packet which is initially imperforate to protect the contents but which has a unique opening feature for the dispensing thereof.

These, and other objects and advantages of the present invention will become apparent as the same becomes better understood from the following detailed description when taken in conjunction with the drawings.

DRAWINGS

FIG. 1 is a perspective view of one embodiment of a dispensing packet constructed in accordance with the present invention;

FIG. 2 is a small scale top view of the embodiment of FIG. 1;

FIG. 3 is a cross-sectional view taken along line 3—3 of FIG. 2 and showing an open position in phantom lines;

FIGS. 4 and 5 are longitudinal sectional views taken generally along line 4—4 of FIG. 2, with FIG. 5 showing an open position;

FIGS. 6 and 7 are views showing one way of opening the embodiment of FIG. 1;

FIG. 8 is a perspective view of an opened packet and resting in a nondispensing position;

FIG. 9 is a top view of a second embodiment of the present invention;

FIG. 10 is a sectional view, on an enlarged scale, taken along line 10—10 of FIG. 9 and showing an open position in phantom lines;

FIG. 11 is a perspective view of a third embodiment of a dispensing packet constructed in accordance with this invention;

FIG. 12 is a small scale top view of the embodiment of FIG. 11;

FIG. 13 is a cross-sectional view taken along line 13—13 of FIG. 12 and showing an open position in phantom;

FIGS. 14 and 15 are views illustrating one way of opening one side of the packet;

FIGS. 16 and 17 are perspective views of the embodiment of FIG. 11 with one side open and with FIG. 17 illustrating a dispensing position; and

FIG. 18 is a diagrammatic view of one apparatus for making the dispensing packet of the present invention.

DESCRIPTION

Reference is now made more particularly to the drawings which, by way of example, illustrate several embodiments which represent the best presently known mode of carrying out the invention. Similar reference characters indicate the same parts throughout the several views.

In the embodiments illustrated, the dispensing packet is advantageously made of a sheet of synthetic resin material, generally designated **30** and a sheet of covering material **31** which may be transparent. First and second imperforate recessed pockets **32** and **34** are provided in a central portion of the sheet **30**. The recessed pockets may take any desired shape and may be of the same size or different sizes. Both pockets may be utilized for holding a material to be dispensed, as is contemplated in the embodiment of FIG. 1, or one of the pockets may be principally for holding the material to be dispensed, as contemplated in FIG. 9. At least one imperforate recessed neck **36** intercommunicates the pockets. As shown, the pockets and the neck are initially open at the top side thereof but closed by the cover **31**. An outwardly extending peripheral flange **38** surrounds the pockets and the neck at the open side thereof. In accordance with the present invention, the cover material **31** is secured or sealed to the peripheral flange **38** to secure the product to be dispensed within the packet.

Pocket **32** has a bottom **42** spaced from the flange **38**. Similarly, pocket **34** has a bottom **44** spaced from the flange. The neck **36** has a generally semihourglass shape provided by a reduced portion with a well-defined juncture **46** intermediate the pockets and at a level above the pocket bottoms. The well-defined juncture **46** provides an internal throat of a generally U-shaped cross section. In the embodiments illustrated, the cross section is substantially semicircular, but other shapes may be used. The neck **36** tapers outwardly in opposite directions from the throat. For this purpose, the neck has bottom wall portions **47** and **48** extending toward bottom walls **42** and **44**, respectively. The well-defined juncture or throat defines a plane which, when extended through the flange **38** provides an imaginary line **48** passing between opposite edges of the flange without passing through the pockets **32** and **34** (see FIGS. 2, 9 and 12). The pockets **32** and **34** are swingable about said line **48** to rupture the neck **36** at the throat **46** for dispensing the product through the resulting opening in the manner illustrated in FIGS. 6, 7, 14 and 15. The manually applied forces are indicated by arrows in FIG. 5. As a result of the particular shape of the throat, the packet ruptures at the throat when flexed or swung about the line **48**. Swinging about the line causes a downward component of force at the juncture **46** while the side walls of the throat restrain the juncture against this component. This component, however, keeps the throat from collapsing

during the swinging movement. Simultaneously, the horizontal components of force put the neck in tension with the overall result that the neck ruptures at the well-defined juncture. At this point, it should be observed that an ordinary tube collapses when swung in the manner of the present invention. Similarly, a relative planar bottom does not rupture at a preselected neck as in the present invention.

In the embodiment of FIGS. 1–8, another neck **37** also intercommunicates the pockets **32** and **34**. In this embodiment, the well-defined junctures of the necks are preferably coplanar for the opening operation. Intermediate the two necks is formed an island or plateau **52** which has an upper surface at the level of the peripheral flange. Preferably, the cover member **31** is also sealed to this upper surface to assure dispensing only through the necks **36** and **37**. The swingline **48** extends through the island and the island provides a convenient point for the application of manual pressure for the swinging operation, as shown in FIGS. 6 and 7. By pressing on the island, as by the thumb, force is applied midway between the necks **36** and **37**, and the necks are simultaneously ruptured by the swinging action.

After opening, the contents may be dispensed through the resulting openings and the packet is easily placed to a non-dispensing position (FIG. 8) by resting it on opposite ends of the flange **38**. For this purpose, the packet of FIGS. 1–8 is generally rectangular and the swingline **48** is about midway between the ends of the packet. It can be seen that the first and second pockets **32** and **34** are on opposite sides of the swingline and the island is generally midway between the sides of the packet. In this manner, the packet of the embodiment of FIGS. 1–8 is generally symmetrical about the swingline **48** and about its longitudinal axis.

In the embodiment of FIGS. 9 and 10, the pocket **32** is primarily for holding the material to be dispensed and pocket **34** is merely a result of providing the recessed neck for the convenient opening operation. Pocket **34** need not protrude as illustrated, but the packet may be arranged so that the periphery has a generally regular shape, for example a rectangle. The second pocket **34** may occupy a small portion thereof and the flange **38** may be slit so that the line **48** extends between edges of the flange without intersecting the pockets. A packet of this type may be utilized for dispensing various products, for example a large particulate material such as seeds.

The embodiment of FIGS. 11–17 is a modification of the embodiment of FIG. 1. Here the packet is separated into what is essentially two separate packets. Intermediate these twin packets, is a longitudinal slit **62** leading to the island **52**. Perforations **64** represent a continuation of the slit **62** along which the packets may be divided for individual use, if desired. Even when joined these packets may be individually opened and utilized for dispensing, if desired. To rupture a single neck, a user can apply pressure at the swingline **48** as by spanning the neck with his thumb. As shown in FIGS. 14 and 15, one side can be easily broken open for dispensing of the contents. Alternately, the other side can be broken open for the same purpose. When both sides are ruptured, a user can hold one side in closed position while dispensing out of the other in a manner shown in FIG. 17. A typical utility of such twin packets is as a salt and pepper dispenser.

Various products may be dispensed from the dispensing packets of the present invention, for example particulate materials and liquids or semiliquids. The reduced neck portion limits the amount to be dispensed and the size thereof can be selected correlative to the material to be contained. When used for certain particulate materials, such as salt, pepper, or certain seasonings, the throat can be sized to provide a restriction so that shaking is neecessary to dispense the material. This gives the

desirable result since the average individual is accustomed to dispensing seasonings of this nature by shaking action. Alternately, when a pouring action is desirable, as with sugar and liquids, the throat can be given a size for that result. The quantity of product placed in the packet can be measured when desirable, for example the packet can contain one teaspoon of sugar.

It can be seen that the present invention provides a dispensing packet in which a recessed pocket **32** is formed with an outwardly extending communicating neck **36** and a peripheral flange **38**. A cover **31** is sealed to the flange **38** to retain the product in the pocket. The neck **36** has a reduced throat at a well-defined juncture **48** and the packet is swingable about a line **48** at the flange and extending crosswise of the neck to rupture the neck for dispensing. This provides an advantageous opening feature.

While it is contemplated that the present invention may be manufactured in various ways, it may be conveniently formed, filled, and sealed by the apparatus diagrammatically illustratd in FIG. 18. It is contemplated that thermoplastic materials may be utilized for the sheet **30**, and cover member **31** may be of a flexible thermoplastic material of any type compatible with the container for sealing thereto. If desired, however, the cover member can be formed of sheets of material, such as paper or aluminum foil, coated with a material for sealing to the container. Preferably, the sheet **30** is of a material which is imperforate, yet will rupture under manual pressure as described above. In one embodiment, thin polystyrene is used for the sheet **30**.

Referring now to FIG. 18, a roll **70** of thermoplastic material is supported adjacent one end of the machine. The sheet of material **30** is withdrawn from the roll and advanced longitudinally of the machine past successive stations. Heating heads **72** and **73** heat the sheet **30** so that it may be formed into the desired shape. At the next station the pockets and neck are pressure formed in the sheet **30** by a mandrel **74** adjacent one side of the sheet and pressure adjacent the other side. Sheet advancement is accomplished by a gripper **76** reciprocated by a piston **77** in the direction of arrows **78**. After the sheet **30** is formed, it is advanced to a third station where the product to be dispensed is placed in the pockets. As illustrated, the container is of the embodiment of FIG. 11 and two products are simultaneously placed therein, for example salt S and pepper P. A second roll **80** of cover material is supported on the machine and the cover material **31** is withdrawn therefrom. Through proper selection of materials for cover material **31** and sheet **30**, the two may be secured to each other by heat sealing. It should be understood, however, that other materials may be utilized and that other sealing methods may be used. As shown, cover member **31** is placed in juxtaposition to the flange **38** and the two are advanced to a sealing station **81** where the cover member **31** is sealed to the peripheral flange **38**. At this point, a plurality of sealed dispensing packages are interconnected in a continuous web as illustrated in FIG. 18. The web is advanced to another station **84** where the dispensing packets are cut from the web by cutters **85** and **86**. The completed packages are deposited on a conveyor **88** and the waste portion of the web is fed out of the machine.

What is claimed is:

1. A dispensing packet including a sheet of material having first and second recessed pockets at least one of which is for holding a product to be dispensed and each pocket having an upwardly facing open side, an outwardly extending peripheral flange surrounding the pockets at the open side thereof, each pocket having a bottom spaced from the flange, an imperforate recessed neck communicating with each pocket and having a reduced portion with a well-defined juncture intermediate the pockets and at a level above the pocket bottoms, the neck

being generally open at the flange side of the container, a cover member overlying the open side of the pockets and neck and sealed to the peripheral flange to retain the product in the container, and the packet being swingable about a line at the flange and extending crosswise of the neck to rupture the neck at said well-defined juncture for dispensing the product through the resulting opening.

2. A dispensing packet as set forth in claim 1 wherein the recessed neck has sides tapering inwardly from each pocket to said well-defined juncture so that the neck has a minimum area at the line of rupture.

3. A dispensing packet as set forth in claim 1 including a second recessed neck communicating with each pocket and having a reduced portion with a well-defined juncture intermediate the pockets and at a level above the pocket bottoms, said well-defined juncture of the second neck being generally colinear with the other well-defined juncture for rupturing of both necks as the packet is swung.

4. A dispensing packet as set forth in claim 3 including an island formed between the two necks and having an upper surface at the level of the peripheral flange, and said swingline extending through the island whereby manual pressure may be applied against the island in swinging the packet about the swingline.

5. A dispensing packet as set forth in claim 4 wherein the packet is generally rectangular and has first and second ends and laterally spaced sides, the swingline is generally midway between said ends and extends between the sides, the first and second pockets are on opposite sides of the swingline, and the island is generally midway between the sides of the packet.

6. A dispensing packet including a sheet of material having a recessed pocket in a central portion thereof for holding a product to be dispensed, and an imperforate recessed neck communicating with the pocket, a peripheral flange outwardly of the recessed pocket and neck, and a flat cover member secured to the peripheral flange, characterized in that the neck portion has a well-defined throat of U-shaped cross section, the neck portion tapering outwardly in opposite directions from the throat, the throat defining a plane which when extended through the flange defines a line passing between opposite edges

of the flange without passing through the pocket, and the packet being swingable about said line to rupture the neck at said well-defined throat for dispensing the product therethrough.

7. A dispensing packet as set forth in claim 6 wherein the throat is of semihourglass shape and the throat has a semicircular cross section.

8. A dispensing packet as set forth in claim 6 including a second pocket communicating with the neck on the opposite side of the throat as the other pocket.

9. A dispensing packet as set forth in claim 6 including a plurality of similarly shaped necks communicating with the pocket, and the throats of said necks being generally coplanar.

10. A dispensing packet including a sheet of material having first and second recessed pockets at least one of which is for holding a product to be dispensed, each pocket having an upwardly facing open side, an outwardly extending peripheral flange surrounding the pockets at the open side thereof, each pocket having a bottom spaced from the flange, a neck recessed below said flange and communicating with each pocket, said neck tapering from each pocket to a well-defined juncture at a restricted throat, a cover member overlying the open side of the pocket and neck and secured to the peripheral flange to retain the product in the container, and the packet being swingable about a line at the flange and crosswise of the neck to rupture the neck at said well-defined juncture for dispensing the product through the resulting opening.

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DAVID M. BOCKENEK, Primary Examiner

U.S. Cl. X.R.

206—42; 222—107