Jan. 14, 1964 M. FUCHS 3,117,709

CONTAINER

Filed March 30, 1962 2 Sheets-Sheet 1

Fig. 1

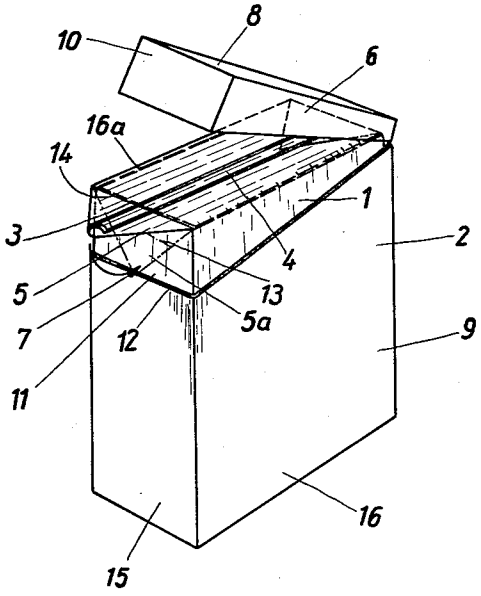


Fig. 3a

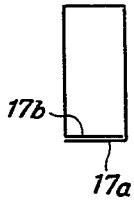


Fig. 2

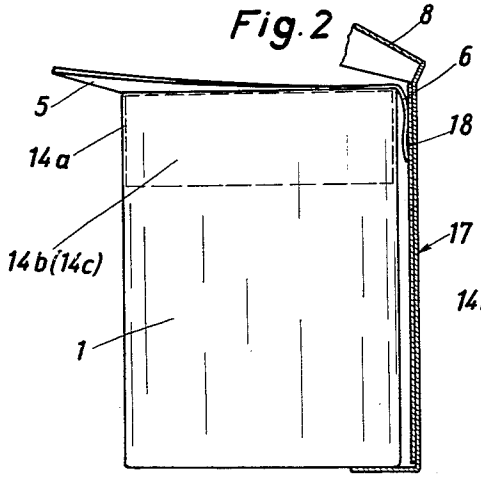
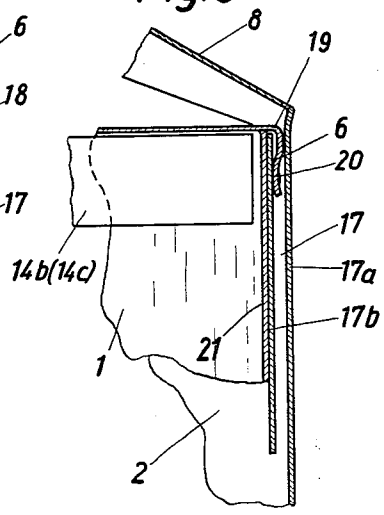


Fig. 3



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Fig. 4

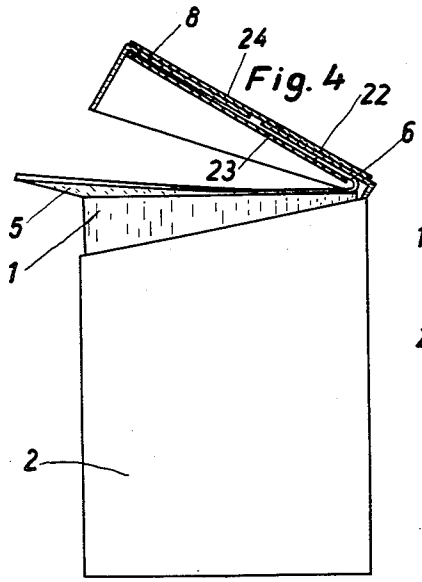


Fig. 5

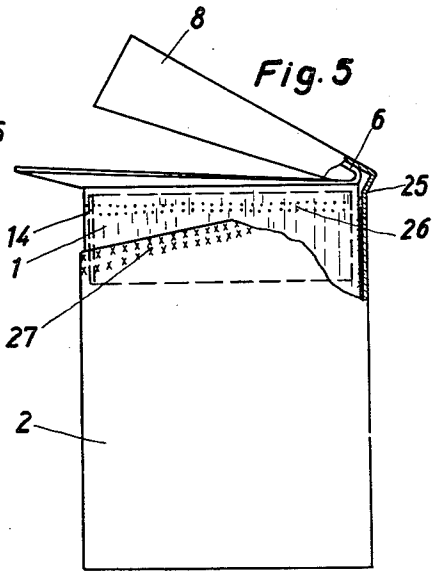


Fig. 6

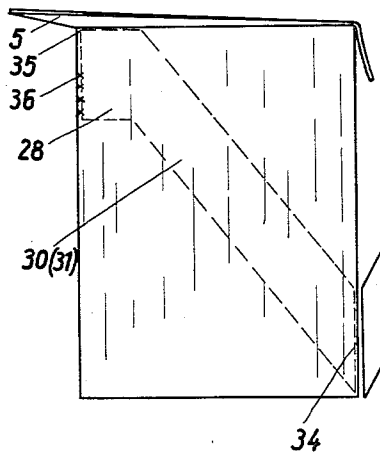
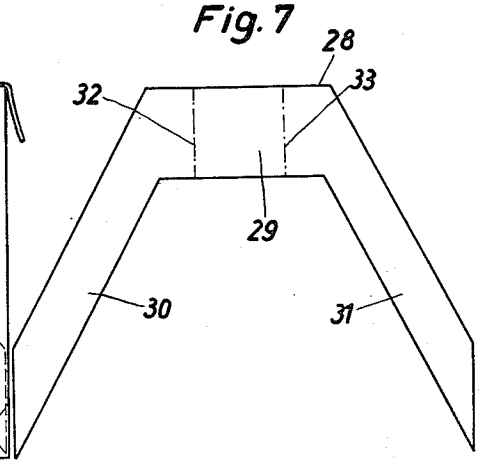


Fig. 7



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United States Patent Office 3,117,709 Patented Jan. 14, 1964

3,117,709

CONTAINER

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8 Claims. (Cl. 229—14)

The invention relates to the packaging art and is particularly concerned with a special type of container used for storing and dispensing foods or other materials.

More in particular the invention concerns a container comprising an inner bag combined with an outer shell. The inner bag may be of relatively thin foil, particularly a thin walled plastic foil material, while the outer shell is made of a relatively rigid material which may be flexible, such as a box of cardboard, sheet metal or plastic. This container is primarily intended for storing material which is sensitive to oxygen and whose aroma may be affected by being stored in the open.

It is an object of the invention to provide a container which upon being opened and after removal of a part of the material stored therein may again be tightly closed.

In this respect the invention relates to a container which may be referred to as a tight seal wrapper. Containers of this type are known where the pouring opening of the inner bag is closed over the entire width of the tube of the bag in such a manner that projecting laps are formed at opposite lateral surfaces of the inner bag and which may be folded over. In this known type of container one of these laps of the inner bag is, after opening of the package or container, turned over downwardly along the outer surface of the container, so that the cover or closure of the outer shell which may suitably be in the form of a flap top extends over this closure lap in the manner of a closure lap or tip. When a first part of the material has been removed from the container, the closure, for example the flap top, is opened on the outer shell. The aforementioned closure lap is partly cut off by means of a scissors suitably along a marking line, so that at this closure lap a pouring opening for the inner bag is formed. The remaining part of the closure lap, upon removing of a part of the material filled into the package, is turned downwardly along the outer surface of the container so that in closing the cover, for example, the flap of the outer shell, the remainder of the closure ear may be resiliently wedged between the inner bag and the closure lid.

It is one of the objects of the invention to make it possible to utilize this closure lap or tip, which becomes effective as a resilient member, to obtain a relatively tight closure for the entire package until the contents of the package have been used up after repeated removal of smaller portions. In the aforementioned known tight sealed package this object is not achieved, because after removal of portions of the contents from the package, the inner bag consisting of relatively thin material loses its support, because the inner bag together with the closure lap can readily slide inwardly along the pouring opening of the inner bag into the inner space of the outer shell. Thereupon the said closure lap of the inner bag at the upper edge of the container is no longer usable as a resilient wedge member between the cover closure and the outer shell.

In accordance with the invention, several solutions of the aforementioned problem are provided which are based on a general concept which is based on the fact that the inner bag is held by agglutinating or welding or supporting at the upper edge of the outer shell even after removal of portions of the contents. In this connection, however, and this is a further object of the invention,

care must be taken that the sealing spots between the inner bag and the outer shell are provided in such a manner that the adhesion locations are not on the outer wall of the inner bag insofar as the wall portions of the inner bag come into contact with the contents of the package. This feature in accordance with the invention is of particular merit, because the danger is precluded of having glue components penetrate the material of the inner bag and thus result in an undesirable disadvantageous effect on the contents, such as, for example, coffee. If in accordance with the inventive concept this shortcoming is precluded by a suitable particular type of suspension of the inner bag on the outer shell, the additional advantage is provided that the inner bag can be made out of especially thin-walled and correspondingly cheaper foil material.

Accordingly, the invention resides in that in a container of the type described a stiffening strip is provided at the pouring end of the container over which one of the closure laps can be folded while the second closure lap of the inner bag is glued against the inner surface of the outer shell or of its lid. For, if the pouring opening of the inner bag is closed over the entire width of the tube of the bag, there results at the respective opposite lateral surfaces of the package one each closure tip or lap. One of these two closure tips is utilized, as known per se, to provide the closure wedge together with the cover portion of the outer shell, the second closure tip or lap at the pouring edge of the container which is present at any rate is now utilized in accordance with the invention in order to virtually suspend the inner bag at the upper edge of the outer shell.

The suspending of this inner bag on the outer shell thus is effected without any additional material expenditure becoming necessary. If this suspension tip or lap is glued immediately to the inner wall of the outer shell or to the inner wall of the cover of the outer shell, then the safety of this suspension is exclusively dependent on the firmness of the glue connection between this suspension tip and the inner wall of the outer shell.

However, this second closure tip or lap, which was identified above as the suspension tip, can be glued on in a particularly advantageous manner between an associated wall portion, the outer shell or its cover, and a gluing or closure strip which is associated with this wall portion of the outer shell or its cover. The glue for supporting this closure tip only contacts this closure tip or lap but not the foil material of the inner bag at the inner wall portions of which the contents make contact, so that no glue components can penetrate the inner bag and subsequently exert and adverse effect on the contents. If this suspension closure tip is glued to the wall portion of the flap cover of the outer shell, then an additional reinforcement of the flap link is obtained between the closure flap and the outer shell.

In accordance with a further object of the invention the stiffening strip is suitably glued onto the inner wall of the container in the manner of a strip or is welded on, and the inner bag in turn is glued or welded to the inner wall of the outer shell in the region of this stiffening strip. In this event, therefore, the stiffening strip is disposed at the upper pouring edge of the container. At the inner surface of the inner bag gluing is effected between the stiffening strip and the inner bag. The corresponding agglutinant cannot penetrate to the contents, because here the contents are also assitionally covered by the stiffening strip with respect to the inner bag. For the same reason an adverse effect on the contents cannot take place in the area of the stiffening strip if in this area of the stiffening strip a direct gluing is effected between the outer wall of the inner bag and the inner wall of the outer shell.

In both of the objective solutions described the inner bag, which consists of soft and possibly thin material, is held at the upper pouring edge of the package until the container has been completely emptied, so that the wedging closure tip which can be considered a resilient member can continuously fulfill its intended function for a tight closure of the container.

The aforementioned stiffening strip can be formed in different ways. It is possible, for example, to form this strip in a known manner like a collar. In that event the stiffening strip consists of the wedge side portion against which the wedge closure tip must lie in closing the lid, and at this wedge side portion the two ends connect with a strip portion which serves for an additional reinforcement of the outer shell at the pouring edge. The stiffening strip may, however, also be formed in such a manner that the two ends of the said wedge side portion connect with strip portions which reach into the diagonally opposite corners of the bottom surface of the container. In both cases the blank stiffening strip may be cut from a cardboard material without a loss resulting in the cutting. The wedge side portion with the connecting strip portions must in all events fulfill the purpose of creating a suitably firm abutment for safely supporting the closure tip which is to be clamped in by means of the cover. The stiffening strip with the strip portions that reach diagonally into the corners of the bottom surface of the container further obtains that a sliding of the inner bag is prevented during removal of partial quantities of the contents, even without any gluing of parts of the inner bag against the outer shell at the pouring aperture at the closure tip.

This container is suitable in the event that the inner bag after filling with the contents is evacuated, as also in the case that no evacuating takes place. In the event that the inner bag is evacuated after filling with the contents, the suspension possibilities of the inner bag on the outer container explained above are particularly suitable. In the event of evacuating the inner bag, the suspension of the inner bag against the upper pouring edge by simple gluing of the inner bag against the outer shell would not be sufficient, because the danger would exist that by the evacuating step the gluing areas between the inner bag and the outer shell would come loose.

Further objects and advantages of the invention will become apparent from the following specification with reference to the embodiments of the invention illustrated in the drawings, in which:

FIG. 1 shows a perspective view of a container having an inner bag and outer shell, with the cover partly opened;

FIG. 2 is a partial cross section through the container in accordance with FIG. 1 with the closure lap glued to the side wall of the outer shell;

FIG. 3 is an alternate embodiment differing from FIG. 2;

FIG. 3*a* is a schematic outline of the outer walls of the container drawn to a reduced scale;

FIG. 4 is a partial cross section of a container in accordance with FIG. 1 with the closure lap glued to the surface of the lid;

FIG. 5 is an embodiment differing from FIG. 4 illustrating a further manner of fastening the inner bag to the outer shell by edge gluing in the region of the stiffening strip;

FIG. 6 illustrates a container in accordance with FIG. 1 with a diagonally extending stiffening strip arrangement; and

FIG. 7 shows the cut of a stiffening strip for a container in accordance with FIG. 6.

The container in accordance with FIG. 1 comprises the inner bag **1** and the outer shell **2**. The inner bag **1** is made of a particularly thin-walled soft and pliable plastic foil material. This inner bag is made of a blank of tubular form. At the pouring edge **3** of the container this plastic tube is rolled in and glued or welded onto

itself over the entire width thereof. This rolled seam is indicated at **4** in FIG. 1. By virtue of this rolling step of the inner bag **1** closure laps **5** and **6** are formed. The closure lap or tip **5** in FIG. 1 is illustrated in the extension of the upper cover surface of the inner bag in solid lines. The closure lap or tip **5***a* is shown by dot and dash lines with the arrow **7** pointing in the direction of the downward wedging position.

The outer shell of this container comprises a unitary blank cut out of cardboard. The cover flap **8** is connected at its rearward end to form one piece with the lower part **9** of this outer shell container. The surface **10** of the closure flap **8** overlaps the surface **11** of the inner bag to the extent that this projects beyond the transverse edge **12** of the container portion **9**.

When the closure flap **8** is closed, the closure lap or tip **5** is placed in wedging position in its downwardly directed position **5***a*.

When in using the contents, such as coffee, the container is opened, the flap cover **8** is first turned up, and a triangular piece of the closure tip is cut off along the marked or scored line **13** with a scissors, so that the pouring opening for the inner bag is formed on the remaining portion of the closure lap.

In the inner bag **1** a stiffening collar **14** is provided at the upper end of the container which extends along the front side wall **15** and along the side walls **16** and **16***a* that merge with it. The outline of this stiffening collar which is formed of a strip of cardboard is U-shaped. The surface portion of this stiffening collar along the side wall **15** may be considered to be a wedge side portoin **14***a*. The surface portions which connect therewith along the side walls **16** and **16***a* of the outer shell are designated as strip portions **14***b* and **14***c*. The strip portions **14***b* and **14***c* contribute also to the additional stiffening of the outer shell **2**. The free ends of these strip portions **14***b* and **14***c* are supported against the rear side wall **17** which at its upper end supports the closure flap **8**. Thus the wedge side portion **14***a* of the stiffening collar forms a firm abutment surface for the closure tip or lap **5** as the closure flap **8** is closed.

In accordance with the embodiment of FIG. 2 the closure lap **6** is turned over downwardly along the inner bag **1** so that this closure lap **6** is located between the wall **17** of the outer shell **2** and the adjacent inner wall of the inner bag **1**. In accordance with FIG. 2 the gluing spot is indicated at **18**, with the aid of which the closure lap **6** is glued to the inner surface of the gluing flap **17***b* of the outer shell. Together with the stiffening collar **14** and this gluing spot of the closure lap **6** an efficacious suspension of the inner bag on the outer shell is obtained without the glue at the gluing point penetrating through the foil material of the inner bag **1**.

The embodiment in accordance with FIG. 3 differs from the embodiment in accordance with FIG. 2 in that the downwardly turned closure lap of the inner bag **1** is disposed between the wall portion **17***a* of the wall **17** and the associated closure flap **17***b* and is glued between these parts **17***a* and **17***b*. In this manner the inner bag is suspended at the upper transverse edge **19** of the gluing or closure flap **17***b* so that the gluing point **20** for the closure tip **6** is additionally relieved of mechanical stresses or loads. The cross sectioned plane **21** indicates the material of the wall of the inner bag **1**. For the sake of clearness and better understanding the flaps **17***a* and **17***b* forming the wall **17** are shown in spaced relation in FIG. 3 although in reality they are glued onto each other as indicated in FIG. 3*a*. In the embodiment in accordance with FIGS. 4 and 5 of the drawings the closure lap or tip **6** of the inner bag **1** is not glued to the wall portions of the outer shell **2** but to the inner wall of the cover **8**. In the embodiment in accordance with FIG. 5 the closure lap **6** is glued directly to the inner wall of the completely assembled lid **8**. In the embodiment in accordance with FIG. 4 the closure flap is glued between

strip 22 which connects the upper wall 24 of lid 8 with the hinge 25 (as seen in FIG. 5) and strip 23 which also connects the rear or hinge portion 25 of the lid with the front portion of lid 8.

The closure lap 6 which is glued into the lid 8 thus forms an additional joint between the closure flap and the outer shell 2. The flap edge between lid 8 and the outer shell 2 which is made of a single cut is indicated at 25 in FIG. 5.

In accordance with FIG. 5 a glue strip 26 is provided between the stiffening collar 14 inside the inner bag 1 and the wall material of the inner bag 1. The wall material of the outer shell 2 is additionally glued by means of a further glue strip 27 onto the wall material of the inner bag 1. The glue strips 26 and 27 are at the level of the stiffening collar 14. It is not possible here for gluing particles to penetrate to the interior of the bag, because these glue strips are covered by the stiffening collar disposed within the inner bag.

In accordance with FIG. 6 a stiffening collar 28 is utilized, the cut of which is illustrated in FIG. 7. The portion for the wedge side of this stiffening collar is indicated at 29 in FIG. 7. The strip portions 30 and 31 which are connected thereto are bent along the fold lines 32 and 33 to form a right angle so that the strip portions 30 and 31 of this stiffening collar extend, as indicated in FIG. 6, from the left upper end downwardly to the right and diagonally across the surface of the shell. The free ends of the strip portions 30, 31 are supported by means of edges 34 against the inner wall of the outer shell, which is not indicated in FIG. 6. This shaping of the stiffening collar makes it possible to firmly anchor the inner bag at the pouring edge 35. The gluing point indicated at 36 is not absolutely necessary, because if the closure lap is turned over downwardly along the upper edge of the wedge side by closing the lid 8, the inner bag is also suspended along this pouring edge without the use of glue. The stiffening collar 29 is located inside bag 1 as shown in FIG. 6, and it may also be disposed inside bag 1 in the embodiment shown in FIG. 1. However it would also fulfill its purpose if it were disposed outside the bag as long as the closure tip 5 can be folded over the upper edge of collar 28.

The gluing strips described hereinabove or other gluing points may also be replaced by suitable welded joints, if suitable materials are used for the inner bag and the outer shell.

Having now described my invention with reference to the embodiments illustrated in the accompanying drawings, I do not wish to be limited thereto, but what I desire to protect by Letters Patent of the United States of America is set forth in the appended claims.

I claim:

1. Container comprising in combination, an inner bag and an outer shell in the form of a box of cardboard, metal, plastic or the like and having a box portion and a cover portion, said bag and said outer shell having a plurality of sides, said bag having end portions including the edges of two opposite sides and said end portions being folded toward one another with said edges overlapping, said overlapping edges being sealed one onto the other with the end portions defining tips extending outwardly in opposite directions, one said tip when cut open defining a pouring aperture and being foldable downwardly between an inner wall of said cover portion and an outer wall of said bag, a reinforcing strip being provided having a portion proximate the base of said tip defining said pouring aperture, and the other said tip being attached to and supported from an inner surface of said outer shell.

2. Container comprising in combination, an inner bag and an outer shell in the form of a box of cardboard, metal, plastic or the like and having a box portion and a cover portion, said bag and said outer shell having a plurality of sides, said bag having end portions including the edges of two opposite sides and said end portions being folded toward one another with said edges overlapping, said overlapping edges being sealed one onto the other with the end portions defining tips extending outwardly in opposite directions, one said tip when cut open defining a pouring aperture and being foldable downwardly between an inner wall of said cover portion and an outer wall of said bag, a reinforcing strip being provided having a portion proximate the base of said tip defining said pouring aperture, and the other said tip being attached to and supported from an inner surface of said outer shell, particularly said box by means of a gluing strip.

3. Container comprising in combination, an inner bag and an outer shell in the form of a box of cardboard, metal, plastic or the like and having a box portion and a cover portion, said bag and said outer shell having a plurality of sides, said bag having end portions including the edges of two opposite sides and said end portions being folded toward one another with said edges overlapping, said overlapping edges being sealed one onto the other with the end portions defining tips extending outwardly in opposite directions, one said tip when cut open defining a pouring aperture and being foldable downwardly between an inner wall of said cover portion and an outer wall of said bag a reinforcing strip being provided having a portion proximate the base of said tip defining said pouring aperture, and the other said tip being attached to and supported from an inner surface of said outer shell, particularly said cover portion by means of a gluing strip.

4. Container comprising in combination, an inner bag and an outer shell in the form of a box of cardboard, metal, plastic or the like and having a box portion and a cover portion, said bag and said outer shell having a plurality of sides, said bag having end portions including the edges of two opposite sides and said end portions being folded toward one another with said edges overlapping, said overlapping edges being sealed one onto the other with the end portions defining tips extending outwardly in opposite directions, one said tip when cut open defining a pouring aperture and being foldable downwardly between an inner wall of said cover portion and an outer wall of said bag, a reinforcing strip being provided having a portion proximate the base of said tip defining said pouring operture, and the other said tip being attached to and supported from an inner surface of said outer shell, particularly said box by means of a gluing strip, said reinforcing strip being adhered to the inner wall of said box portion and said bag being adhered to the inner wall of said box portion in the proximity of said reinforcing strip.

5. Container comprising in combination, an inner bag and an outer shell in the form of a box of cardboard, metal, plastic or the like and having a box portion and a cover portion, said bag and said outer shell having a plurality of sides, said bag having end portions including the edges of two opposite sides and said end portions being folded toward one another with said edges overlapping, said overlapping edges being sealed one onto the other with the end portions defining tips extending outwardly in opposite directions, one said tip when cut open defining a pouring aperture and being foldable downwardly between an inner wall of said cover portion and an outer wall of said bag, a reinforcing strip being provided having a portion proximate the base of said tip defining said pouring aperture, and the other said tip being attached to and supported from an inner surface of said outer shell, particularly said cover portion by means of a gluing strip, said reinforcing strip being adhered to the inner wall of said bag and said bag being adhered to the inner wall of said box portion in the proximity of said reinforcing strip.

6. Container comprising in combination, an inner bag and an outer shell in the form of a box of cardboard,

metal, plastic or the like and having a box portion and a cover portion, said bag and said outer shell having a plurality of sides, said bag having end portions including the edges of two opposite sides and said end portions being folded toward one another with said edges overlapping, said overlapping edges being sealed one onto the other with the end portions defining tips extending outwardly in opposite directions, one said tip when cut open defining a pouring aperture and being foldable downwardly between an inner wall of said cover portion and an outer wall of said bag, a reinforcing strip being provided with a portion proximate the base of said tip defining said pouring aperture, and the other said tip being attached to and supported from an inner surface of said outer shell, particularly said box by means of a gluing strip, said reinforcing strip being adhered to the inner wall of said bag and said bag being adhered to the inner wall of said box portion in the proximity of said reinforcing strip, said reinforcing strip being in the form of a collar having said portion proximate said pouring aperture on the side of said box against which said one tip comes to rest for the closed position of said cover portion and having strip portions extending along the sides of said box for reinforcing said sides.

7. Container comprising in combination, an inner bag and an outer shell in the form of a box of cardboard, metal, plastic or the like and having a box portion and a cover portion, said bag and said outer shell having a plurality of sides, said bag having end portions including the edges of two opposite sides and said end portions being folded toward one another with said edges overlapping, said overlapping edges being sealed one onto the other with the end portions defining tips extending outwardly in opposite directions, one said tip when cut open defining a pouring aperture and being foldable downwardly between an inner wall of said cover portion and an outer wall of said bag, a reinforcing strip being provided having a portion proximate the base of said tip defining said

pouring aperture, and the other said tip being attached to and supported from an inner surface of said outer shell, particularly said cover portion by means of a gluing strip, said reinforcing strip being adhered to the inner wall of said bag and said bag being adhered to the inner wall of said box portion in the proximity of said reinforcing strip, said reinforcing strip being in the form of a collar having said portion proximate said pouring aperture on the side of said box against which said one tip comes to rest for the closed position of said cover portion and having strip portions extending along the sides of said box for reinforcing said sides.

8. Container comprising in combination, an inner bag and an outer shell in the form of a box of cardboard, metal, plastic or the like and having a box portion and a cover portion, said bag and said outer shell having a plurality of sides, said bag having end portions including the edges of two opposite sides and said end portions being folded toward one another with said edges overlapping, said overlapping edges being sealed one onto the other with the end portions defining tips extending outwardly in opposite directions, one said tip when cut open defining a pouring aperture and being foldable downwardly between an inner wall of said cover portion and an outer wall of said bag, a reinforcing strip provided having a portion proximate the base of said tip defining said pouring aperture, and the other said tip being attached to and supported from an inner surface of said outer shell, and reinforcing strip portions extending from proximate said pouring aperture diagonally to the opposite corners of the bottom of said box.

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