ABSTRACT

A rectilinear paperboard carton is provided with a liquid impermeable liner, the liner being adhesively held taut beneath an area of one of the end flaps of the carton adjacent an edge thereof, the flap having in said area a portion unsecured to the liner that is removable to expose the taut liner for insertion of a pouring spout to pierce the liner.

27 Claims, 11 Drawing Figures
LINED PAPERBOARD CARTONS PARTICULARLY FOR RECEPTION OF POURING SPOUTS

CROSS-REFERENCES TO RELATED APPLICATIONS

This is a continuation-in-part of U.S. patent application No. 265,964 filed June 26, 1972 by the present applicant.

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a paperboard carton having a liner impermeable to the fluid contents of the carton, and more particularly to a carton the contents of which can be dispensed by inserting a pouring spout into the carton.

2. Description of the Prior Art

Containers of paperboard have been successfully used for keeping and dispensing milk and other liquids, but metal cans still remain the containers of choice for many other liquids, for example, for motor oils, because despite their higher costs they are strong, durable and easy to fill and to open. It is a principal object of this invention to provide a lined paperboard container that may be competitive with such metal cans.

SUMMARY OF THE INVENTION

According to the invention there is provided a parallelepiped shaped paperboard carton which has the advantage over cylindrical cans that it is cheaper and can be packed tightly with other such cartons without the wastage of space that occurs with cylindrical cans. The carton has a liner substantially impermeable to its contents. To facilitate the insertion of a pouring spout into the carton, in order to pierce the liner, the liner is held taut beneath an area of one of the end flaps of the carton along an edge of the carton, said end flap having a tab portion unattached to the liner that is removably to let the spout into said area. The containers can be stored and shipped in flat, knocked down condition and can be readily erected for filling.

BRIEF DESCRIPTION OF THE DRAWINGS

Preferred embodiments of the invention are illustrated by way of example in the accompanying drawings in which:

FIG. 1 shows a knocked down container consisting of a paperboard carton blank with a tubular liner arranged flat thereon, parts of the liner being cut away for clarity of illustration;

FIG. 2 shows the container being erected, with the ends of the carton open;

FIG. 3 shows the container of FIG. 2 during a stage of closing and sealing one end of the carton;

FIG. 4 is a longitudinal section through the fully closed end of the container of FIG. 3;

FIG. 5 is a longitudinal section similar to FIG. 4 but showing a pouring spout inserted into the container;

FIG. 6 shows the container of FIG. 5 with the pouring spout inserted;

FIG. 7 shows the pouring spout;

FIG. 8 shows another carton blank, the position occupied by a liner when laid flat thereon being indicated by broken lines;

FIG. 9 shows the carton blank of FIG. 8 with a liner laid thereon and illustrates one way of sealing an end of the liner;

FIG. 10 shows the carton blank and liner of FIG. 9 erected into a container having one end open for filling; and

FIG. 11 shows the container of FIG. 10 arranged for sealing the open end of the liner.

The container of FIGS. 1 to 6 is the same as the one illustrated in FIGS. 12 to 17 of the above mentioned U.S. patent application No. 265,964. Referring to FIG. 1, a flat paperboard carton blank 110, of corrugated or uncorrugated board, has been cut and creased to define four rectangular panels 111, 112, 113, 114 having rectangular flaps 111a, 112a, 113a, 114a respectively protruding beyond one end and rectangular flaps 111b, 112b, 113b, 114b at the other. The end flaps are provided for closing what will ultimately be flat rectangular ends of the erected container. The panel 111 has a narrow flap 111c along its free edge. On the adjoining central panels 112, 113 are a pair of width-wise lines of adhesive, a first 120 extending along the ends from which the flaps 112a, 113a protrude, and a second 121 extending near the opposite ends of the central panels. The line of adhesive 120 crosses the juncture of panels 112 and 113 at x which will form one corner of the erected container. The line 120 is extended at 120a, 120b onto the end flap 113a, and has an oppositely directed extension 113d. Spots of adhesive 113 are provided on the flaps 112b, 113b. The adhesive so far described may be the only adhesive that is applied to the blank 110 before a liner bag 130 is laid upon it, the bag adhering to the adhesive and covering it so that the resultant knocked down container may be stacked on similar knocked down containers without adhering thereto.

The liner bag 130 is formed from an extruded tube of material suitable for holding liquids, for example polyethylene-nylon coextruded film tube, the material being chosen so as to be impermeable to the liquid, granular or other fluid material that it is to hold. As described in U.S. patent application No. 265,964, such flexible bags 130 may be formed and laid accurately on successive blanks 110 travelling on a conveyor. The bag illustrated has a transverse seal 131 at one end and is open at its other end 132. It is laid flat over the central panels 112 and 113 and is coterminous with the total width of these adjoining panels, protruding beyond the ends of the panels but not beyond the longitudinal extremities of the flaps, so that the bag is protected against fouling in container erecting, filling and closing apparatus. The longitudinal distance d between the seal 131 and the adhesive line 120 is at least equal to half the length of a diagonal of an end of the erected container. The other end 132 of the bag must protrude beyond the adhesive line 121 sufficiently far to have adequate material to close the end 132 once the bag has been filled.

For erection of the knocked down container of FIG. 1, the container may travel on a straight-line folder-gluer as described in U.S. patent application No. 265,964, the container preferably travelling with the sealed end 131 of the liner bag leading. In the gluer a spot of glue 159 is applied to end flap 114b, and adhesive is applied to both sides of the edge flap 111c. Thus, a line of adhesive 160 is applied to the upper side of flap 111c. As a first step in erecting the container, the panel 111 is folded over the flat liner 130 and the panel 112 so that the adhesive line 160 adheres to the liner, one end of the adhesive line 160 being the same dis-
distance \( d \) from the seal 131 as the adhesive line 120 is at point \( x \), the other end of the adhesive line 160 being the same distance from the open end 132 as the line 121. The panel 114 is then folded over the liner and panel 113, and overlies and adheres to the glued side of flap 111c opposite to the side carrying adhesive line 160. At this stage the knocked down containers might be stacked and stored or shipped for subsequent use, but if they are to be filled immediately they can proceed to a conventional erecting mechanism which erects them to the rectangular box condition shown in FIG. 2.

In the erected condition of FIG. 2, the bag seal 131 extends generally diagonally of the end of the box, and the bag has been stretched taut along a line 115 at the other diagonal of the box end. Tautness along the diagonal line 115 is ensured if each half of the line 115 (i.e., the shortest distance between seal line 131 and the diagonal through corner \( x \)) represents the distance \( d \) of FIG. 1, one half being from the seal 131 to the adhesive line 120 at one end of the diagonal 115 and the other half being from the seal 131 to the adhesive line 160 at the other end of the diagonal 115, the adhesive line 160 being on the flap 111c which joins the two sides 111, 114 of the erected container. Although the bag is taut along the line 115 of FIG. 2, the remainder of the closed end of the bag forms a pair of generally conical corners or ears 170, 170' adjacent corners of the paperboard carton. Part of the ear 170 is adhesively affixed to the end flap 113a as more fully set forth below, but the other ear 170' is free of the end flaps and, when the container has been filled and closed, may be exposed and cut to serve as a pouring ear in the manner more fully described in the above mentioned U.S. patent application Ser. No. 265,964.

In the erecting of the container the unsealed end 132 of the liner bag is pulled open, because the longitudinal adhesive line 160 pulls one side of the bag away from the opposite side which adheres to the lines 120, 121, the complete opening of end 132 being ensured by the spots of glue 133, 159 which hold the bag to the flaps 112b, 113b adjacent the unsealed end 132 of the bag. The squaring up of the container requires the sealed end of the bag to draw inwardly to the diagonal 115. The fact that the end 132 opens fully ensures that air pressures within and outside the bag are equal so that there is no air pressure differential tending to pull the bag out of place as the container is erected.

The end flap 113a of the carton blank has, at the end of panel 113, a rectangular tab portion 300 which is devoid of adhesive and is surrounded by a line of perforations so that portion 300 can without difficulty be removed as described hereinafter. The portion 300 is surrounded by adhesive, namely by the line 120 on panel 113, by lines 120a along the sides of portion 300, and by a line 120b along the edge of portion 300 remote from panel 113. When the bag 130 is laid on the blank 110 the bag adheres to all these lines of adhesive, and when the carton is set up (FIG. 2) part of one of the ears 170 of the bag is affixed, at the side adjacent flap 113a, around the removable portion 300, without being attached to the removable portion. Where the adhesive lines 120a and 120b meet they have a corner bevel 120c corresponding to a line that the ear 170 can adhere to without rupture when the carton is set up. This bevel 120c in FIG. 1 coincides with an imaginary straight line drawn from \( x \), which will constitute a corner of the set-up carton, to the bag corner apex \( y \). As will be seen, the removable portion 300 has a width (measured along the line 120) corresponding to that of an insertable pouring spout. If this width is so great that it is difficult to achieve a firm bond of the bag to the flap 113a around the entire portion 300, because of the limitation imposed by the bevel 120c, it may be necessary to space the bag seal 131 a greater distance than \( d \) from the corner \( x \), thus raising \( y \) and increasing the slope of the bevel 120c to ensure that the bag is firmly held taut across the area of the portion 300.

The area 120b is divided by parallel perforations into fingers 301, best seen in FIG. 3, which abut the portion 300 at their free ends, at the side of portion 300 opposite from line 120 and thus spaced from what will be the edge of the carton at the top of carton side 113. These fingers can be deflected downwardly to facilitate smooth and easy penetration of the container by a pouring spout, as described later.

With the carton set up as in FIG. 2, the flaps 112a, 114a, 113a and 111a are folded in, in that order, to close one end of the container. The flap 112a has a rectangular portion 202 removed, of a size snugly to receive an insertable pouring spout, and also large enough to enable the flap 112a to be closed down at the end of the container without pulling the bag ear 170 away from its adherence to the lines 120a, 120b of flap 113a. The flap 114a has a similar cutout portion 204, and the flap 114c is folded down and laid on the upper surface of flap 112a to which adhesive has been applied by conventional means. Flap 113a is then laid down on the upper, adhesive coated surface of flap 114a, and thus overlies the flaps 114a and 112a save where the bag ear 170 is affixed to the flap 113a. On the upper side of flap 113a, as seen in FIG. 3, is a rectangular varnished area 302 which includes and is slightly larger than the fingers 301, and adhesive applied to attach the flap 111a to flap 113a is effective at all areas except 302. Thus, a lifting tab 400 on the flap 111a is adhered to the portion 300 of flap 113a but not to the fingers 301, the tab 400 overlaying both the portion 300 and the fingers 301. With the flaps folded down the rectangular upper end of the container is flat as illustrated in FIG. 4, the bag ear 170 being located in the cut-away areas 202, 204 of flaps 112a, 114a, and this ear being held taut under the removable portion 300 by the adhesive which surrounds the latter in the areas 120a, 120b of flap 113a and along the line 120 of side wall 113. The bag 130 can be filled from the other, open end 132. After filling, the end 132 of the bag is pulled away from the glue spots 133, 159 and sealed in any desired way, and the flaps 111b, 112b, 113b and 114b are closed and adhered together to complete the other rectangular flat end of the container. The resultant closed container is light in weight, and having flat sides and ends it can be stacked and packed tightly with other such containers. The bag 130 fits snugly into the carton 110 because its transverse dimensions are the same as the transverse dimensions of the interior of the carton, and the bag walls are pulled closely against the walls of the carton because the adhesive lines 120 and 121 affix the bag to two sides of the carton and the adhesive line 160 pulls the bag against the other two sides of the carton as the container is erected, the vertical adhesive line 160 on the intumefied flap 111c being diagonally opposite the center points of the horizontal adhesive lines 120 and 121. The flexible ear 170' tucks easily into one end of the container. The adhesive line 121 is spaced from the
end of the carton sufficiently to make room for the end 132 of the bag when it has been closed: The termination of the adhesive line 160 at the same level as line 121 ensures that no undue tension is applied to the bag material. The bag and the carton can be completely filled, the carton providing physical support for the flexible bag and its contents. The adhesive lines 120, 121 and 160 may prevent the bag from collapsing when its contents are poured out, but for some applications, e.g., where the liner bag is filled with oil, it may be desirable to use lines of adhesive that are insufficient to prevent the bag from collapsing when its contents are poured out, collapse of the bag facilitating the emptying of the container.

The preferred mode of opening the container of FIG. 4 is shown in FIGS. 5 and 6, using a metal pouring spout shown in FIG. 7. This spout 500 is the same as a conventional oil can spout except that instead of having a curved guide to fit a cylindrical can it has a rectangular guide 501 that matches the configuration of the container and slides snugly thereover as seen in FIG. 6. The spout has a curved pouring neck 502 that extends through the guide 501 and merges with a bayonet having a curved, piercing tip 502 from which a pair of flanges 503 diverge upwardly, the flanges having openings 504 therethrough. (The distance between the flanges 503 at the guide 501 equals the diameter of the neck 502 at the guide and is herein referred to as the width of the pouring spout.) The first step in opening the container is to lift the tab portion 400, thus lifting the removable tab portion 300 attached thereto. It will be noted from FIG. 1 that the portion 300 extends slightly into panel 113 so that when the carton is set up its extension forms a small protruding lip 300u (FIG. 4) beneath which one can insert one's fingernail to lift portions 300 and 400. With these lifted, the ear 170 is exposed, stretched taut over the opening left by the portion 300, where ear 170 is easily pierced by the tip 502 of the bayonet. The fingers 301 are also exposed, since the varnish on their upper surfaces prevented them from being attached to, and thus lifted with, the tab 400, and as the spout is pushed downwardly the fingers 301 are depressed by the flanges 503 into the container, the flanges engaging first the middle fingers and then the outer ones. These easily flexed fingers cause little resistance to the downward progress of the spout, so that only slight pressure is required to press the spout to the fully inserted position shown in FIGS. 5 and 6. Because the spout is so easily inserted, it is not necessary to grasp and squeeze the container as the spout is pressed down. To squeeze the container would of course tend to force its contents upwardly as the spout is inserted, causing spillage. The guide 501 assists in positioning the spout on the container and ensures that when the container is inverted its contents all flow out the neck 502. The wall 113 may be provided with a line of weakness 113c to enable the wall to bulge easily behind the bayonet, the extension of the glue line 120, at 113c, ensuring that the bag 130 is not dislodged from the carton wall, and also reinforcing the bag against leakage.

The cross-sectional size of the pouring spout (ignoring the guide 501) approximates the cut-out portions 202 and 204 of the flaps 112a, 114a, and the combined area of the removable portion 300 and the fingers 301, so that the spout fits snugly into the container.

The container of FIGS. 8 to 11 permits alternative modes of sealing the liner bag. The paperboard blank 710 of FIG. 8 has four rectangular side-forming panels 711, 712, 713, 714, with end flaps 711a, 712a, 713a, 714a protruding at one end, and end flaps 711b, 712b, 713b, 714b protruding at the other. The flaps 711a, 713a are slightly less than half flaps, shorter than the full end closure flaps 712a, 714a, although flap 712a is partly cut away to form a recess at 702. A flexible tubular liner 730 is laid flat over the adjoining central panels 712, 713, the ends of the liner being indicated in FIG. 8 by broken lines 732, 733. The flat liner is coterminous with the total width of the pair of panels 712, 713 but protrudes beyond both ends thereof and covers and adheres to the following adhesive-coated areas of the blank 710:

1. A first width-wise line of adhesive 720 adjacent the panel ends from which flaps 712a, 713a protrude.
2. Two lines of adhesive 720a along the sides of a removable tab portion 300 of the end flap 713a.
3. A transverse line of adhesive 720b along the edge of the tab portion 300 remote from panel 713 and covering deflectable fingers 301 defined, like the tab portion 300, by perforations which weaken the flap 713a.
4. A widened portion 720d of adhesive line 720 along the end of side-forming panel 713 adjacent the removable flap portion 300, this adhesive 720d on the panel, together with the adhesive 720a, 720b on the flap 713a, surrounding the line of perforations which defines the flap portion 300.
5. A second width-wise line of adhesive 721 adjacent the opposite ends of the pair of panels 712, 713.
6. A triangular patch of adhesive 722 on the end flap 712a, the base of said patch being along the fold line of flap 712a.
7. Spots 723 of adhesive near the four corners of the end flap 713a.

It is to be noted that both ends 732, 733 of the liner, indicated in FIG. 8, are supported by end flaps of the carton blank, the flaps 712a, 712b, 713b protruding beyond the ends of the liner to avoid fouling the latter in apparatus used to set up, fill and seal the container. However, in order to achieve ultimately the condition shown in FIG. 11, the end 732 of the liner protrudes further than the half flaps 713a, 713a. If it is desired to stack and store the knockdown containers of FIG. 8 no adhesive will be applied to areas that are not covered by the liner, but during erection of the containers they will be passed through a folder-gluer which applies adhesive to both sides of an end flap 711c of panel 711, and which also applies spots of adhesive 724 near the four corners of the end flap 711a, and a spot of adhesive 725 near the center of end flap 714a.

The end 733 of the tubular liner may be provided with a transverse seal 731 before the liner is laid on the carton blank, following the procedure disclosed in the above mentioned U.S. patent application No. 265,964, with an alternative (though not preferred) procedure is indicated in FIG. 9. According to this alternative procedure, neither end of the liner is sealed when it is laid on the carton blank, but on subsequent passage of the knocked down container through a folder-gluer deflectors on the latter may deflect the end flaps 711b, 712b, 713b, 714b downwardly as shown in FIG. 9, the end 733 of the liner 730 being gripped and sealed along a line 731 by, for example, hot rotary knives 740. The seal 731 is spaced from the adhesive line 721 by at least...
the distance $d$ (FIG. 8), i.e., half the length of a diagonal of an end of the container when erected. The liner bag has corners 770 adjacent the seal 731, and when the container is squared up to form a rectangular box as shown in FIG. 10, with the bottom flaps 711b, 712b, 713b, 714b closed, the corners 770 form ears at corners of the container bottom. The latter corners may be provided with lines of weakness to facilitate tearing them open for access to the bag corners 770 so that the latter may pop out and be cut to act as pouring spouts, in a manner similar to that described more fully in the above mentioned U.S. patent application Ser. No. 265,964. The adhesive line 721 may be spaced slightly from the ends of the side-forming panels 712, 713, as shown in FIG. 8, to provide a small space at the end of the container for the folding in of these bag ears 770, but, when the ears are folded in, the liner bag completely fills the carton into the corners thereof.

Given the container as it emerges from the operation illustrated in FIG. 9, the flaps 711b, 712b, 713b, 714b are restored to the positions shown in FIG. 8, panel 711 is folded over panel 712 so that adhesive 760 on one side of flap 711c sticks to the liner bag, and then panel 714 is folded over panel 713 and sticks to adhesive on the other side of flap 711c. Then the container is squared up, the line of adhesive 760 pulling one side of the bag away from the other side which is held by the lines 720, 721.

Another alternative way of providing the transverse sealing line 731 is to leave both liner bag ends 732 and 733 open until after the panel 714 has been folded over panel 713 and stuck to flap 711c. Then, before the container is squared up, the flaps 712b, 713b can be deflected downwardly and the flaps 711b, 714b upwardly, the liner end 733 being sealed as by hot rotary knives 740. The flaps 711b, 714b may be somewhat shorter than the full end closure flaps 712b, 713c so as to be engaged by different deflectors.

When the container is squared up, complete opening of the bag mouth 732 is facilitated by the adhesive on each of the flaps 711a, 712a, 713a, 714a. With the bottom flaps 711b, 712b, 713b, 714b folded shut and adhered to one another in the usual way, the container is in the condition shown in FIG. 10, ready for filling, with little risk of fluid material running between the paperboard carton and the liner because of the completely open bag mouth 732. After the liner bag has been filled, the flaps 712a, 714a are swung apart to the substantially horizontal position shown in FIG. 11. The adhesive 722 on flap 712a and the adhesive 725 on flap 714a pull the bag mouth, without stretching the bag material, to the condition shown in FIG. 11, and because the shorter flaps 711a, 713a are adhered to the bag they are drawn together by the bag to the closed position shown in FIG. 11, with the bag mouth protruding between them. Closing of the flaps 711a, 713a before the bag mouth is sealed helps to expel excess air from the liner bag, facilitating closure without the use of equipment to draw a partial vacuum. The bag mouth is gripped between the ends of the opposed flaps 711a, 713a, and supported by the other opposed flaps 712a, 714a, and with the mouth so held and positioned it is a simple matter to guide the bag mouth into heat sealing mechanism which seals the bag snugly along a line 734 just above the upwardly facing surfaces of the flaps, despite the fact that the bag material may be of light gauge and may tend to droop.

The next step is to coat with glue and fold the flap 712a over the flaps 711a, 713a. The recess 702 is slightly larger than the removable tab portion 300 so that the latter is not covered by the flap 712a. The upper surfaces of the fingers 301 are varnished so as not to adhere to flap portions above them; this varnishing may have been done with printing any literary matter or artwork on the blank. The flap 714a is next coated with glue and folded over the flap 712a to adhere thereto. Flap 714a has a tab portion 400 which adheres to the upper side of the removable flap portion 300. The tab portion 400 is defined by two parallel lines of perforations 401 extending inwardly from the edge of flap 714a; thus, both the flap 714a and the flap 712a (cut along the periphery of recess 702) have relieved portions which permit removal of the flap portion 300. When it is desired to dispense the contents of the container, using a spout of the kind shown in FIG. 7, one may insert a fingernail under the flap portion 300 (which is not adhered to the liner) and swing it and the tab portion 400 upwardly, exposing the area of the liner that is held taut under the area of portion 300 by the adhesive surrounding that portion, namely the adhesive lines 720a, 720b, 720d. This area of the liner is a taut, unbroken wall portion of the liner exposed by removal of the flap portion 300 for easy piercing by the bayonet of the spout 500. The free ends of the fingers 301 abut the portion 300 before it is removed, and the descending bayonet of the spout deflects the fingers downwardly into the container in a manner similar to that illustrated in FIG. 5, the removable portion 300 and fingers 301 defining an area substantially equal to the cross-section of the pouring spout. Because this area through which the bayonet descends is along an edge of the flap 713a at the end of the side-forming panel 713, the panel 713 resists deformation of the container by reason of the downward pressure exerted on the spout as it is inserted, and that panel also assists in guiding the bayonet.

It will be apparent that the bag closing method shown in FIG. 11 could be used at both ends of the bag. For holding the container, flaps may be provided in two of the side-forming panels of the carton, the flaps being swingable inwardly by finger pressure as disclosed in the above mentioned U.S. patent application Ser. No. 265,964. Other modifications of the preferred embodiments herein described will readily occur to those skilled in the art, and are intended to be covered by the subjoined claims.

What I claim as my invention is:

1. A knock down container that can be erected into a rectangular box having a liner suitable for holding fluid material, comprising a paperboard blank having four rectangular side forming panels, flaps protruding beyond the ends of the panels for closing the ends of the box, a flexible tubular liner arranged flat on the blank and coextensive with the total width of an adjoining pair of said panels, the liner having ends protruding beyond the ends of said pair of panels, the liner and blank being secured together in a zone immediately surrounding a detachable area of one of said flaps at the end of one of the panels, said detachable area being unsecured to the liner, whereby when the container is set up the liner is held taut across said area and can be pierced by a pouring spout inserted through said area of said one flap.
2. A container as claimed in claim 1, wherein a part of said one flap in said zone includes fingers extending to the edge of said detachable area and deflectable by the pouring spout into the container.

3. A container as claimed in claim 1, wherein one side of the detachable area of said one flap lies close to the line of juncture between the flap and the panel from which the flap protrudes, the detachable area being entirely separated from the blank along this side to form a tab by which the detachable area can be removed to expose the tautly held part of the liner when the container is erected.

4. A container as claimed in claim 3, wherein the liner and blank are secured together by adhesive applied in said zone on said one of the flaps and along said end of said one of the panels from which said one of the flaps protrudes.

5. A container as claimed in claim 1, wherein said one of the flaps is a short flap which covers only part of a flat end of the box when erected, and another of the end flaps is a short flap opposed to said one of the flaps and covering substantially the remainder of said end when coplanar with said one of the flaps, the liner having an open end protruding beyond said pair of opposed short flaps for sealing therebeyond.

6. A container as claimed in claim 5, wherein said pair of panels consists of said one of the panels and an adjoining panel, the flatly arranged liner having opposite side walls one of which is secured to said pair of panels by a width-wise line of adhesive adjacent each of the ends of said pair of panels, the end of the liner protruding beyond said panels in the opposite direction from its open end being closed by a transverse seal that is spaced from the closer of said lines of adhesive by at least one half of the length of a diagonal of the box when erected.

7. A container as claimed in claim 6, wherein at least one flap at each end of the box protrudes further beyond the ends of the panels than each end of the liner.

8. A container as claimed in claim 6, wherein the other two of the panels are foldable over said pair of panels, and one of said other panels has an edge flap that can be adhesively secured to the other of the opposite side walls of the flatly arranged tubular liner to cause said liner to open when the box is erected.

9. A container as claimed in claim 5, wherein said short flaps are both adhesively secured to the liner, and further including a second pair of opposed end flaps for covering the same end of the box as said pair of opposed short flaps, the flaps of said second pair being adhesively secured to opposed areas on the protruding open end of the liner whereby in erecting the box said second pair of flaps can be swung apart causing the liner to draw the shorter flaps together to grip the liner protruding therebetween to facilitate sealing of the liner.

10. A container as claimed in claim 9, wherein the flaps of the second pair are longer than said short flaps.

11. A container as claimed in claim 10, wherein one of the short flaps is the said one flap having the detachable area, the longer flaps having relieved portions which when the container is erected expose the detachable area for removal thereof.

12. A container comprising a paperboard carton having a liner substantially impermeable to fluid contents thereof, the carton having rectangular sides and flaps formed of a single piece of material, the flaps closing an end of the carton, the liner comprising a tubular bag that substantially fills the carton and has an unbroken wall portion that is adhesively secured to the carton in a zone immediately surrounding an area of one of the flaps adjacent an edge thereof, said area of said one flap constituting a tab that is unattached to the liner and is liftable away therefrom to expose said wall portion of the liner for piercing by a pouring spout.

13. A container as claimed in claim 12, wherein another area of said one flap adjacent to said tab is weakened along division lines to define fingers that are deformable into the carton by the spout as it moves into the carton.

14. A container as claimed in claim 12, in combination with a pouring spout having a bayonet insertable into said area adjacent said edge to pierce the liner.

15. The combination claimed in claim 14, wherein the pouring spout has a guide complementary to and slidable onto the carton to facilitate insertion of the bayonet into said area adjacent said edge.

16. A container comprising an outer folded paperboard carton having rectangular sides and flat rectangular top and bottom ends closed by flaps, an inner flexible bag containing fluid material, the bag substantially filling the carton, one flap at one end of the carton having a removable portion along one edge of the carton, the removable portion being defined by a line of weakness surrounded by adhesive which affixes the bag to said one flap tautly across the removable portion, the removable portion of said one flap being unattached to the bag.

17. A container as claimed in claim 16, wherein the bag is sealed along a line extending generally diagonally of said one end of the carton with an ear adjacent a corner of the carton and wherein it is part of said ear that is affixed tautly across the removable portion.

18. A container as claimed in claim 16, wherein the bag is affixed to the carton by three lines of adhesive on inner surfaces of the carton, namely, a first line of adhesive across two adjoining sides of the carton at said one end of the carton, the first line of adhesive including part of the adhesive surrounding the removable portion, a second line of adhesive extending between the ends of the carton diagonally opposite the juncture of said adjoining sides, the bag being taut at said one end of the carton between said juncture and said second line, and a third line of adhesive across said adjoining sides at the other end of the carton.

19. A container as claimed in claim 16, and in which a pouring spout can be inserted, wherein said one end flap has finger portions with free ends adjacent to said removable portion and on the opposite side thereof to said edge of the carton, the finger portions being deflectable into the carton, the removable and finger portions together being of a size substantially equal to the cross section of the pouring spout.

20. A container as claimed in claim 19, wherein another end flap overlies said one end flap and has a portion normally covering the finger portions and affixed to said removable portion and liftable with said removable portion.

21. A container into which a pouring spout can be inserted and comprising a paperboard box having four rectangular sides and an end closed by flaps extending from said sides, a sealed fluid-containing bag within the box, one of the end flaps having along one side of the box a removable portion unattached to the bag, said
one of the end flaps having fingers with free ends adjacent the removable portion and spaced from said side, adhesive attaching the bag to the fingers and flap and said side adjacent the removable portion and holding the bag taut across but unattached to said removable portion, another of the flaps having a liftable portion that covers the fingers and the removable portion and is attached to the removable portion but not to the fingers.

22. A container as claimed in claim 21, wherein the bag has a width-wise straight line seal extending generally diagonally of said end of the box and forming bag ears one of which is held by said adhesive taut across the removable portion of said one of the end flaps.

23. A container comprising a cardboard box having at one end a pair of opposed short flaps which when swung together into a common plane substantially cover said one end of the box, a second pair of opposed flaps at said one end, a liner in the form of a bag substantially filling the box and having an open end protruding beyond said short flaps and secured to portions of all said flaps, said second pair of flaps being swingable firstly into an out-turned position in which the portions of the liner attached to the short flaps, and the short flaps adhered thereto, and drawn into said common plane with the open end of the liner protruding beyond and gripped between the short flaps, and said second pair of flaps being swingable secondly into an inturned position closed over said end of the box and said short flaps.

24. A container as claimed in claim 23, wherein the liner has at the opposite end of the box a liner end sealed diagonally of said box end.

25. A container as claimed in claim 23, wherein the liner is adhesively secured tautly to one of said short flaps around a removable area of the latter, which removable area is unsecured to the liner.

26. A container according to claim 3, wherein said one side of the detachable area extends slightly beyond the line of juncture so that the tab formed thereby projects slightly from the side of the container when erected.

27. A container comprising a sealed tubular bag containing fluid material, and a rectangular cardboard box surrounding the container, one end of the box being formed by four flaps extending from four sides of the box, the flaps consisting of a pair of coplanar short flaps extending from opposite sides of the box and together substantially closing the end of the box and a second pair of flaps extending from the remaining sides of the box and overlying the first flaps, the bag being adhesively secured to the undersides of the short flaps and having an unfilled end portion extending between the short flaps and ear portions extending past the ends of the short flaps, the ear portions being adhesively secured to the undersides of the second pair of flaps, and the second pair of flaps being adhesively secured to the first pair of flaps.