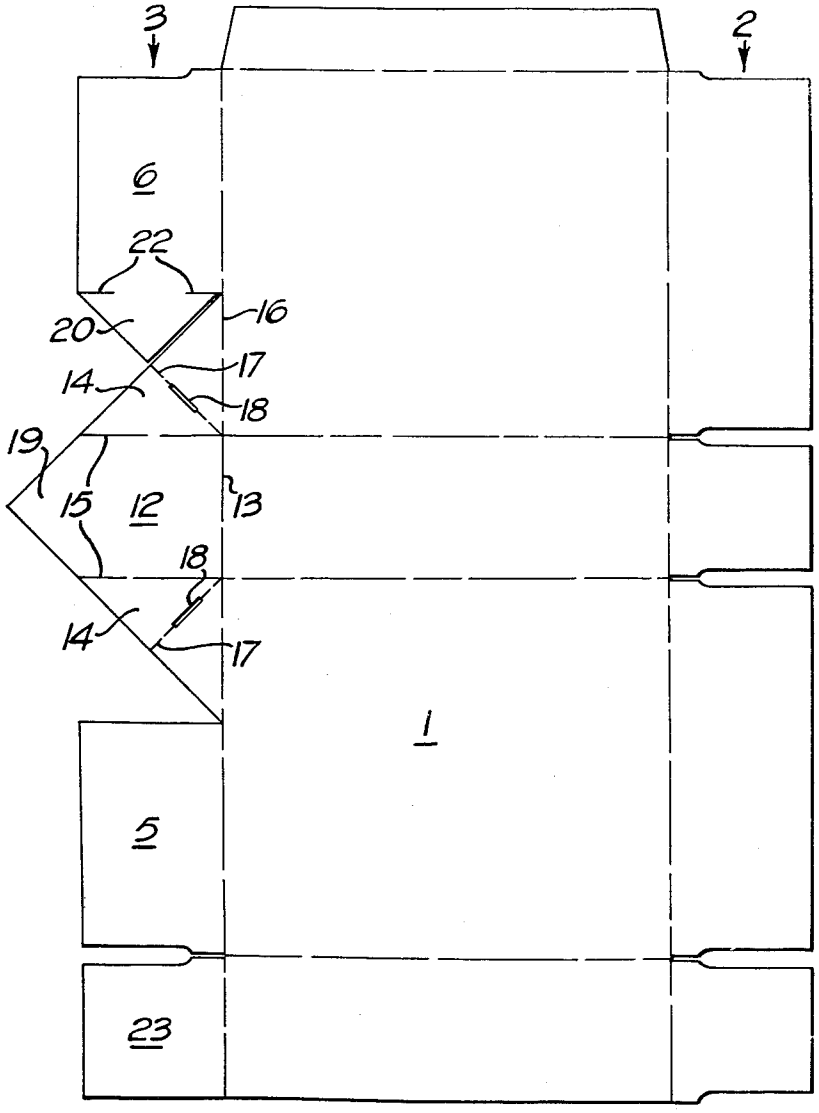
Nov. 20, 1962 E. B. ROBINSON ET AL 3,064,873

CARTONS OF FIBREBOARD OR LIKE SHEET MATERIAL FORMED WITH A POURING SPOUT OR TROUGH

Filed Aug. 31, 1961 4 Sheets-Sheet 1

FIG. 1.



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CARTONS OF FIBREBOARD OR LIKE SHEET MATERIAL FORMED WITH A POURING SPOUT OR TROUGH

Filed Aug. 31, 1961 4 Sheets-Sheet 2

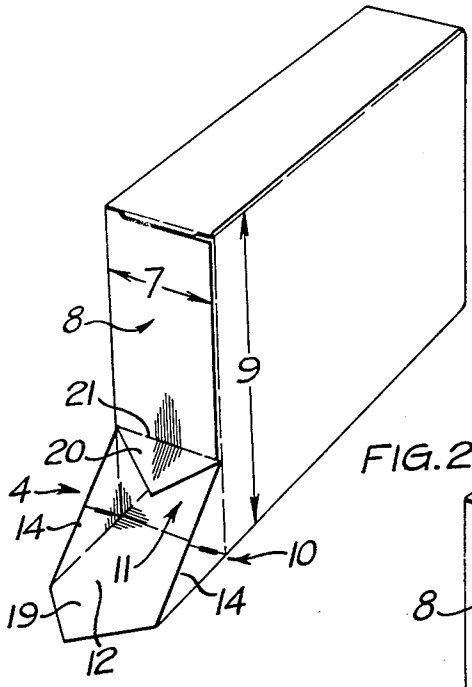


FIG. 3.

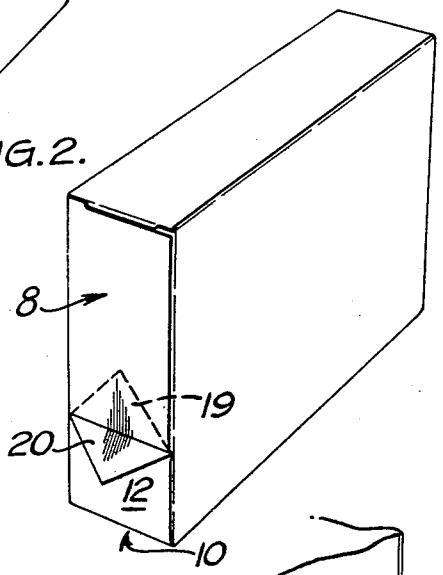


FIG. 2.

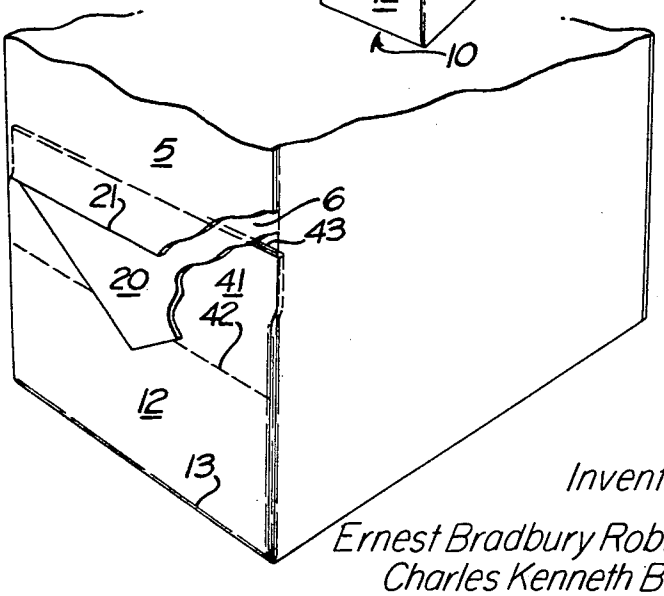


FIG. 7

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CARTONS OF FIBREBOARD OR LIKE SHEET MATERIAL FORMED WITH A POURING SPOUT OR TROUGH

Filed Aug. 31, 1961 4 Sheets-Sheet 3

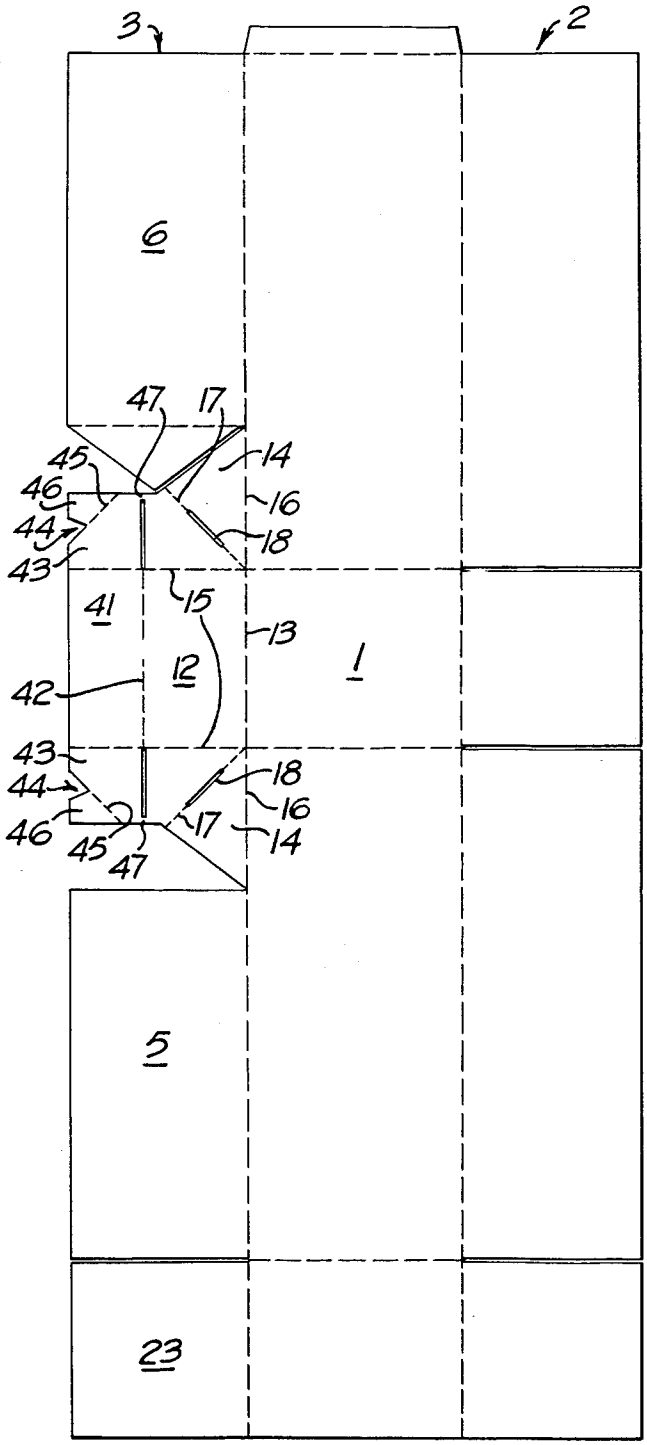


FIG.4.

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CARTONS OF FIBREBOARD OR LIKE SHEET MATERIAL FORMED WITH A POURING SPOUT OR TROUGH

Filed Aug. 31, 1961 4 Sheets-Sheet 4

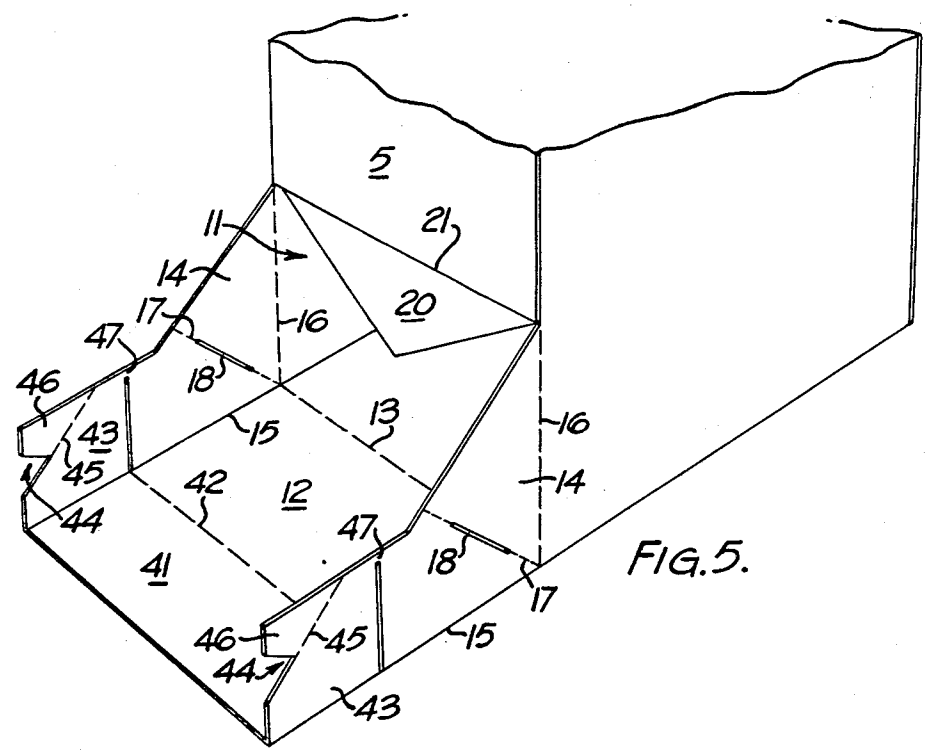
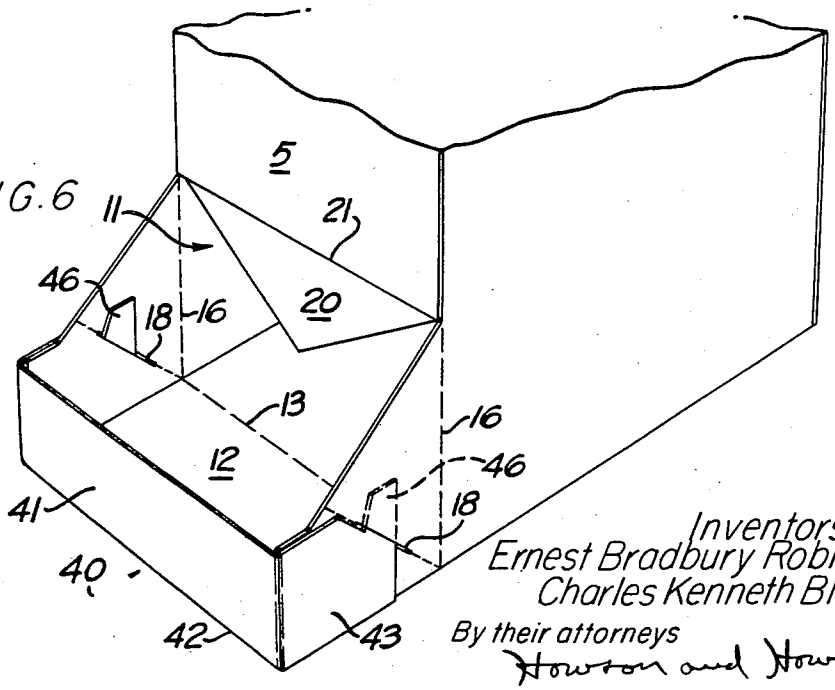


FIG. 5.

FIG. 6



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3,064,873

CARTONS OF FIBREBOARD OR LIKE SHEET MATERIAL FORMED WITH A POURING SPOUT OR TROUGH

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Filed Aug. 31, 1961, Ser. No. 135,274
3 Claims. (Cl. 229—17)

This invention relates to a carton of fibreboard or like sheet material suitable for the packaging of material in the form of pills, pellets and the like. It is desirable to provide a carton for such material with a pouring outlet through which the contents of the carton may be discharged and which, if desired, may subsequently be closed to prevent ingress of dirt and other foreign matter into the interior of the carton. This is particularly so when the carton is used for the packaging of foodstuffs, for example, medicinal pills, small sweets, dried fruits such as currants and raisins, or nuts.

It is an object of the present invention to provide a carton of fibreboard or like sheet material with a pouring spout or trough movable between an open discharge position and a closed position, the trough or spout being so constructed that it has means to retain it in its closed position, thus preventing accidental escape of the contents.

In a carton, according to the present invention, of fibreboard or like sheet material, one wall, adjacent one of its edges, is provided with an outlet aperture extending across the full width of the wall and includes a pouring spout or trough comprising a base member hingeable about a base edge of said aperture and connected by foldable webs to side edges of said aperture, said base member being extended at a top edge to provide a tongue adapted to be tucked under a marginal portion of a top edge of the outlet aperture when said pouring spout or trough is in a closed position.

Preferably the webs are formed with gusset folds whereby they are folded inwardly when the pouring spout or trough is in a closed position. The top edge of the aperture may be extended to provide a tab adaptted to overlie the base member of the pouring spout or trough when it is in its closed position, said tab assisting to retain the pouring spout or trough in said position, so preventing accidental opening.

Embodiments of the present invention are illustrated in the accompanying drawings in which:

FIGURE 1 is a plan view of a carton blank of one embodiment,

FIGURE 2 is a perspective view of a carton erected from the blank of FIGURE 1, showing a pouring spout in an open position,

FIGURE 3 is a perspective view of said carbon showing the pouring spout in a closed position,

FIGURE 4 is a plan view of a carton blank of a second embodiment,

FIGURE 5 is a perspective view of a carton erected from the blank of FIGURE 4, showing a trough in a first stage of formation,

FIGURE 6 is a like view of that of FIGURE 5 showing the trough fully formed, and

FIGURE 7 is a perspective view of said carton showing the trough in its closed position.

In the accompanying drawings like reference numerals are used to indicate like parts in the several figures.

Referring to the FIGURES 1, 2 and 3 a carton blank **1** of fibreboard or like sheet material is cut along the full lines and scored, to defiine fold lines, along the dotted

lines. The lower half **2** of the blank is of known construction which is commonly used in the formation of cartons. The top half **3** of the blank is outlined in a particular manner to provide a pouring spout **4** (see FIGURE 2) and comprises end wall closure panels **5** and **6**. These closure panels **5** and **6**, in the erected carton, overlap each other and extend across the full width **7** of an end **8** of the carton. The panels **5** and **6** do not, however, extend along the full length **9** of the carton end **8** and stop short of an end **10** so as to leave an outlet aperture **11**.

A base member **12** of the pouring spout **4** is hingedly connected along a fold line **13** to a base edge of the aperture **11**. Gusset folded webs **14** are connected along fold lines **15** to the sides of the base member **12** and along fold lines **16** to the side edges of the outlet aperture **11**. The gusset folds are indicated at **17** and may be defined by score lines. To assist the webs **14** to fold along the lines **17** slots **18** may be cut coincident with said fold lines **17**.

A top edge of the base member **12** is extended to provide a tongue **19** and it should be noted that there is no fold line between said tongue **19** and the base member **12**. A tab **20** extends from a top edge **21** of the outlet aperture **11**. To assist in bending of the tab **20** out of the plane of the overlapping end closure panels **5** and **6** (see FIGURE 2) score lines **22** are provided coincident with the top edge **21** and extending inwardly from the ends thereof. It should be noted that these score lines **22** do not extend along the full length of the top edge **21**.

The carton blank hereinbefore described is erected into a carton as shown in FIGURES 2 and 3 in known manner. In folding the top half of the blank into an end closure adhesive is applied preferably to the top surfaces of the end closure panel **6** and an edge closure panel **23**. The panel **23** and base member **12** are then folded inwardly into the plane of the end **8** of the carton. As the panel **12** is folded in, the webs **14** are also folded inwardly so that they lie under said base member **12**. Next the closure panel **6** is folded over and finally the closure panel **5** is folded over so that it is adhesively secured to the outer surface of the panel **6** to which adhesive has been applied. The carton is now in the edected form as shown in FIGURE 3 with the tab **20** overlying the base member **12** and the tongue **19** lying under a marginal portion of the top edge **21** of the outlet aperture **11**.

To pull the pouring spout into its open discharge position it is necessary simply to grip the side edges of the base member **12** defined by the fold lines **15** and pull outwardly causing the base member **12** to hinge about its fold line **13**. As the base member is pulled out the tongue **19** tends to bend and slide from under the top edge **21** of the outlet aperture **11** and the tab **20** tends to bend outwardly. When the pouring spout **4** is in its fully open position, the webs **14** form side walls for the pouring spout so that when the contents of the carton are discharged through the outlet **11** there is no spillage of said contents over the sides of the base member **12**.

To close the pouring spout and return it to its closed position as shown in FIGURE 3, all that is necessary is to push the base member up so that it hinges about its fold line **13** and tuck the tongue **19** under the tab **20**. When the pouring spout **4** is in its fully closed position the resiliency of the fiberboard or like sheet material causes the tongue to move into its normal position coplanar with the base member **12** so that it lies behind a marginal portion of the top edge **21** of the aperture **11**. Likewise the tab **20** tends to move back into its normal position coplanar with the end closure panel **6**, and preventing accidental opening of the spout and consequent leakage of the contents.

It is preferable to provide the tab **20** extending from the top edge **21** of the outlet aperture as said tab assists in retaining said pouring spout in its closed position. It should be noted, however, that this tab is not essential and if desired the tab **20** can be eliminated by a straight cut along line **22** of panel **6**.

Referring to FIGURES 4, 5, 6 and 7 the carton blank and carton illustrated therein respectively include trough forming members and trough **40**. This trough **40** differs, in certain respects, from the pouring spout **4** hereinbefore described although it has the common construction of a base member **12** hingedly connected along fold line **13** to the base edge of the aperture **11**. Likewise, gusset folded webs **14** are connected along fold lines **15** to the side edges of the base member **12** and along fold lines **16** to the side edges of the outlte aperture **11**. Furthermore slots **18** are provided coincident with the gusset fold lines **17**, which slots not only serve to assist in folding of the gusset webs **14** but also provide an anchorage for a trough end wall **41**.

The trough end wall **41** extends from a fold line **42** defining the top edge or outer end of the trough base member **12**. Slide flaps **43** extend from the side edges of the trough end wall **41** and are notched as indicated at **44**. Fold lines **45** are formed in the side flaps, which fold lines together with the notches **44** defining locking tabs **46** adapted to engage in the slots **18** to maintain the trough end wall in its erected position upstanding with respect to the trough base member **12**. The side flaps **43** initially are joined by bridges of attachment **47** to the adjoining gusset webs **14**.

Still referring to FIGURES 4, 5 and 6, it will be seen that, as hereinbefore described with reference to FIGURES 1, 2 and 3, tab **30** extends from the top edge **21** of the outlet aperture **11** and a fold line **22** is made coincident with said top edge **21** to assist in bending of the tab **20** out of the plane of the overlapped closure panels **5** and **6** (see FIGURES 5 and 6).

The carton blank of FIGURE 4 is erected into the carton as shown in FIGURE 7 in known manner. In folding the top half of the blank into an end closure adhesive is applied to the top surfaces of the end closure panel **6** and an edge closure panel **23**. The panel **23** and base member **12** are then folded inwardly into the plane of the end **8** of the carton. As the base member **12** is folded in the webs **14** and side flaps **43** are also folded inwardly, so that the webs lie under said base member **12** and the side flaps lie under the trough end wall **41** which, at this stage, is co-planar with said base member. Next the closure panel **6** is folded over and finally the closure panel **5** is folded over so that it is adhesively secured to the top, outer surface of the panel **6**. The carton is now in its erected form with the tab **20** overlying the base member **12** and the trough end wall **41** underlying a marginal portion of the top edge **21** of the outlet aperture **11**.

To pull the trough into its open position it is simply necessary to grip the side edges of the base member **12** defined by the fold lines **15** and pull outwardly causing the base member **12** to hinge about its fold line **13**. As the base member is swung out the trough end wall **41** tends to flex inwardly and slide from under the top edge **21** of the outlet aperture **11** and the tab **20** tends to flex outwardly. The trough is then pulled into its first stage of formation as shown in FIGURE 5 having side walls constituted by the straightened gusset webs **14**.

The next step is to close the outer end of the trough by folding up the trough end wall **41** about the fold line **42**, the bridges of attachment **47** first being broken. Finally the side flaps **43** are folded against the outer surfaces of the gusset webs **14**, and the locking tabs **46** inserted in the slots **18**. The trough in this fully formed position is shown in FIGURE 6.

To close the trough and return it to its closed position as shown in FIGURE 7, the locking tabs **46** are disengaged from the slots **18** and the base member **12** is pushed back into its initial closed position, the trough end wall **41** and side flaps **43** being tucked behind the tab **20** and the gusset webs being folded inwardly.

From the foregoing description it will be appreciated that the carton, according to the present invention, is provided with a pouring spout or trough movable between an open discharge position and a closed position, said trough being so constructed that it has the means to retain it in its closed position.

What we claim is:

1. In a carton of fibrous sheet material, an end wall having
   - an outlet aperture extending across the full width of the end wall and located adjacent one one end thereof,
   - a base member hingedly connected at said edge to the end wall,
   - in combination with a dispensing trough, there being in the trough a base member,
   - side walls consisting of gusset-folded webs connected between the edges of the base member and side edges of the outlet aperture,
   - interfitting tabs and slots on the gusset-folded webs to complete the assembly of the trough;
   - whereby the trough can be disassembled and closed against the end wall.

2. A carton of fibrous sheet material having
   - an outlet aperture in an end wall,
   - the outlet aperture extending across the full width of the end wall and being located adjacent one end thereof,
   - in combination with a dispensing trough hingedly connected between an open position protruding from the outlet aperture, and
   - a closed position closing the outlet aperture, said dispensing trough comprising
   - a base member hingedly connected to a base edge of the outlet aperture,
   - side edges of the base member,
   - side walls of the base member constituted by gusset-folded webs connected between the side edges of the base member and side edges of the outlet aperture, and
   - a trough end wall connected along an outer edge of the base member, said trough end wall having side flaps notched to define locking tabs adapted to engage in slots in the side walls.

3. A carton of fibrous sheet material having an outlet aperture in an end wall, said outlet aperture extending across the full width of said end wall and being located adjacent one end thereof, and including a dispensing trough hingeable between an open position protruding from said outlet aperture and a closed position closing said aperture, said dispensing trough comprising a base member hingeable about a base edge of said outlet aperture, side walls constituted by gusset folded webs connected between said edges of said base member and side edges of said outlet aperture, and a trough end wall connected along a fold line to an outer edge of said base member, said trough and wall having side flaps engageable with said trough side walls.

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