Dec. 19, 1944. R. R. WALTON ET AL 2,365,159

CONTAINER

Filed Aug. 3, 1940 4 Sheets-Sheet 1

Fig. 1

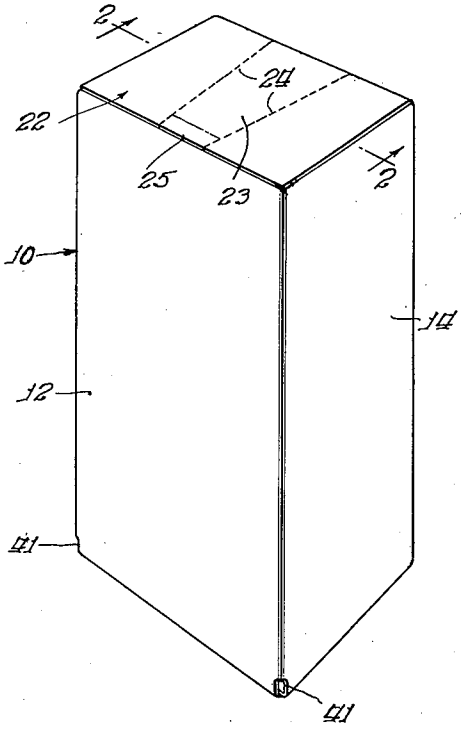
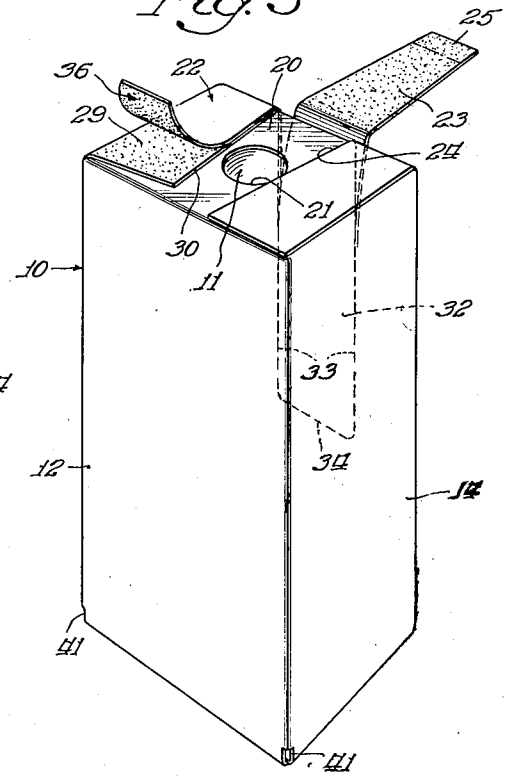


Fig. 3



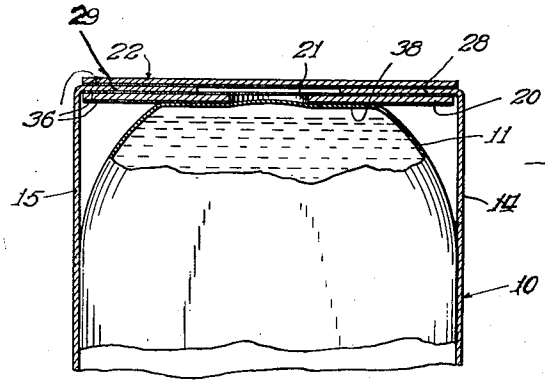


Fig. 2

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Fig. 5

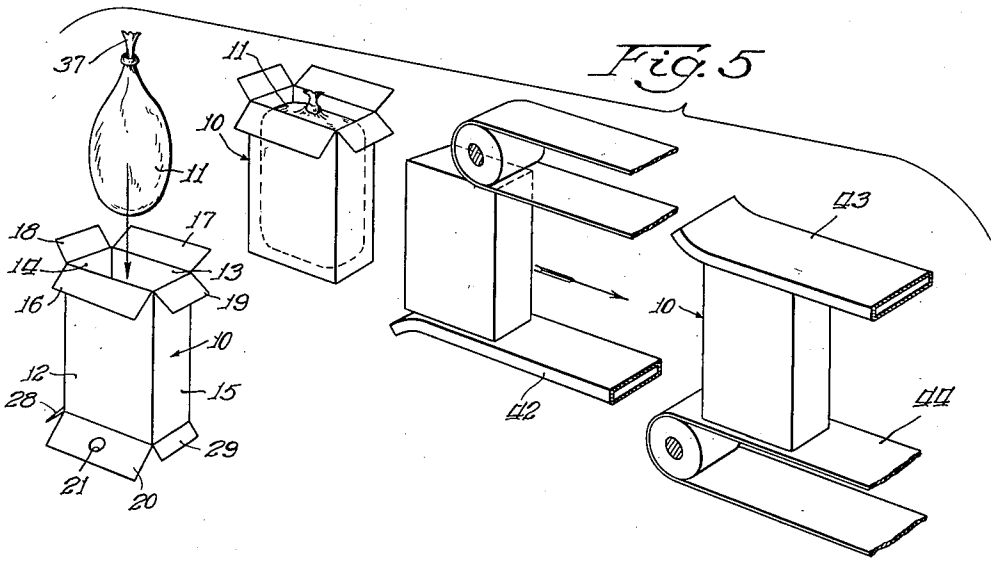
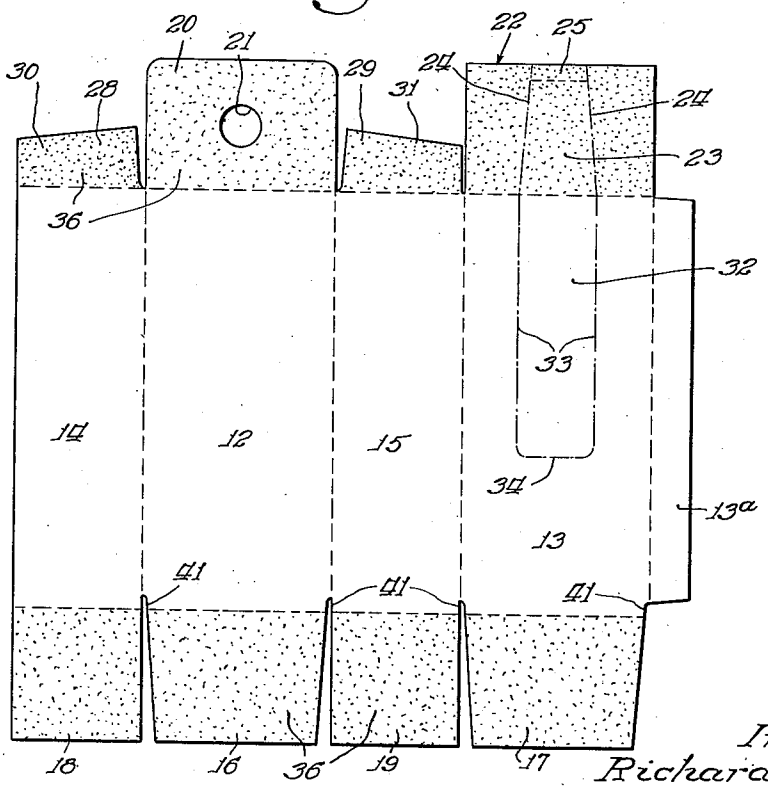


Fig. 4



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CONTAINER

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Fig. 6

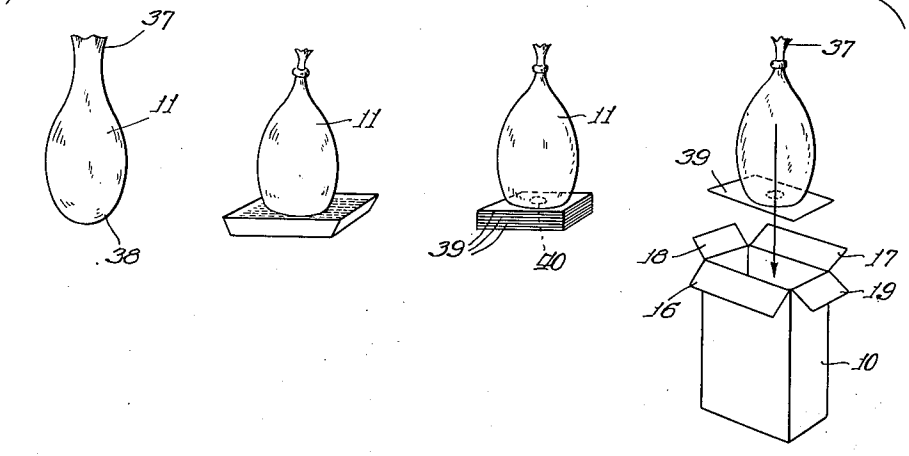
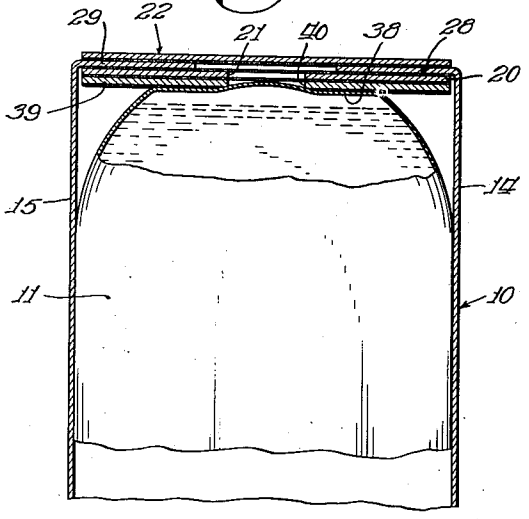


Fig. 7



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CONTAINER

Filed Aug. 3, 1940 4 Sheets-Sheet 4

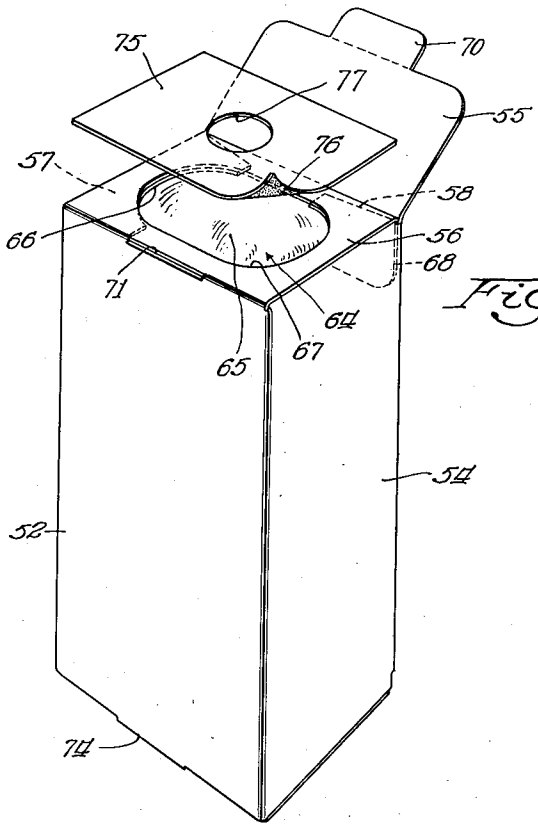
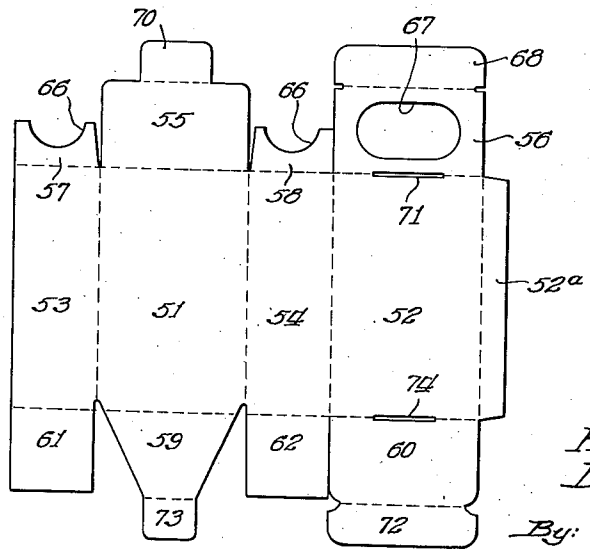


Fig. 8

Fig. 9



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Patented Dec. 19, 1944

2,365,159

UNITED STATES PATENT OFFICE

2,365,159

CONTAINER

Richard R. Walton, Wellesley, and David G. Greenlie, Waltham, Mass., assignors of one-half to Container Corporation of America, Chicago, Ill., a corporation of Delaware, and one-half to Dewey & Almy Chemical Company, Cambridge, Mass., a corporation of Massachusetts

Application August 3, 1940, Serial No. 350,852

11 Claims. (Cl. 229—14)

The present invention relates to dispensing containers and more particularly to containers for dispensing liquid materials.

One object of the invention is to provide an inexpensive form of container particularly adapted for the transportation, storage and subsequent dispensing of liquids such as orange juice and other liquids which require protection due to their tendency to deteriorate upon exposure to air.

Another object of the invention is to provide an efficient form of dispensing container having a closure formed with a dispensing opening over the interior of which is secured a flexible closing means which serves to retain material within the container but which may readily be punctured to permit dispensing of the contents of the container.

Another object of the invention is to effectively combine a collapsible dispensing container or carton formed of flexible sheet material, such as paperboard, with a liqid-tight, expansible bag of thin rubber-like sheet material so that liquids retained within the bag will have adequate protection during transportation and storage and so that the contents may be dispensed with a minimum amount of time and effort.

Another object of the invention is to provide an improved form of folding carton having a closure formed with a dispensing opening and having additional closure parts affording adequate protection and coverage for the opening but being readily removable to admit of access to the opening for dispensing purposes.

Another object of the invention is to provide an inner lined dispensing carton particularly adapted for the storage and subsequent dispensing of liquid substances, such as orange juice and other liquid food or beverage materials which are stored to the best advantage in a frozen condition, the container including a portion thereof which is readily removable to expose the inner lining material to provide a means for conveniently and rapidly liquefying the frozen contents of the container.

A further object is to provide an effective method of combining or assembling a collapsible dispensing carton and liquid-tight lining element wherein the conditioning of parts of the carton for production of a protected dispensing opening will at the same time condition the carton for securing the lining element in position within the carton.

Numerous other objects, as well as advantages and uses of the invention, will be appreciated and understood upon reading the following description and the claims at the end of the specification.

In the drawings:

Fig. 1 is a perspective view of a carton formed in accordance with the present invention, illustrating the provision of a removable closure section;

Fig. 2 is a fragmentary sectional view, taken along line 2—2 of Fig. 1, illustrating the relative positions of the carton closure flaps and the manner of securing a portion of the lining element in relation to the dispensing opening provided in the flaps;

Fig. 3 is a perspective view illustrating the removable section of the closure element after it has been moved to a position in which the dispensing opening is uncovered;

Fig. 4 is a plan view of a form of blank from which the carton of the present invention may be constructed;

Fig. 5 is a schematic view illustrating various steps of handling and treating containers made in accordance with the present invention;

Fig. 6 is a schematic view showing the process of securing attaching strips to a filled bag or liner element preparatory to depositing the bag within the carton;

Fig. 7 is a fragmentary sectional view, similar to Fig. 2, illustrating the relationship of the carton flaps and the attaching strip having the bag or liner secured thereto;

Fig. 8 is a perspective view of a modified form of carton having one of the closure flaps spread for purposes of clearance of illustration and showing an attaching strip adapted to be secured to an exposed part of the bag or liner element; and

Fig. 9 is a plan view of a blank for forming a carton constructed as illustrated in Fig. 8.

The present invention, as herein disclosed, comprises the combination of a suitable form of collapsible or folding carton within which is secured a lining element of flexible sheet material and preferably in the form of an elastic, liquid-tight bag of thin, rubber-like sheet material, the carton having suitable closure elements which afford protection for the contents but which may be readily conditioned for dispensing such contents.

Referring more particularly to the drawings, there is indicated as a whole at 10 a folding carton preferably of collapsible, tubular form made from a single blank of flexible sheet material such as paper-board, as illustrated in Fig. 4. A

lining element, herein illustrated as a thin, rubber-like bag, indicated as a whole at 11, is provided having a capacity sufficient to hold, without excessive stretching, an amount of liquid that can conveniently be placed in the carton.

While the carton 10 may be made in various specific forms, it is preferably elongated in horizontal plan and for that purpose the blank, as shown in Fig. 4, is suitably cut and scored to provide relatively wide side walls 12 and 13 and somewhat narrower edge walls 14 and 15. One of the walls, herein shown as wall 13, carries an extension flap 13a which permits walls 13 and 14 to be secured together to form the container into a collapsible tube.

Top and bottom closures are provided in the present instance by integrally hinged extension flaps. The bottom closure is provided by the flaps 16 and 17 extending from the walls 12 and 13, respectively, and by flaps 18 and 19 extending from walls 14 and 15, respectively.

The top closure is formed so as to enable it to readily be conditioned to dispense the contents. For this purpose a flap 20 is provided integrally hinged to wall 12 and an aperture 21 is preferably formed substantially centrally thereof. Opposite the flap 20 is provided a flap 22 on wall 13. This flap is preferably of a width sufficient to reach across the narrow dimension of the carton and is herein illustrated as formed with a tear-out portion 23 defined from the remainder of the flap by diverging weakened lines 24, 24 along which the flap 23 can readily be torn. A tab element 25 is preferably provided at the extremity of the portion 23 to provide a part that can readily be grasped and pulled by the fingers of the user desiring to open the carton. Flaps 28 and 29 are provided on the walls 14 and 15. These flaps are preferably formed with diagonally cut edges 30 and 31 which are designed so as to substantially correspond with the tapered edges of the tear-out portion 23 when the flaps have been assembled in closure-forming relationship.

When the container is to be employed for retention of frozen liquids within a bag or lining element, it is preferable to provide means for exposing a relatively large area of the lining element to direct contact with a heating or melting melium such as hot water. For this purpose an additional tear-out portion 32 is provided, preferably as an extension of the portion 23, by forming weakened lines 33, 33 within wall 13. If it is desired to have the parts 23 and 32 completely severable, an additional weakened line 34 extending between lines 33, 33 is formed, otherwise the line 34 may be formed as a fold line or it may be eliminated entirely.

As the provision of the tear-out portion 32 tends to allow water to enter between the bag and the inside of the carton walls when the carton is immersed in warm water to thaw the contents, there is preferably provided means for allowing the water to drain off from the interior of the carton. For this purpose the carton panels are preferably formed with cut-away portions 41, 41 which provide openings in the lower corners of the carton to allow water used in melting the contents of the bag to flow out from the bottom of the carton so that this water will not remain in the carton and flow out of the opening formed after the tear-out portion 32 has been removed from its side wall. Thus, there is avoided the likelihood that water used in melting the contents of the bag will be poured out into the same vessel that receives the contents of the bag.

The closure flaps are preferably secured by a thermoplastic adhesive substance, indicated by stippling 36, applied to the blank while spread out as indicated in Fig. 4, or applied to the sheet material from which the carton blanks are cut. After application of the adhesive, the blanks are formed into flat tubes and are then ready for delivery to the packer for filling and sealing. A preferred method of arranging the flaps and sealing them together will presently be described.

The inner lining or bag element 11, as previously pointed out, is of such size as to hold an amount of liquid, without excessive stretching, that will substantially fill the container. A convenient manner of handling the bag 11 is to fill it with liquid then seal the neck portion or mouth 37 in any suitable manner, after which the filled bag is ready for insertion into the carton. When it is desired to store the product in a frozen condition, freezing may be done either before or after the filled bag is introduced into the carton. If freezing is to be done before insertion, the bag should be placed in a form before freezing to shape it conform to the shape of the carton.

If it is desired to first insert the filled bag into the carton, the top flaps 21, 22, 28 and 29 are first sealed, the carton then inverted, or the top flaps can be brought to closed relationship while the carton is in an inverted position. The bag is then dropped into the carton with the closed mouth directed upward as illustrated in Fig. 5.

In the event all of the top flaps have been coated on their inner faces with thermoplastic adhesive coating, actual sealing may be deferred until the flaps are closed and the filled bag is in the carton with its bottom portion 38 in contact with the innermost flap. The thermoplastic coating is then softened by heating to bring it to an adhesive condition thus causing the flaps to adhere. Heating also causes the thermoplastic coating on the innermost flap to become adhesive and, in the case where the coating on this flap is compatible with the material of the bag, the bottom 38 of the bag will adhere to the flap upon setting or cooling of the coating.

In the event the thermoplastic coating is incompatible with the material of the bag it is preferred to provide means for causing the bag to be secured in fixed relation to the closure. For this purpose there is preferably provided a strip or panel 39 of such size as to fit within the carton. This strip is preferably first secured to the bottom 38 of the bag by applying the surface portion 38 to a convenient supply of adhesive in a receptacle and then bringing the bottom portion of the bag into facial contact with the strip 39 and keeping the strip and bag in contact until the adhesive has become set. In practice, as illustrated in Fig. 6, it is convenient to first apply a small amount of adhesive to the portion 38 of the bag, then bring the bag over into contact with the top one of a pile of strips 39, 39 causing initial adherence of such strip to the bag, then introducing the bag within the carton so that the strip will rest against the innermost flap of the carton with the bag resting thereabove. If desired, the strips 39 may be first provided with adhesive on one of their surfaces so that touching the bottom of the bag to the strip will cause adherence of the strip to the bag.

The application of heat to the closure flaps of

the carton will then cause the thermoplastic coating on the flaps to become adhesive and causing the flaps to adhere and also causing the innermost flap to adhere to the strip 39. After the application of heat to soften the thermoplastic coating, the carton will be removed from the heating means, thus allowing the thermoplastic coating to cool and harden and effecting permanent adherence between all of the flaps and between the innermost flap and the strip 39. It is therefore apparent that the bottom portion 38 of the bag will be firmly secured to the under side of the top closure of the carton.

After the bag has been secured within the carton and one set of closure flaps sealed, as above described, the remaining set of closure flaps can then be sealed in any convenient manner. In the present instance, if the top closure flaps are provided with thermoplastic adhesive coating, it is considered preferable to also apply a thermoplastic adhesive coating to the closure flaps in the same operation so that the bottom closure flaps of the carton may be caused to adhere in the same manner and by the same type of method and machinery as the top closure flaps.

The preferred method of assembling the top closure flaps is to first fold down the flap 20 and next fold the flaps 28 and 29 thereover after which the flap 22 is folded to lie on the outer surface of the flaps 28 and 29. The inner portions of the flaps 28 and 29 between flaps 20 and 22 will tend to cause the central part 23 of the flap 22 to remain out of firm contact with the corresponding portion of the flap 20, thus, the tear-out portion 23 will not be caused to adhere, to any appreciable extent, to the flap 20 which will facilitate the removal of the flap portion 23 from over the aperture 21.

The strip 39 is preferably formed with an aperture 40 so disposed as to substantially register with the aperture 21 in the flap 20. Due to this arrangement it is apparent that removal of the portion 23 of flap 22 from the aligned apertures 21 and 40 will expose a portion of the bottom 38 of the liquid-filled bag so that the contents of the bag may be readily dispensed by simply puncturing the bag at the aperture with any convenient sharp instrument.

In the event that the bag or lining element is formed from an extensible or stretchable, rubber-like film of sheet material, the part of the lining element or bag secured adjacent the dispensing opening is preferably conditioned, or secured in such manner, that the material of the bag or liner over the opening will be in a tensioned or stretched condition, and will remain in such tensioned or stretched condition for a substantial period of time sufficient in ordinary course of events for the bag to reach the consumer. By tensioning the portion of the bag at the dispensing opening, puncturing at this point is facilitated and the material of the bag will tend to tear so that a puncturing force tending normally to produce a relatively small opening in untensioned material will produce a relatively large opening by reason of the tensioned condition of the material. To accomplish this result it is only necessary to secure the bag or liner adjacent the opening and a short distance back from its periphery of the dispensing opening, although, in practice, it is convenient to secure the bag substantially throughout the entire area of the innermost flap or strip which engages the portion 38 of the bag.

Tensioning of the bag at the dispensing opening may also be effected by selecting a particular composition of rubber-like material which has the property of being elastic at temperatures approximating 32° F. and over but which loses its elastic properties at substantially lower temperatures, again regaining such elastic properties when brought to a temperature of approximately 32° F. When this type of composition is employed a bag of such size is preferably selected that its limp capacity at temperatures of 32° F. and above will be somewhat less than the volume of liquid to be held therein. The limp capacity of the bag, however, should be sufficiently large as to avoid forceful ejection of the liquid upon puncturing the bag while the contents are at a temperature of approximately 32° F. or above, at which point the bag will regain its elasticity.

While it is within the scope of this invention to apply external means for obtaining the desired tension on the bag or liner portions adjacent the dispensing opening, this result can be accomplished in a satisfactory manner by selecting a bag of such size and thickness of material so that when substantially the proper amount of liquid has been introduced into the bag while in an unsupported condition there will be an appreciable amount of stretching over the portions which are to be secured to the material of the carton at the dispensing opening. If the liquid contained in the bag is to be frozen in a form prior to introduction of the filled bag into the container, the bag will preferably be stretched at least over that portion which is to be secured at the dispensing opening.

In an arrangement where the lining element is secured in a tensioned condition entirely around the dispensing opening, puncturing the dispensing opening with a pointed instrument, as distinguished from one having a knife edge, tends to form a circular aperture in the lining element, the edges of which aperture terminate short of the edges of the dispensing opening in the carton, this being due to the fact that the opening caused by puncturing will tend to spread and further enlarge the opening until the material has contracted to substantially a condition of repose. This will result in the edges of the opening in the lining element being spaced inwardly from the edges of the dispensing opening where the puncture is formed centrally of the dispensing opening or even where the puncture is formed an appreciable distance inward of the edges of the dispensing opening. A thin edge is thus provided over which liquid can be poured through the dispensing opening but without, however, allowing the liquid to come into contact with the raw edges of the paper at the opening.

When liquid is being poured out from the opening in the lining element there will be a slight outward bulge produced due to the pressure of the liquid behind the free portions of the lining element at the opening. Then, when the pouring is terminated, and the carton is tilted back to a non-pouring position, the lining portion will again assume its original position across the opening substantially in the plane of the wall in which the dispensing opening is formed. The effect of this return movement of the lining element, together with the provision of a narrow edge over which the liquid is poured, particularly in the handling of liquids having a surface tension equivalent to that of water, will tend to terminate the pouring abruptly so that no dripping of liquid will occur.

A convenient method for sealing the flaps of

the carton may be performed by the use of the apparatus illustrated in Fig. 5. The top closure flaps are first assembled, as previously described, while the carton is in an inverted position or the top closure flaps may be assembled and the carton thereafter inverted. A filled bag is then introduced into the carton while in an inverted position, the mouth having been first sealed in a suitable manner. The carton is then delivered to a heated element or plate **42** which softens the thermoplastic adhesive on the top closure flaps, causing the flaps to adhere and causing adherence of the bag to the innermost flap, either directly or by means of the strip **39** as previously described. During, or prior to, the heating of the thermoplastic coating on the top closure flaps the bottom closure flaps are folded in so as to lie in overlapping relationship and these bottom closure flaps are then caused to adhere to each other by softening the thermoplastic coating thereon by bringing the closure flaps into contact with an additional heating plate or element **43**. For this purpose the filled carton may be carried to a conveying element **44** after leaving the plate **42**. Suitable mechanism for sealing the closure flaps of the carton is disclosed in the copending application of R. E. Lowey and E. A. Throckmorton, Serial No. 296,236, filed September 23, 1939, now United States Patent 2,266,054 issued December 16, 1941.

As indicated above, when it is desired to employ the above described container as a dispensing container it is necessary only to lift up the tear-out portion **23** to uncover the dispensing aperture **21** and then puncture the portion of the bag or lining element secured across the dispensing opening. Upon lifting the carton and suitably tilting it, all or a portion of the contents may readily be poured out. Since the sides of the bag are preferably left unsecured to the container, the contents may be poured therefrom without bubbling as the bag will collapse to an extent corresponding to the amount of liquid poured therefrom.

While the dispensing opening has been disclosed in an end of the carton it is to be understood that it is within the scope of the present invention to provide a dispensing opening in any other wall of the carton and, likewise, it is considered within the scope of the invention to form the dispensing opening in an end wall even though such end wall is not formed by an assembly of overlapping flaps.

The present invention is well adapted for use in customary commercial methods of handling and storing products in an unlabelled condition and which, from time to time, are suitably labelled to carry customers' private brand designations.

According to one form of procedure, a number of bags **11** are filled with the desired liquid product and the strip or card **39** is secured to the lower portion of each of the filled bags after which the bags are placed in a form of substantially the size and shape of the carton which is to enclose the bag and the contents are frozen in this form and then stored in a suitable refrigerating room until required.

If desired, the card **39** may bear a particular designating mark showing the kind and quality of the product contained in the bags. Thus, a large number of bags may be prepared ready for packing within cartons with minimum time consumption. When the packer, for example, obtains an order for a quantity of packages of frozen liquid to be packed in one of his customer's private brand cartons, it is only necessary to provide suitable cartons; and then condition the cartons by suitable machinery or by hand to close and seal the top flaps, deposit the bag of frozen product into the carton so that the aperture in the card **39** will be placed in contact with the wall of the carton which has a dispensing aperture formed therein, the card being sealed to the wall of the carton at the time the bag is introduced therein; and, after the remaining closure flaps of the container are sealed, the container is ready for shipment to the retail trade.

In the form of the invention illustrated in Figs. 8 and 9 a type of carton is employed which can be closed by means of tuck flaps, thereby making it unnecessary to employ adhesive for sealing the carton. As illustrated in Fig. 9, the carton is preferably formed of a one-piece blank of folding paperboard cut and scored to provide side walls **51**, **52**, edge walls **53**, **54**, the side wall **52** carrying an attaching flap **52***a* by which the carton may be secured in tubular form when the flap **52***a* is secured to wall **53**. The side and edge walls **51**, **52**, **53** and **54** at their top edges carry an outer closure flap **55** and inner closure flaps **56**, **57** and **58**, respectively, and at their bottom edges these walls carry closure flaps **59**, **60**, **61** and **62**, respectively.

As illustrated in Fig. 8, the carton is adapted to enclose a bag or impervious liner element **64** similar to the bag **11** of the first described form of the invention, the bottom portion **65** of the bag being shown in Fig. 8.

The flaps **57** and **58** are formed as short flaps and preferably have cut-away portions **66**, **66** providing an opening when in downfolded condition to allow an exposure of a substantial portion of the bottom of the bag therethrough. The flap **56** is formed with an opening **67** which, as in the case of the opening provided by flaps **57** and **58**, is of a size to expose a substantial portion of the bag therethrough. After folding down the flaps **57** and **58**, the flap **56** is folded thereover and can be held in such position by means of a tuck flap **68**. The flap **55** serves as a final closure being adapted to be secured in closed position by means of a tuck flap **70** receivable within a slot **71** formed along the hinge line between flap **56** and its side wall **52**.

The flaps at the bottom of the carton may be similar to the top flaps except for the provision of openings. Thus flap **60** has a tuck flap **72** and flap **59** has a tuck flap **73** insertable within a slot **74** in the fold line between wall **52** and flap **60**.

Means are provided for supporting the bag surface **65** in fixed relation to the top closure. For this purpose a retaining strip **75** is preferably provided which has one surface coated with adhesive, as indicated at **76** on the upturned corner of the strip. This adhesive is compatible with the texture of the bag as well as the surface of flap **56** so that when the bag is held in the carton in filled condition with the bottom portion **65** of the bag protruding through the opening **67**, the strip **75** with its adhesively coated surface disposed inwardly of the carton will adhere to the bottom portion **65** of the bag and to the underlying portions of the flap **56**.

For the purpose of bringing the strip **75** into contact with the bottom portion **65** of the bag, when the bag is contained in the carton in filled condition, the flaps **57** and **58** are folded inwardly and the flap **56** is folded over the flaps **57** and **58**

with the tuck flap 68 inserted between the filled bag and the side wall 51. With the bag so contained in the carton, the carton is inverted whereupon the liquid of the bag will force the bottom portion 65 to protrude somewhat outwardly of the carton beyond the plane of the flap 56. In this position of the bottom portion of the bag, with the flap 55 folded outwardly from the end of the carton, the adhesively coated surface of the strip 75 is brought into contact with the bottom portion of the bag and the surrounding surface of flap 56, thereby securing the strip to the bag and to the flap 56.

After the strip 75 has been secured to the bag as above described, the flap 55 is folded over the end of the carton and the tongue 70 is inserted into the slot 71, thereby retaining the strip between such flap 55 and the flap 56, as well as providing a protective covering for the bag exposed in the opening 77.

For the purpose of providing a dispensing opening in the form of invention illustrated in Figs. 8 and 9, a dispensing aperture 77 is formed centrally of the strip 75. The relation between the aperture 77 and the bottom portion 65 of the bag illustrated in Fig. 8 is substantially identical to the relation between the aperture 40 of the strip 39 and the bottom portion 38 of the bag illustrated in Figs. 6 and 7, and accordingly the portion of the bag 64 which is secured over the aperture 77 in the strip 75 is held in a stretched condition prior to puncturing the bag for dispensing the contained product therefrom.

While the present description sets forth preferred embodiments of the invention, numerous changes may be made in the constructions described and illustrated without deviating from the spirit of the invention and it is, therefore, desired that the present embodiments be considered in all respects as illustrative and not restrictive, reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

What is claimed is:

1. A container for fluent commodities comprising, in combination, a liquid-tight bag of thin, flexible sheet material and a carton, the carton comprising two side walls and two edge walls, flaps on each said side and edge walls adapted to close one end of the container, one side wall flap having a centrally located dispensing aperture formed therein, the flaps on the edge walls being arranged to overlie the apertured side wall flap but terminating short of the aperture therein, the remaining side wall flap being arranged to overlie the edge wall flaps, said overlying side wall flap having a removable central section disposed in juxtaposed relation to the dispensing aperture and the space remaining between the adjacent edges of the edge wall flaps, a portion of the flexible bag within the carton being secured to the apertured flap at least over the dispensing aperture, whereby, when the dispensing aperture has been uncovered by removing the central section of the overlying flap, the part of the bag extending over the dispensing aperture can readily be punctured to enable the contents of the carton to be dispensed.

2. A container for fluent commodities comprising, in combination, a liquid-tight bag of thin, flexible sheet material and a carton, the carton comprising two side walls and two edge walls, flaps on each said side and edge walls adapted to close one end of the container, one side wall flap having a centrally located dispensing aperture formed therein, the flaps on the edge walls being arranged to overlie the apertured side wall flap but terminating short of the aperture therein, the remaining side wall flap being arranged to overlie the edge wall flaps, said overlying side wall flap having a removable central section disposed in juxtaposed relation to the dispensing aperture and the space remaining between the adjacent edges of the edge wall flaps, at least a portion of the flexible bag within the carton being held in fixed relation to the apertured flap at least over the dispensing aperture, whereby, when the dispensing aperture has been uncovered by removing the central section of the overlying flap, the part of the bag extending over the dispensing aperture can readily be punctured to enable the contents of the carton to be dispensed.

3. A container for fluent commodities comprising in combination, a liquid-tight bag of thin extensible sheet material, a strip of sheet material and a carton, the carton comprising two side walls and two edge walls, flaps on each said side and edge walls adapted to close one end of the container, one side wall flap having a centrally located dispensing aperture formed therein, the flaps on the edge walls being arranged to overlie the apertured side wall flap but terminating short of the aperture therein, the remaining side wall flap being arranged to overlie the edge wall flaps, said overlying side wall flap having a removable central section disposed in juxtaposed relation to the dispensing aperture and the space remaining between the adjacent edges of the edge wall flaps, the strip of sheet material being adapted to fit within the carton against the closure flaps and being formed with an aperture located for registration with the centrally located aperture of the side wall flap, a portion of the bag being secured to the fibre-board strip in stretched condition at least over the aperture formed in the strip, whereby when the dispensing aperture has been uncovered by removing the central section of the overlying flap, the part of the bag extending over the aperture formed in the strip can readily be punctured to enable the contents of the container to be dispensed.

4. A dispensing carton for fluent materials comprising a tubular carton, an imprevious sheet of extensible material disposed therein, a wall of the carton having an aperture formed therein, a strip of relatively rigid sheet material adapted to fit within the carton against the apertured wall, the strip being formed with an aperture located for registration with the aperture formed in the wall, a portion of the impervious sheet being secured in stretched condition to said strip across the aperture therein, whereby, upon puncturing the impervious sheet through such aperture, a dispensing opening will be formed in the elastic material in registration with the apertures in the carton wall and the strip which will permit dispensing of the contents of the carton therethrough.

5. A dispensing container comprising side walls, an underlying closure flap, an intermediate closure flap, and an overlying closure flap, the closure flaps being carried by the side walls and adapted to close one end of the container, the underlying flap being formed to provide a dispensing opening, the overlying flap having a removable section disposed in juxtaposed relation to the dispensing opening, a thin sheet of puncturable, impervious extensible material disposed in stretched condition across the dispensing open-

ing to close the same, the intermediate flap being arranged to lie between the overlying flap and the underlying flap and impervious sheet and cut away to provide a space between the underlying flap and impervious sheet and the removable section, whereby when adhesive is applied between the flaps and the flaps thereby secured together, the removable section of the overlying flap will be left substantially unsecured to the other flaps and impervious sheet, thus facilitating the removal thereof whereupon access is provided for puncturing the impervious sheet.

6. A container for fluent commodities comprising, in combination, an impervious lining element of thin, extensible sheet material and a carton, the carton comprising two side walls and two edge walls, flaps on each of the side and edge walls adapted to be disposed in overlapping relation to close one end of the container, a flap on one of the side walls being an inner flap and having a centrally located opening formed therein, the flap on the other side wall being an outer flap and adapted to be removably secured relative to the inner flap, a retaining strip having a centrally located dispensing aperture formed therein appreciably smaller than the opening formed in the inner flap, the flaps on the edge walls being adapted to be disposed inwardly of the inner side wall flap and having their inner edge portions cut away to define an opening in substantial registration with the opening in the inner side wall flap, the inner side wall flap being adapted to be secured in overlying relation to the edge wall flaps, the retaining strip being adapted to be retained intermediate the inner and outer side wall flaps with the dispensing aperture located centrally of the opening in the inner side wall flap and having its inwardly disposed surface coated with an adhesive substance, a portion of the lining element being adapted to extend outwardly from the carton beyond the plane of the inner side wall flap to contact the retaining strip and thereby become adhesively secured thereto in stretched condition over the dispensing aperture formed in the strip whereby, when the outer side wall flap has been removed and the portion of the lining element disposed across the dispensing aperture in the strip is punctured, the contents of the container can be dispensed.

7. A container for fluent commodities comprising, in combination, a carton and an impervious lining element of thin, extensible sheet material disposed in the carton, the carton comprising side walls and edge walls, inner end flaps and an outer end flap on the side and edge walls adapted to be disposed in overlapping relation to provide a closure for one end of the carton, a retaining strip being formed with a dispensing aperture, the inner end flaps being formed to provide a relatively large opening therethrough, the retaining strip being adapted to be secured intermediate the outer end flap and inner end flaps with the dispensing aperture located centrally of the opening through the inner end flaps, means to removably secure the outer end flap relative to the inner end flaps, adhesive on the inwardly disposed surface of the retaining strip adapting the lining element to be secured thereto whereby when the adhesively coated retaining strip is secured between the inner end flaps and the outer end flap and the carton inverted, the fluent commodity contained therein will cause a portion of the lining element to be secured in stretched condition to the retaining strip and whereby the outer end flap may be removed away from the dispensing aperture in the retaining strip to facilitate the puncturing of the exposed portion of the lining element for dispensing the contents of the container.

8. The method of forming a package which comprises forming a tubular container having end flaps adapted to close one end thereof, at least one of said flaps having a dispensing opening therein, applying an adhesive to the inner surfaces of the flaps, folding the flaps inwardly into closure-forming position with the flap having the dispensing opening in underlying position, delivering an elastic bag and contents therein within the container and allowing the lower portion of the bag and the contents to rest upon said underlying flap and over said opening while the adhesive sets, whereby the bag is secured to the last-mentioned closure flap and a portion thereof extends across said opening in stretched condition.

9. A dispensing container for fluent materials comprising, in combination, a paperboard carton having a dispensing aperture formed in a wall thereof and means adapted to overlie and cover said aperture, and a lining element of extensible, liquid-impervious material disposed within said carton having a portion thereof adhesively secured to said apertured wall in stretched condition about and across said dispensing aperture.

10. A dispensing container for fluent materials comprising, in combination, a paperboard carton having a dispensing aperture through one wall thereof and means associated therewith adapted to overlie and cover said aperture, and a lining element of liquid-impervious, extensible material disposed within said carton, said lining having a portion thereof secured to said apertured wall in stretched condition across and adjacent said dispensing aperture by means of a film of an adhesive material completely surrounding said aperture.

11. The method of forming a package which comprises forming a tubular container having end flaps adapted to close one end of said container, at least one of said flaps having a dispensing opening therein, applying a thermoplastic adhesive to at least the inner surfaces of said flaps, folding said flaps inwardly into closure-forming position with the flap having said dispensing opening in underlying position, placing an elastic bag and contents therein within said container so that its lower portion rests upon said underlying flap in stretched condition, supplying heat to said adhesive to soften it and then removing heat to set said adhesive, whereby a portion of said bag is secured to said underlying flap and extends across said dispensing opening in stretched condition.

RICHARD R. WALTON.
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CERTIFICATE OF CORRECTION.

Patent No. 2,365,159. December 19, 1944.

RICHARD R. WALTON, ET AL.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, first column, line 49, for "melium" read --medium--; and second column, line 26, before "conform" insert --to--; page 5, second column, line 49, claim 4, for "imprevious" read --impervious--; line 61, same claim, for "elastic" read --extensible--; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 19th day of June, A. D. 1945.

Leslie Frazer

(Seal)

Acting Commissioner of Patents.