

July 8, 1941.

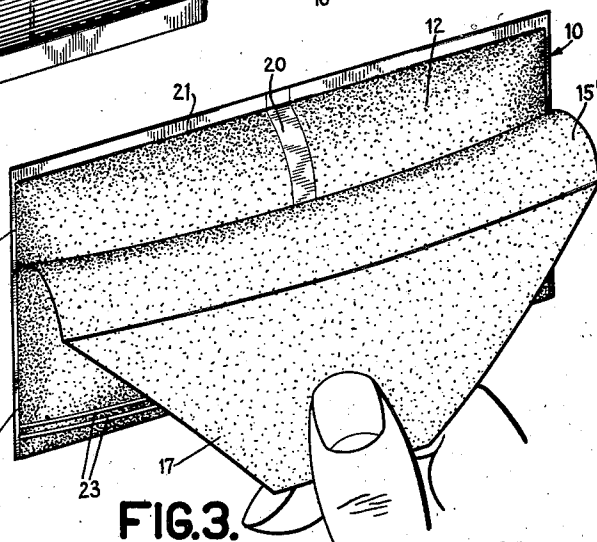
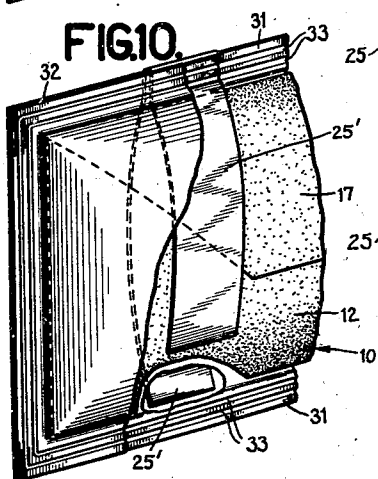
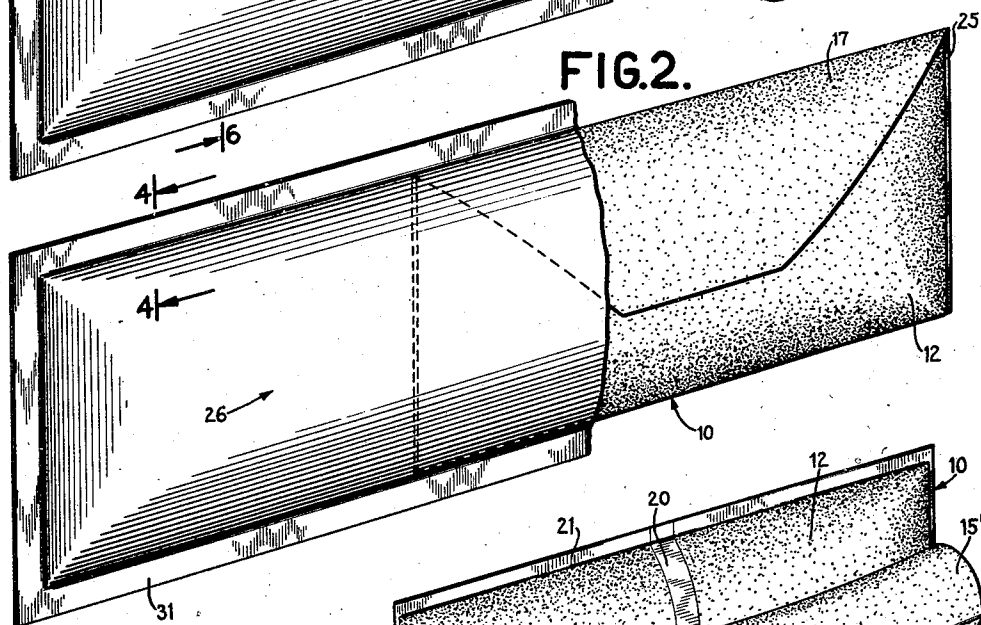
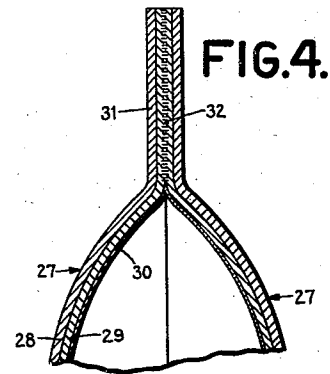
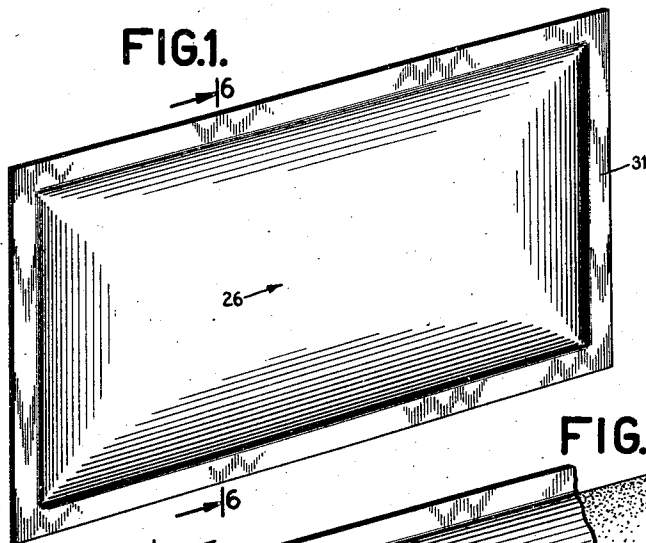
G. A. MOORE

2,248,578

CONTAINER

Filed March 18, 1937

2 Sheets-Sheet 1



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FIG. 5.

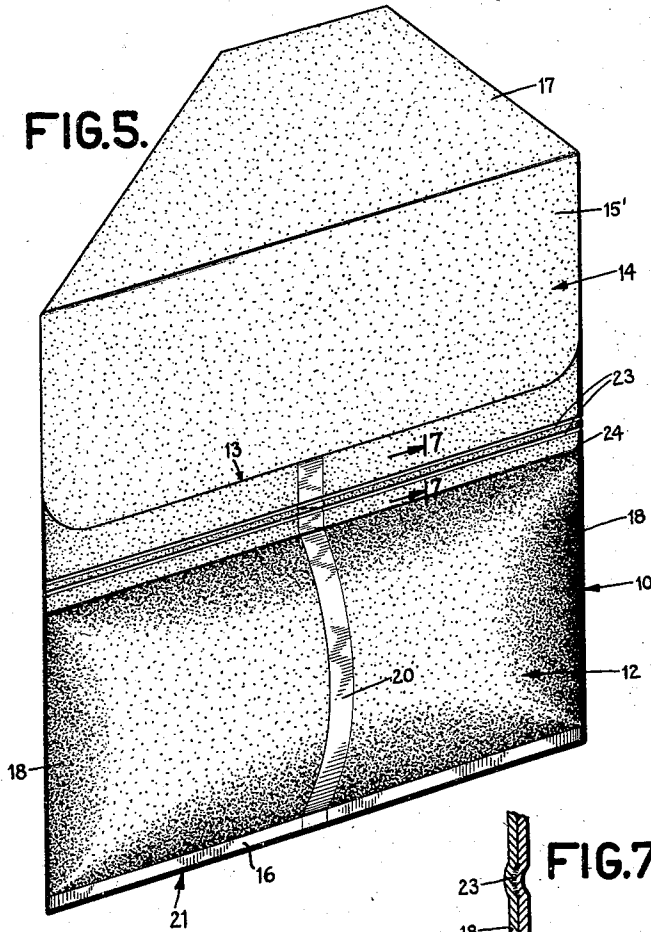


FIG. 6.

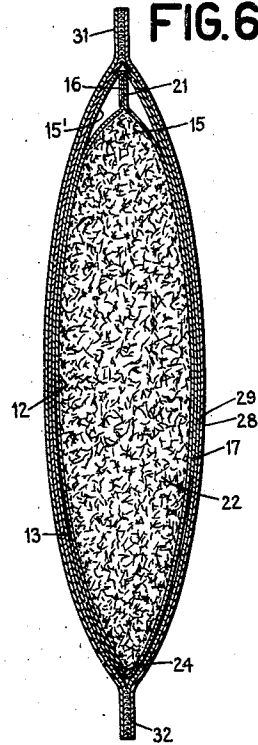


FIG. 7.

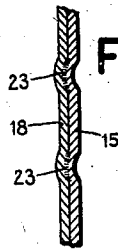


FIG. 9.

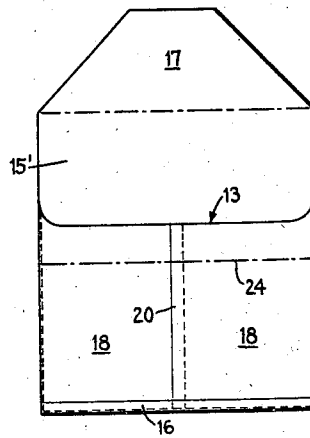
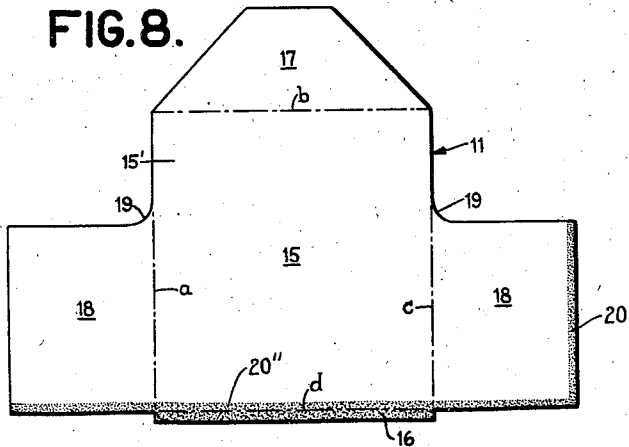


FIG. 8.



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2,248,578

CONTAINER

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Application March 18, 1937, Serial No. 131,617

1 Claim. (Cl. 229—55)

This invention relates to containers and more particularly to flexible containers made of paper, foil, and like materials and adapted for use in packaging tobacco or other similar products.

It has been heretofore proposed to package substances, such as tobacco, for example, in flexible containers made of inexpensive materials, such as paper and metal foil, and adapted to be readily and comfortably carried in one's pocket, but said containers have not proved entirely satisfactory for preventing the escape of moisture and aromas from and the absorption of excess moisture by products contained therein. Tobacco, for example, is treated by the manufacturer at great expense in order to condition the same so that it will give utmost satisfaction to the consumer. Most packages of the above character which have been heretofore provided have not been impervious to air and moisture and have accordingly permitted evaporation of the volatiles from the contents and, hence, the drying out of the packaged product and the loss of the flavor and aroma thereof.

It has also been proposed to package tobacco or like products in a container formed by folding a single blank of paper or other flexible material and cementing portions thereof together to provide a pocket and an integral elongated flap for closing the mouth of the pocket or package when it is folded around the latter to prevent spilling of the contents and yet permit the ready removal of some or all of the contents when desired. As heretofore constructed, however, such packages or pouches have been susceptible to tearing at points where tearing will render the same undesirable for the purposes intended. Furthermore, the seams in prior packages of the above character have been so located as to be most susceptible to destruction by the forces to which the same are subjected during the removal of the contents from the package.

It is accordingly one of the objects of the present invention to provide a novel flexible container for packaging substances such as tobacco in an impervious manner whereby the volatile content thereof will be maintained substantially constant for an extended period of time.

Another object of the invention is to provide novel packaging means which comprise an impervious outer portion adapted to keep the contents fresh during the period between packaging and actual use and an inner portion which serves as a package or pouch for use by the purchaser during the period the contents are being consumed.

A further object is to provide a novel constructed paper package which is constituted by a pocket and an elongated closure flap, said pocket having a minimum number of seams and said seams being so located as to be subject to a minimum of destructive forces during the normal use of the pouch.

A still further object is to provide a light, inexpensive container which may be readily manufactured and sealed for hermetically enclosing a substance to prevent the evaporation of moisture therefrom and the absorption of moisture thereby.

Still another object is to provide a novel container comprising a portion adapted for hermetically sealing the contents thereof and a portion adapted to be comfortably carried in the pocket of the user without causing any wear and tear on his clothing such as is caused by rigid tin or cardboard containers and from which the contents may be readily dispensed after the impervious outer portion has been removed.

The above and further objects and novel features of the invention will more fully appear from the following detailed description when the same is read in connection with the accompanying drawings. It is to be expressly understood, however, that the drawings are for the purpose of illustration only and are not intended as a definition of the limits of the invention, reference being had primarily to the appended claim for this latter purpose.

In the drawings, wherein like reference characters refer to like parts throughout the several views,

Fig. 1 is an isometric side elevation of one form of sealed container embodying the present invention;

Fig. 2 is a similar view of said container, a part of the outer portion thereof being broken away, showing the inner portion thereof being removed;

Fig. 3 is an isometric side elevation of the novel inner portion of the container, the same being shown in partially opened position;

Fig. 4 is a detail cross-sectional view on an enlarged scale, the section being taken on line 4—4 of Fig. 2;

Fig. 5 is an isometric side elevation showing one form of the novel pouch comprehended by the present invention, the same being shown in substantially opened position;

Fig. 6 is a cross-sectional view of the container of Fig. 1 on a slightly enlarged scale, the section being taken on line 6—6 of Fig. 1;

Fig. 7 is a detail sectional view on an enlarged scale showing the method of sealing the mouth

of the pouch of Fig. 5, the section being taken on line 7-7 of Fig. 5;

Fig. 8 is a development of one form of blank which may be employed in making the pouch of Fig. 5;

Fig. 9 shows the blank of Fig. 5 in folded condition prior to the placing of the contents therein; and,

Fig. 10 is a detail view, with parts broken away, of a modification showing one manner of securing a revenue stamp or the like on a package embodying the present invention.

The single embodiment of the invention illustrated in the drawings, by way of example, is especially adapted for use in packaging substances, such as loose-cut tobacco, in small quantities for sale to and use by a consumer. The package or container shown is constituted by two novel portions combined in a novel manner to provide a container whereby the tobacco or other contents may be imperviously sealed and kept absolutely fresh for an indefinite period of time under any and varying conditions of temperature, pressure and humidity, and whereby the contents may be conveniently and comfortably carried and intermittently dispensed by the consumer from the inner portion thereof when the impervious and imperviously sealed outer portion has been removed. Tobacco may thus be inexpensively packaged and distributed for sale and use with assurance that the consumer will receive the tobacco in factory fresh condition irrespective of the time interval between packing and use and irrespective of any variations in climatic conditions to which the package and contents are subjected during said interval.

The novel inner portion of the container is formed from a blank of flexible material, said blank being treated so that predetermined surface areas thereof may be caused to adhere by the application of heat and pressure when the blank is folded in a novel manner for providing a readily portable package which may be readily opened without damage, which may be opened and closed numerous times for conveniently dispensing the contents thereof and which is so formed as to guard against failure at points where failure is most likely to occur. In the form shown, said inner portion is constituted by a pouch 10 (Figs. 2 and 5) which is preferably made by folding a single blank 11 of paper or similar flexible and tenuous material to form a pocket 12 having a mouth at 13 and a closure flap 14 extending beyond said mouth and adapted to be folded around said pocket and the contents therein.

Blank 11 may be made of paper which has been treated to render the same soft and flexible yet durable and tenacious. As an example, said blank may be constituted by parchment paper plasticized by treatment with glycerine, whereby the same is rendered soft, pliable, less subject to tearing and less subject to being weakened when contacted by moisture, said paper being adapted to carry up to 20 per cent glycerine. The entire inner surface of said blank or a selected area on the inner surface thereof, as indicated by the shaded portion in Fig. 8, is coated with a thermoplastic or heat-sealing lacquer or cement for the purpose of minimizing absorption by the paper of volatiles from the tobacco or other contents in pocket 12 and to provide means for sealing the seams of said pocket in a manner to fully appear hereafter. One suitable coating composition which may be employed for this latter purpose is constituted by a mixture consisting of

approximately ninety-nine parts of a cement or lacquer known as Du Pont's No. 6303 and one part of paraffin wax.

In the form shown, blank 11 comprises a central rectangular portion 15 defined by construction lines *a*, *b*, *c* and *d*, a narrow seam-forming or bottom flap 16, a portion 17 of trapezoidal shape, and a pair of oppositely disposed side flaps 18, 18 which, for a purpose to hereinafter appear, have curved portions 19, 19 at the junctures of the upper edges thereof with central portion 15. To form pouch 10 from blank 11, flaps 18, 18 are first folded inwardly through 180° along lines *a* and *c*, said flaps being of sufficient width so that the free edges thereof overlap each other, as seen in Fig. 9. The overlapped portions of said flaps are then joined to form an impervious, vertical seam 20 by the application of heat and pressure whereby the thermoplastic cement coating 20' between the overlapped portions is activated and pressed into the interstices of the adjacent surfaces of the flaps. The flaps 18, 18 are thus made to constitute the front wall or side of pocket 12.

Flap 16 is then folded upwardly along line *d* to engage the lower edges of folded flaps 18, 18. Heat and pressure are then applied to flap 16 and to the portions of central area 15 and the bottom edges of flaps 18 which are overlapped by flap 16 to activate the cement coating 20' thereon and form an impervious three-ply seam 21 (Fig. 6) at the bottom of pocket 12. Seam 21, in addition to serving as a closure for the bottom of pocket 12, also functions to give enough longitudinal rigidity to the container to make it easier for the consumer to dispense the contents thereof. After pocket 12 has been filled with the desired contents 22, the sides or walls of said pocket adjacent mouth 13 are preferably pressed together and heat-sealed along one or more lines 23, a thermoplastic coating which may be provided on the inner surface of blank 11 serving as the binding medium. The upper portion of pocket 12 and the closure flap which consists of the upper part 15' of area 15 and portion 17 are then wrapped around the remainder of said pocket and its contents. Said closure flap may be of any desired length, the same, as shown, being of sufficient length, when the structure is folded along line 24, to permit portion 17 to extend around the bottom of pocket 12. The edges of flap portion 15' may be heat-sealed to the ends of the outer walls of pocket 12, if desired, in the manner indicated at 25 for the purpose of holding the flap in place until it is desired to open the container.

Although paper containers of the above nature have proved quite efficient in maintaining the freshness of tobacco and like products for a considerable period of time, some drying out of the same and loss of the aroma thereof have resulted, this being due in part to the escape of moisture through the hygroscopic material of which blank 11 is made. Accordingly, to further insure the freshness of the tobacco in pouch 10 when the same is delivered to the consumer, said pouch is combined with and imperviously enclosed in a novel covering 26 constituting the outer portion of the novel container comprehended. Said outer portion, in the form shown, comprises a pair of rectangular laminated blanks 27, 27, each of said blanks being constituted by one or more paper laminae 28 and one or more impervious, non-hygroscopic laminae, such as foil lamina 29 (Fig. 4). The foil laminations are wholly or par-

tially coated, for a purpose to appear hereafter, with a thin, dry film of thermoplastic cement 30 on the outermost or exposed faces thereof. Said cement should be non-hygroscopic and so constituted as to adhere readily to the foil laminations and bind the latter together when heat and pressure are applied thereto. One cement which has been found suitable is known as Reynolds Metals Company acetate lacquer No. TC-3, said lacquer having potential adhesive qualities. This particular lacquer or cement becomes plastic and tacky at about 350° F., is soluble in alcohol or acetone, and is adapted to be readily applied to the foil in the form of a thin, dry film by a roller-coating method. A suitable quantity of said lacquer is about four pounds of lacquer per ream of foil when the entire outer or exposed surface thereof is coated.

Each of the blanks 27 is preferably, although not necessarily preformed by drawing or pressing the central portion thereof to form a contour of any desired shape for receiving and housing one-half or other suitable part of pouch 10 after the latter has been filled with contents 22 or to adapt said blanks to fit around any other package or article which it is desired to enclose therein, the foil laminations being on the concave surfaces of the formed blanks. Said blanks are then placed over opposite sides of the pouch and the adjacent parallel edges or marginal portions 31 thereof are sealed to one another, as at 32 (Fig. 4), by the application of heat and pressure thereto for activating the coatings of thermoplastic cement 30 therebetween. Since a positive pressure member may be brought into direct contact with both sides of seam 32, which, as shown, extends entirely around the periphery of the container 10, 26, a substantial pressure may be applied in order to insure an impervious seam or joint 32 without in any way affecting or injuring the contents of the container. When high pressures are employed, less heat is required to form a satisfactory seam or joint 32 and the speed with which the container may be fabricated is correspondingly enhanced. The foil lining of the outer container 26 and the foil-to-foil seam 32 thereof, which includes the non-hygroscopic, thermoplastic cement coatings 30, serves to give some rigidity to the container and to prevent the escape or entrance of moisture or air from or into said outer portions 26 of the container and, hence, from or into pouch 10. It has been found that the same result cannot be obtained with an ordinary paper-to-paper seam, since paper is hygroscopic and porous and forms a path for the moisture and air between the contents of the container and atmosphere, the paper functioning as a wick for conducting the moisture. If desired, a single laminated blank may be employed in lieu of the two blanks 27, 27 by folding the same at the middle and around pouch 10 and forming seams in the above manner along three sides or margins thereof instead of entirely around the periphery.

When it is desired to use the contents 22 of the above-described container, one of the edges or margins 31 of outer container 26 is torn away, as shown in Fig. 2, and pouch 10 is removed. Flap 15', 17 of the pouch is then unfolded, in the manner shown in Fig. 3 and to the position shown in Fig. 5, and seals 23 are broken by running the finger, for example, along mouth 13. A string may be provided for use in a manner well-known in the art for breaking seals 23, if desired. The tobacco may then be readily poured from pocket 12 into a cigarette paper or pipe or the same may

be dipped from the pocket with the fingers or by means of a pipe. When the desired quantity of tobacco has been removed, the closure flap may be again folded around the pocket to maintain the remainder of the contents therein until it is desired to use some more thereof.

As the contents are being removed in the above manner or any other suitable manner, the major stress on the material from which the pouch is made is that stress tending to separate the opposite walls of pouch 12 along lines *a* and *c*. To prevent the tearing which is prevalent in prior art containers at the upper corners of pocket 12, the fillets or curved portions 19 are provided. Furthermore, instead of employing a vertical seam at each end of pocket 12, as has been the practice heretofore, a pouch having a single, vertical seam 20 is provided, said seam being located intermediate the ends of said pocket. The seam thus located is subjected primarily to a shearing stress, as distinguished from a parting or separating stress, and is accordingly less apt to fail during use of the pouch.

If desired, a revenue stamp or other adhesive coated strip for holding flap 17 in closed position may be applied to the above-described container in the novel manner illustrated in the embodiment of Fig. 10, whereby said stamp will be visible on the outer surface of cover container 26 and yet be applied to pouch 10 so as to require tearing thereof before the pouch can be opened. In the form shown, a stamp or strip 25' has one end or substantially one-half thereof adhesively secured to flap 17 and the wall of pocket 12. The other end of said strip extends through seam 32 and is adhesively secured to the outer walls of cover pouch 26. To enhance the strength and rigidity of the container and to protect seam 32 against relative slippage of the engaging surfaces thereof, said seam may be formed with one or more ribs 33, 33 in the engaging marginal portions 31 of the blanks 27. Said ribs may be formed simultaneously with the formation of seam 32 by employing sealing irons having the operating faces thereof contoured for the purpose.

During the formation of outer container 25, the application of heat to the marginal portions 31 of blanks 27 to form seal 32 is effective to disintegrate the volatile portions of lacquer coatings 30 between said marginal portions and leave only the solids contained in said lacquer coatings in union with the surfaces of the metal foil laminae. Films 30 are preferably of minimum thickness consistent with the provision of a suitable union between the engaging surfaces of the foil and, hence, prevent the entrance or escape of moisture through seam 32.

There is thus provided a novel container which is inexpensive and of light weight, whereby products, such as tobacco, and particularly products of a hygroscopic nature which give up and absorb moisture readily, may be quickly and easily packaged so that the same will remain in factory fresh condition under varying climatic conditions for an indefinite period of time. The container provided comprises a novel, impervious covering and a novel pouch therein adapted for use by the purchaser or consumer in carrying the packaged contents, when it is desired to use the latter intermittently. Said pouch is so constructed as to minimize the destructive effects of any stresses to which said pouch is subjected during use. The two-part container provided is less expensive than a package of the character of pouch 10, when the latter is made of foil-backed paper. In the

two-part container, a comparatively inexpensive material may be employed in making the pouch or inner portion of the container, since the same is in actual use by the consumer for only a short period of time.

Although only two embodiments of the invention have been illustrated and described in detail, it is to be expressly understood that the same is not limited thereto. For example, other types of packages may be enclosed in container 25 or products may be packaged therein without any inside pouch or container. While the illustrated embodiments show the outer portion of the package formed of two blanks, it will be understood that a single blank folded in the middle may be employed, seams being thus provided on three sides rather than on all four sides. Various changes may also be made in the design, arrangement and size of parts illustrated, as well as in

the composition of the materials specified, without departing from the spirit and scope of the invention as the same will now be understood by those skilled in the art. For a definition of the limits of the invention, reference will be had primarily to the appended claim.

What is claimed is:

A container comprising a pouch having a closure flap, a covering forming a compartment for said pouch, opposite walls of said covering having the inner surfaces adjacent an edge thereof adhesively secured together to form a seam, and a strip having one end thereof adhesively secured to said pouch for holding said flap in closed position, the other end of said strip extending through said seam and being adhesively secured to an outer wall of said covering.

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