Oct. 12, 1937. K. F. SPALDING 2,095,720

POUR SPOUT CARTON

Filed May 16, 1936 2 Sheets-Sheet 1

Fig. 1

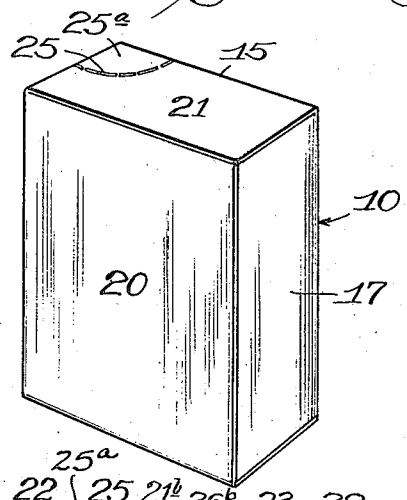
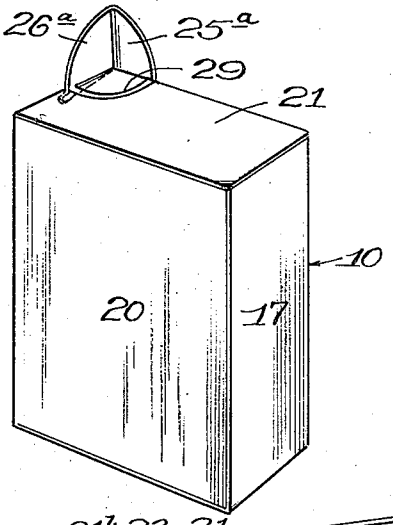


Fig. 2



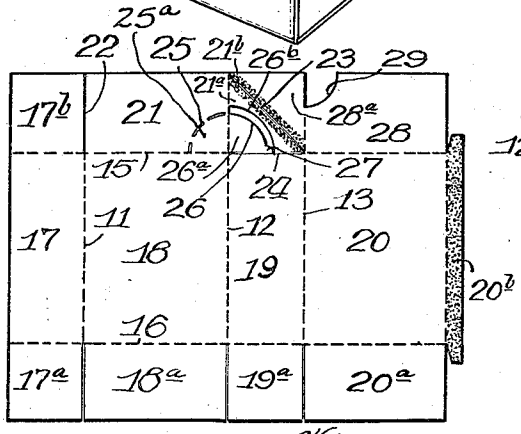


Fig. 3

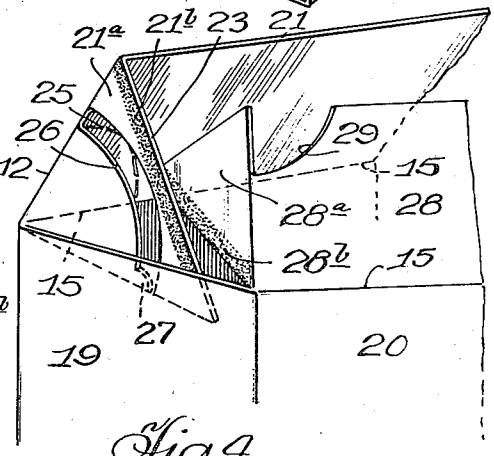


Fig. 4

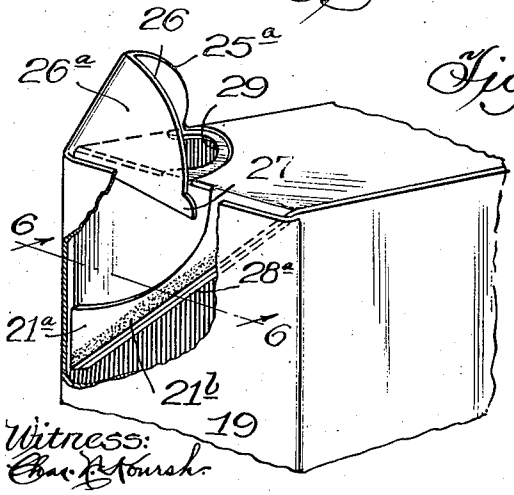
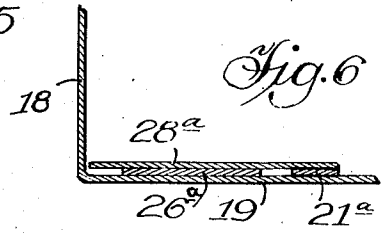


Fig. 5

Fig. 6



Witness:
Chas. F. Knoth

Inventor:
Kenneth F. Spalding
Offield McIlhenny Scott & Poole Attys.

Oct. 12, 1937. K. F. SPALDING 2,095,720

POUR SPOUT CARTON

Filed May 16, 1936 2 Sheets-Sheet 2

Fig. 7

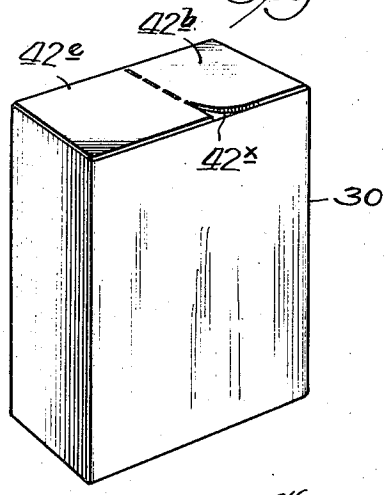


Fig. 8

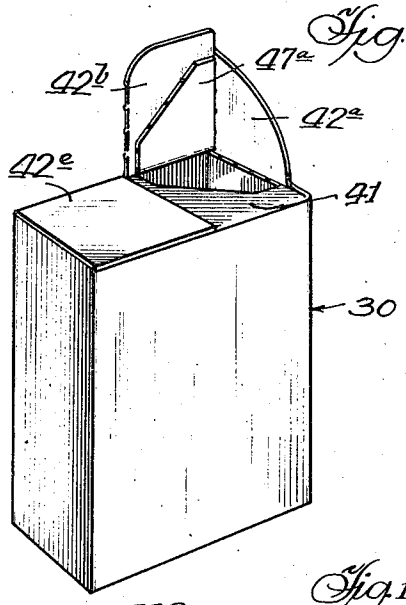


Fig. 9

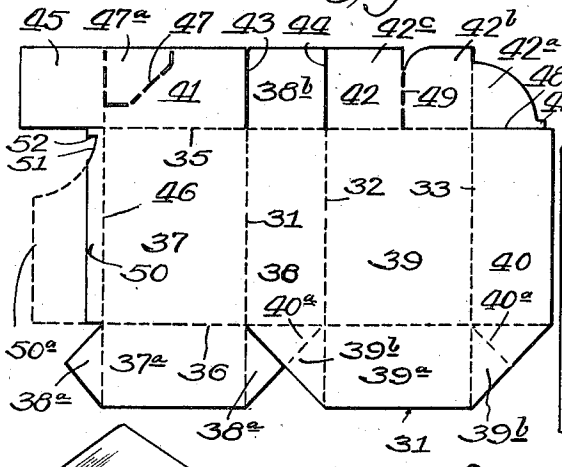
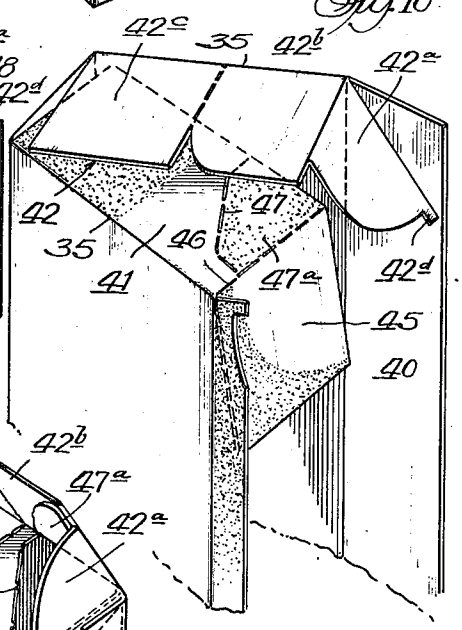


Fig. 10



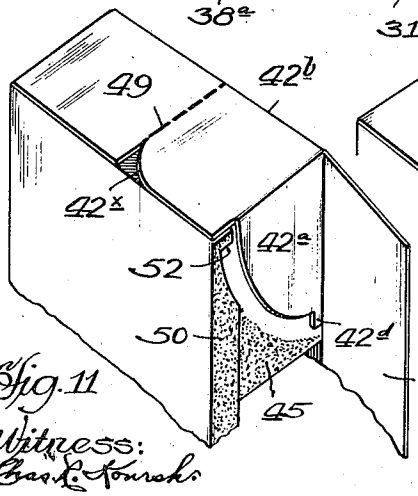


Fig. 11

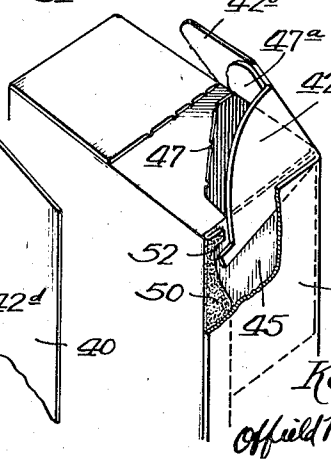


Fig. 12

Witness:
Chas. L. Konrad

Inventor,
Kenneth F. Spalding
Offield Mahlburg Scott & Hale Attys

Patented Oct. 12, 1937

2,095,720

UNITED STATES PATENT OFFICE

2,095,720

POUR SPOUT CARTON

Kenneth F. Spalding, Maywood, Ill., assignor, by mesne assignments, to F. Dorsey Montgomery, Chicago, Ill.

Application May 16, 1936, Serial No. 80,126

8 Claims. (Cl. 229—17)

This invention relates to improvements in containers or cartons of the type folded from a blank arranged to include a closure at an upper corner thereof adapted to form a pouring spout. More particularly, my invention is directed to an improved arrangement of the pouring spout, wherein the latter is hinged along one edge of the carton, and has a right angled portion that is slidably contained in a pocket formed between adjacent inner and outer wall portions of the carton, so as to seal the carton against ingress of dirt or excessive moisture, and against leakage of the contents from the carton at this point.

In carrying out my invention, I provide a preformed blank designed so that when folded and sealed to form the carton, the pouring spout forms an integral sealed part thereof, but arranged so that the pouring spout may be opened by breaking the connection along certain partially cut lines of severance, whereupon the pouring spout may be swung into open position from time to time, and used to discharge portions of the contents of the carton as desired.

The invention may best be understood by reference to the accompanying drawings, in which

Fig. 1 is a perspective view showing one form of carton made in accordance with my invention in which the pouring spout occupies a relatively small area at a top corner of the carton.

Fig. 2 is a similar view showing the pouring spout in open position.

Fig. 3 shows in reduced scale a blank from which the carton including the pouring spout shown in Figs. 1 and 2 may be formed.

Fig. 4 is an enlarged detail fragmentary view illustrating the method of folding the blank to produce the pouring spout construction.

Fig. 5 is a view somewhat similar to Fig. 4, but showing the carton in assembled condition, with the pouring spout open and with a portion of the side wall broken away to show the pocket in which one side wall of the pouring spout is slidably contained.

Fig. 6 is a detail section taken on line 6—6 of Fig. 5.

Fig. 7 is a perspective view somewhat similar to Fig. 1, but showing a modified form of pouring spout construction in which the spout occupies a substantially larger portion of the top area of the carton.

Fig. 8 is a view similar to Fig. 7, but showing the pouring spout in opened position.

Fig. 9 shows in reduced scale the blank from which the carton including the pouring spout shown in Figs. 7 and 8 may be formed.

Fig. 10 is an enlarged detail fragmentary view showing the method of folding the blank of Fig. 9 to produce the pouring spout construction.

Fig. 11 is a view somewhat similar to Fig. 10, but showing the carton in assembled condition, excepting for one side wall thereof.

Fig. 12 is a view somewhat similar to Fig. 11, but showing the carton in finally assembled condition, but with the pouring spout open and a side wall broken away to show the pocket in which the free wall of the pouring spout is slidably contained.

Referring to details of construction of the embodiment of my invention illustrated in Figs. 1 to 6, both inclusive, the finished carton indicated at 10 in Figs. 1 and 2 is made from the blank shown in Fig. 3, which is substantially rectangular in general outline. Said blank is creased or scored along suitable upright lines 11, 12 and 13, and horizontal lines 15 and 16 to form side walls 17, 18, 19 and 20. The bottom wall is formed as usual by suitably overlapping the flaps 17a, 18a, 19a and 20a severed along abutting edges as shown.

The pouring spout construction is formed from the flaps 21 and 28 above the horizontal crease or scoring 15. Flap 21 is adapted to provide the exterior of the top wall. It extends from a cut 22 separating it from the end flap 17b, to a diagonal cut 23 extending from the outer end of the crease 12 downwardly to the adjacent corner formed by the junction of creases 13 and 15. The crease 15 is also cut as indicated at 24 between the upright creases 12 and 13 to form a triangular projection 21a of the flap 21 beyond the crease 12.

The pouring spout itself is outlined by an arcuate line of severance indicated at 25 in the main body of tab 21 at the corner formed by the creases 15 and 12 so as to define a fan-shaped wing 25a, and continuing this arcuate line by a cut 26 in the adjacent corner of the triangular projection 21a extending downwardly to the cut 24 to define a second complementary fan-shaped wing 26a.

A projecting stop 27 is preferably provided at the extreme lower corner of the fan-shaped wing 26a. A second arcuate cut 26b is formed parallel to and spaced slightly from the cut 26 and the intervening material removed up to the crease 12 so as to provide an open space or pocket within which the wing 26a and the stop 27 may be moved, as will hereinafter more fully appear.

It will be understood that where reference to a line of severance or severance line is made here-

in, such lines are preferably formed by a series of elongated cuts or slots of the type usually employed to permit easy severance of the stock along such lines.

The flap 28 is connected to the side wall 20 by a portion of crease 15, and includes a triangular extension 28a extending beyond the crease 13 to the diagonal cut 23 which separates the flap 28 from the flap 21. A fan-shaped portion is removed from flap 28 by cutting along the outer end of the crease 13 and an outwardly extending arcuate line to form a notch indicated at 29. This notch is adapted to form the inner opening for the spout, and is preferably formed with a slightly shorter radius than that of the spout wings 25a and 26a, as will hereinafter more fully appear.

The method of folding or forming the parts of the blank just described will be understood by reference to Figs. 4, 5, and 6. The triangular extension 21a of the flap 21 is folded along crease 12 so that it lies against the inner surface of the adjacent wall 19, and the triangular extension 28a of flap 28 is also folded inwardly on crease 15, but within the extension 21a, as indicated in Fig. 4. When the carton is in assembled position, the extension 28a registers with extension 21a, as shown in Figs. 5 and 6, the triangular extension 21a being secured to the wall 19 as by a strip of adhesive 21b along the diagonal cut edge 23, and the extension 28a being secured to the inner face of the extension 21 by a similar strip of adhesive 28b.

The remaining portions of the carton are suitably secured to each other in the usual manner, in the form shown the side walls 17 and 20 being secured by an upright flap 20b.

It will now be noted that when the carton is finally sealed, the pouring spout likewise remains sealed as long as the line of severance indicated at 25 is intact. When it is desired to open the spout the severance line 25 is broken so as to permit the wing 25a of the spout to be hinged upwardly along the crease 15 to expose a slightly smaller fan-shaped opening formed by the notch 29 in flap 28, as indicated in Figs. 2 and 5. The wing 26a of the spout swings upwardly between the wall formed by the outer wall 19 and the triangular projection 28a which, together with the extension 21a, forms an open pocket for the spout wing 26a, as shown in Figs. 5 and 6. The movement of the spout is limited by the stop 27 on the lower end of the wing 26a which comes into engagement with the adjacent overhanging edge of the flap 21.

It will be especially observed that by provision of the inner flap 28a and the intermediate flap 21a glued or otherwise secured to each other and to the adjacent wall 19, the spout is effectively sealed around the spout wing 26a where it enters the carton along the side wall 19, thereby protecting the contents of the carton against ingress of moisture and dirt, as well as spillage of said contents.

Referring now to the form of pour spout shown in Figs. 7 to 12, the carton indicated generally at 30 is made from a blank 31 shown in Fig. 9. Said blank is creased along vertical lines 31, 32 and 33, and vertical lines 35 and 36 to form side walls 37, 38, 39 and 40.

In the blank shown in Fig. 9, the bottom flap 39a is provided with integral triangular extensions 39b, 39b extending the width of the adjacent side walls 38 and 40, and each having a diagonal crease 40a, 40a to permit the flap 39a to be folded inwardly across the bottom of the carton. The opposite bottom flap 37a is hinged to the bottom of the upright wall 37 and has triangular end extensions 38a, 38a adapted to be suitably folded with the bottom flap 39a to close the bottom of the carton.

The carton top with the spout arrangement is formed from the two flaps 41 and 42. An intervening flap 38b severed from flaps 41 and 42 by cuts 43 and 44 is arranged to underlap the top from the side opposite the spout.

The flap 41 is connected above the upright side wall 37 and includes a rectangular portion 45 extending laterally beyond the vertical crease line 46. A line of severance is formed in the flap 41 along a diagonal line indicated at 47, and from thence along the outer end of said crease line 46, so as to permit a corner portion 47a of the top flap 41 to be removed, as will hereinafter more fully appear.

The flap 42 includes the pour spout, which consists of an arcuate portion 42a defined by the crease line 33 and a cut 48 separating said arcuate wing 42a cut from the side wall 40 along the crease line 35, and a contiguous wing 42b of substantially the same horizontal width as the arcuate portion 42a. The wing portion 42b is of the same height as, but separated from, a third rectangular portion 42c of flap 42 by an upright perforated line 49 extending from the horizontal score line 35 to the outer edge of the flap 42. A projecting stop 42d is pivoted at the extreme lower corner of the wing 42a.

An elongated tab 50 extends along the side wall 37 below the extension 45, and is provided with a notch 51 having an overhanging shoulder 52 adjacent its upper end. The purpose of this tab and shoulder will hereinafter more fully appear.

The method of folding or forming the parts of the blank just described will be understood by reference to Figs. 10, 11 and 12. When the carton is in partly folded position as shown in Fig. 10, the flap 41 is folded inwardly on the crease 35, while its extension 45 is folded downwardly on crease 46 and the adjacent perforated extension of said crease to form an inner wall of the carton. The flap 42 is folded on its crease 35 so that the parts 42b and 42c thereof overlie the flap 41 to form the top of the carton, and the part 42a is folded downwardly so as to overlie the extension 45. The tab 50 is folded inwardly over the adjacent margin of flap 45, and the free side wall 40 is folded over the tab 50 as well as the spout wing 42a and the extension 45 as indicated in Figs. 11 and 12.

The upper end of the carton is sealed by securing the tab 50 to the extension 45 and also securing the outer surface of tab 50 and extension 45 to the inner surface of the side wall 40, but limiting the adhering surfaces to an area spaced from the margin of wing 42a as indicated in Fig. 11. The portion 42c of the top flap may also be secured by adhesive to the flap 41, but the wings 42a and 42b forming a part of the upper flap 40 are normally unsealed, excepting that in the form shown the portion 47a defined by the line of perforation 47 and crease 46 may be glued to the under surface of wing 42b.

With the construction and arrangement above described, the pouring spout is sealed as long as the severance lines 47 and 49 remain intact. In opening the spout, the wing 42b may be raised by inserting the finger or some suitable form of tool beneath the curved corner 42x of said wing,

so as to break the severance line 49. As the free edge of the wing 42b is raised, the severance line 47 in the flap 41 may then be broken to permit the entire spout including wings 42a and 42b to be hinged upwardly. The severed portion 47a being glued to the under face of wing 42b, is swung upwardly with the spout, as clearly shown in Figs. 8 and 12. It will be noted that the wing 42a moves in a pocket formed between the extension 45 and side wall 40, and sealed from the interior of the carton as shown in Figs. 11 and 12.

The movement of the spout is limited by the stop 42d which comes into engagement with the adjacent overhanging shoulder 52 of tab 50 when the spout is in fully opened position.

In some instances it may be desired to increase the width of tab 50 as indicated at 50a in Fig. 9 so as to extend the full width of the carton and fully close the lower end of the pocket formed between the extension 45 and the outer wall 40. In most instances, however, the glue or adhesive will be sufficient to fully seal the lower end of the spout wing pocket between the extension 45 and side wall 19.

The construction above described is such that the carton is effectively sealed around the spout wing 42a, and especially where it enters the carton along the side wall 40, as is the case with the form previously described, and shown in Figs. 1 to 6.

The cartons hereinabove described are particularly adapted for treatment by suitable waterproofing material either before or after final assembly, to afford additional protection about the joints, and particularly around the spout, thereby insuring a waterproof and moistureproof package before the spout is opened, and thereafter protecting to a large degree the contents of the carton. The spout closure may be readily opened for the purpose of pouring the contents directly therefrom. In the form shown in Figs. 7 to 12, both inclusive, the spout opening is of sufficient size to permit the insertion of a spoon, and as an additional feature, the severance line 47 defining the inner side of the opening, is straight so as to permit the contents of the spoon to be leveled off as the later is removed.

It will be observed that in the two forms of cartons above described, different means are provided for forming the spout opening in the under flap beneath the swinging spout itself. Thus in the blank shown in Fig. 3, this opening is provided by notch 29 initially cut in flap 28, while in the blank shown in Fig. 9, a similar opening is formed by piece 47a surrounded by severance line 47 adapted to be removed after the spout is opened. It will be understood, of course, that these two arrangements may be considered as alternative constructions for either form, as desired.

The spout constructions herein disclosed are particularly simple and inexpensive in manufacture. The operation thereof is easily understood and its practical advantages will be manifest to the thrifty housewife.

Although I have illustrated and described certain embodiments of my invention, it will be understood that I do not wish to be limited to the exact construction shown and described, but that various changes and modifications may be made without departing from the spirit and scope of my invention as defined in the appended claims.

1. In a carton formed of a blank including side and end walls, a pour spout closure consisting of a corner portion of one of said end walls, and a wing adapted to be folded at right angles to said corner portion and forming with the latter a swinging spout hinged upon the crease of said end flap, a second end wall having a portion thereof spaced from an adjacent side wall to form a pocket for said pour spout wing, and means on said end walls for sealing said pocket from the interior of said carton.

2. In a carton formed of a blank including side walls and end flaps, a pour spout closure at a corner of said carton consisting of a severable portion of one of said end flaps hinged upon the crease thereof, and a wing integral with said severable portion, an end flap having a portion spaced from an adjacent side wall to form a pocket for said wing, and means for sealing said pocket from the interior of said carton.

3. In a carton formed of a blank including side walls and end flaps, a pour spout closure consisting of a corner portion of one of said end flaps, and a wing adapted to be folded at right angles to said corner portion and forming with the latter a swinging spout hinged upon the crease of said end flap, an end flap having a portion thereof adapted to underlap an adjacent side wall, and means for spacing said last named end flap from said side wall to form a pocket to receive said pour spout wing sealed from the interior of said carton.

4. In a carton formed of a blank including side walls and end flaps, a pour spout closure consisting of a corner portion of one of said end flaps, and a wing adapted to be folded at right angles to said corner portion and forming with the latter a swinging spout hinged upon the crease of said end flap, an end flap having a portion thereof adapted to underlap an adjacent side wall, and an extension of said first named end flap arranged to be interposed between said second named flap and said adjacent side wall to form an open pocket for said pour spout wing, but sealed from the interior of said carton.

5. In a carton formed of a blank including side walls and end flaps, a pour spout closure consisting of two end flaps hinged to opposite side walls and separated from each other by a diagonal cut extending from one corner of one side wall to the outer end of the transverse crease line of the opposite side wall to form complementary triangular extensions of the respective end flaps, a pour spout formed by one of said end flaps consisting of a wing defined by a severable line at the inner corner thereof adjacent its respective triangular extension, and an integral wing cut in the adjacent corner of said last named triangular extension, means providing an opening in the outer corner of said second named end flap adjacent its triangular extension, said end flaps being arranged to fold inwardly toward each other to form the end of the carton with the triangular extension of said first named end flap within and registering with the complementary triangular extension of said second named flap, said triangular extensions being secured to each other and to the adjacent side wall to form a pocket for the pour spout wing sealed from the interior of said carton.

6. In a carton formed of a blank including side walls and end flaps, a pour spout closure consisting of a corner portion of one of said end flaps hinged to a side wall, and an integral wing formed of a lateral extension of said corner portion, and a second end flap hinged to a side wall opposite said first named flap having an extension thereof adapted to underlap the side wall adjacent the wing of said first named end flap to form a pocket

for said wing partitioned from the interior of said carton.

7. In a carton formed of a blank including side walls and end flaps, a pour spout closure consisting of a corner portion of one of said end flaps, and a wing adapted to be folded at right angles to said corner portion and forming with the latter a swinging spout hinged upon the crease of said end flap, an end flap having a portion thereof adapted to underlap said first named end flap and an adjacent side wall, means for spacing said last named end flap from said side wall to form a pocket to receive said pour spout wing sealed from the interior of said carton, and means in said second end flap forming an opening at the end of said carton when said pour spout is in open position.

8. In a carton formed of a blank including side wall and end flaps, a pour spout closure consisting of a corner portion of one of said end flaps, and a wing adapted to be folded at right angles to said corner portion and forming with the latter a swinging spout hinged upon the crease of said end flap, an end flap having a portion thereof adapted to underlap said first named end flap and an adjacent side wall, means for spacing said last named end flap from said side wall to form a pocket to receive said pour spout wing sealed from the interior of said carton, and means in said second end flap forming an opening at the end of said carton but overlapped and fully closed by the pour spout when the latter is in closed position.

KENNETH F. SPALDING.