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Jan. 3, 1939. W. H. INMAN 2,142,131

CARTON CONSTRUCTION

Filed Nov. 14, 1936 2 Sheets-Sheet 1

Fig. 1

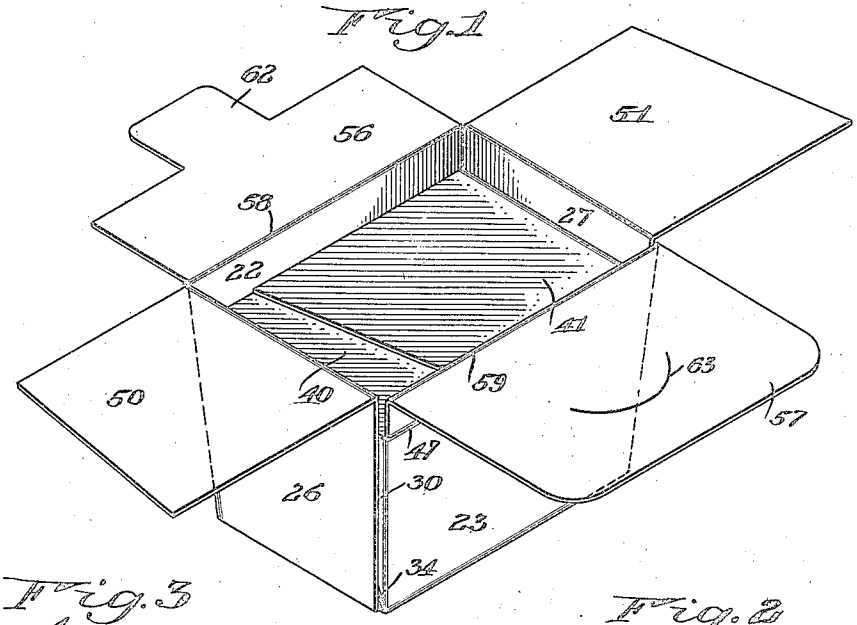


Fig. 3

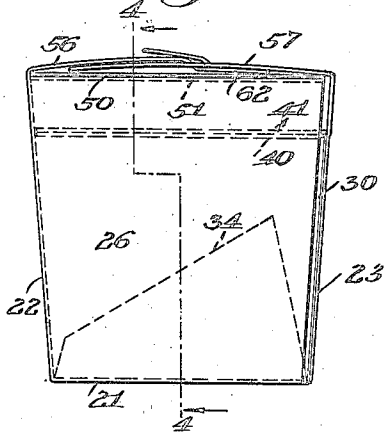


Fig. 4

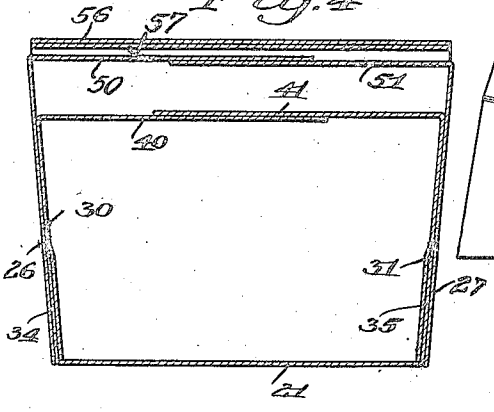
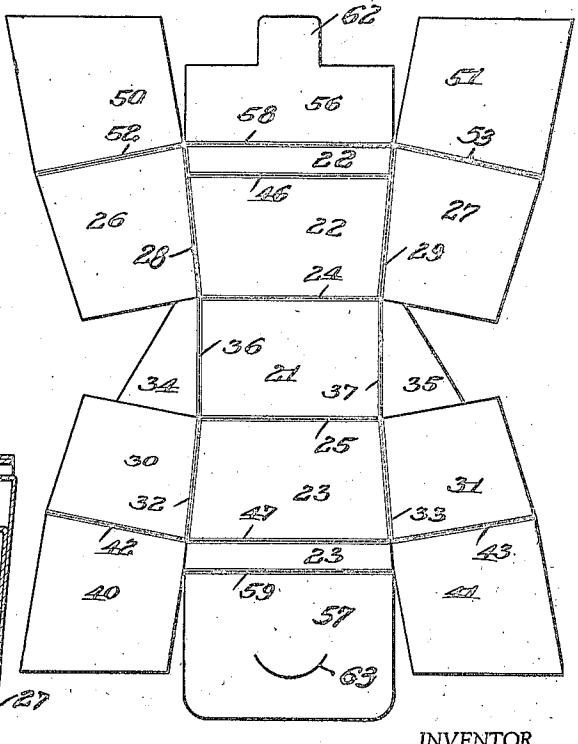


Fig. 2



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Fig. 5

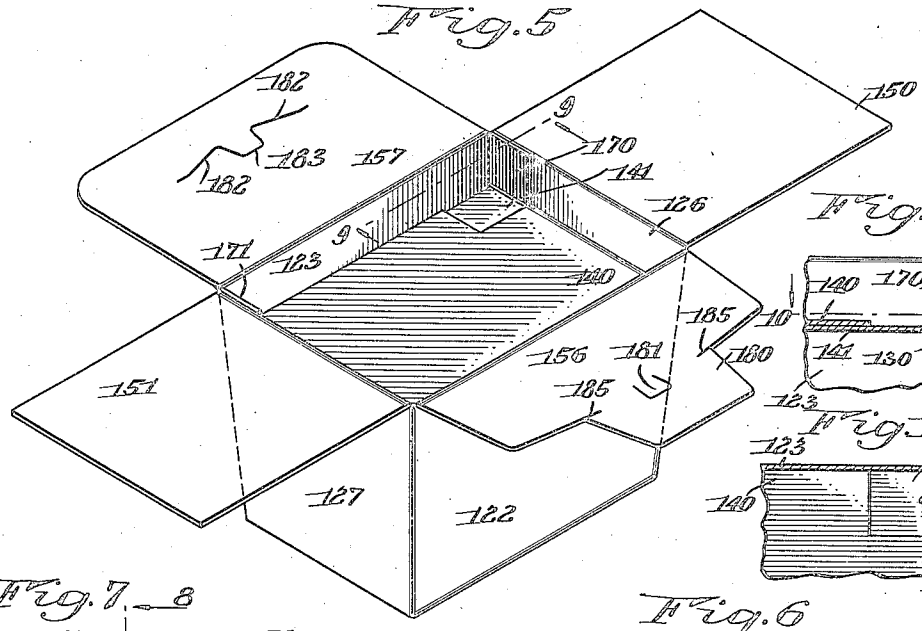


Fig. 9

Fig. 10

Fig. 7

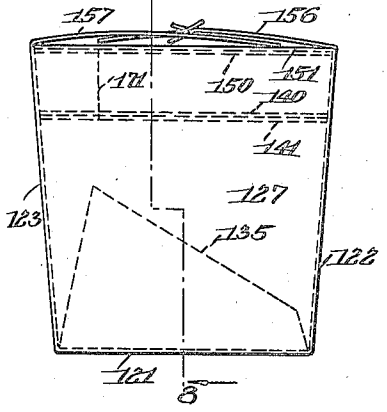


Fig. 8

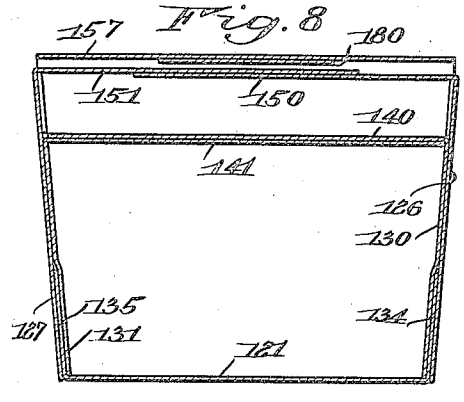
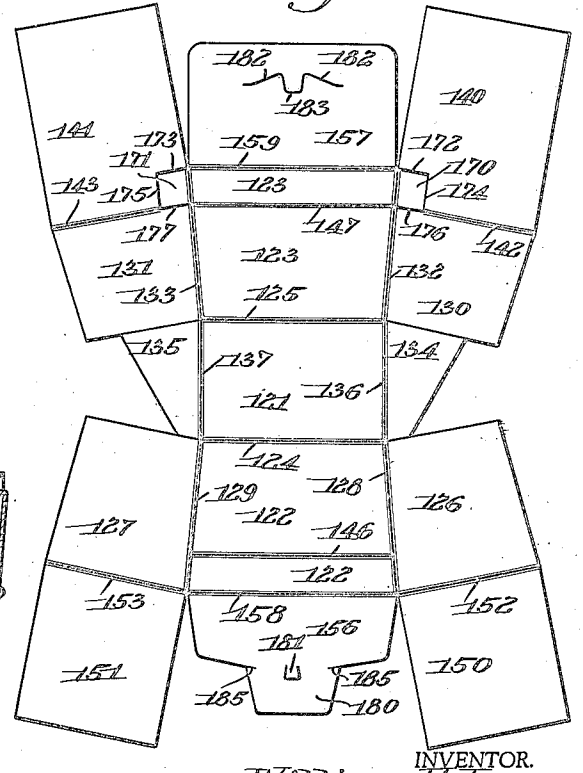


Fig. 6



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UNITED STATES PATENT OFFICE

2,142,131

CARTON CONSTRUCTION

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Application November 14, 1936, Serial No. 110,898

5 Claims. (Cl. 229—27)

This invention relates to cartons, receptacles, or containers, made of suitable sheet material, such, for example, as the fiber board, cardboard, or paper board commonly known as carton stock.

An object of the invention is the provision of a more simple and satisfactory carton or container having a plurality of separate compartments therein, one of which is adapted to contain, for example, a food product such as ice cream, and another of which is adapted to contain, for example, a napkin and spoon for use in eating the ice cream, or a different food product, such as cake, to be eaten with the ice cream, or a premium or prize.

Another object of the invention is the provision of such a carton which is made entirely from a single piece of sheet material.

Still another object is the provision of such a carton so designed and constructed as to require less sheet material than is required for making prior two-compartment cartons of the same size.

A further object is the provision of an improved construction for effectively sealing and strengthening the corners of the carton.

To these and other ends the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Fig. 1 is a perspective view of a carton constructed in accordance with one embodiment of the present invention;

Fig. 2 is a view of the blank from which the carton of Fig. 1 is made, showing it in flat form;

Fig. 3 is an end elevation of the carton, with the closure flaps closed;

Fig. 4 is a vertical section through the carton taken longitudinally on the line 4—4 of Fig. 3;

Fig. 5 is a perspective view similar to Fig. 1, showing a modified form of construction;

Fig. 6 is a view of the blank from which the carton of Fig. 5 is made, showing the blank in flat form;

Fig. 7 is an end elevation of the carton shown in Figs. 5 and 6, with the closure flaps in closed position;

Fig. 8 is a vertical section taken longitudinally through the carton substantially on the line 8—8 of Fig. 7;

Fig. 9 is a fragmentary vertical section taken substantially on the line 9—9 of Fig. 5, illustrating details of the corner construction, and

Fig. 10 is a fragmentary horizontal section taken substantially on the line 10—10 of Fig. 9.

The same reference numerals throughout the several views indicate the same parts.

Referring first to the carton illustrated in Figs. 1 to 4, there is provided according to this embodiment of the invention, a blank suitably cut, scored and folded to provide a bottom 21, sides 22 and 23 connected to the bottom 21 by the score lines 24 and 25, respectively, other sides 26 and 27 hingedly connected to the side 22 by the score lines 28 and 29, respectively, and sides 30 and 31 hingedly connected to the side 23 by the score lines 32 and 33, respectively. Bottom sealing flaps 34 and 35 may also be provided, hingedly connected to the bottom 21 by the score lines 36 and 37, respectively.

When the blank is folded up and erected, the side flaps 26 and 30 are overlapped with or superimposed upon each other, with the sealing flap 34 between them, the flap 26 being the outermost flap of this side of the carton and the flap 30 being the innermost flap of this side. Similarly, the flap 27 forms the outermost flap of the opposite side wall of the carton, and the flap 31 the innermost flap of this same side wall, with the sealing flap 35 between these two. The flaps 26, 30 and 34 are suitably secured to each other, adhesively or otherwise, and the flaps 27, 31 and 35 are likewise suitably secured to each other adhesively or otherwise. The connection between these respective flaps serves to hold the body of the carton in erected position.

The inner flaps 30 and 31 of these two opposite side walls do not extend fully to the top edge of the carton, but stop somewhat below the top edge of the carton. Other flaps 40 and 41 are hingedly connected to the flaps 30 and 31, respectively, by the score lines 42 and 43, which are the upper edges of the flaps 30 and 31, respectively. After the lower part of the carton has been filled with its intended contents, such as ice cream, the flaps 40 and 41 are then folded down to extend across the carton to form a partition or septum extending across the carton above the ice cream or other contents in the bottom part thereof. The partition flaps 40 and 41 may be of sufficient length so that each of them will extend fully across the entire area of the carton, but they are not necessarily of this size, and may be somewhat shorter, as shown in Figs. 1 and 4, in order to save material. In the construction here shown, each of the flaps 40 and 41 extends across a little more than half of the area of the carton, so that the two flaps over-

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lap with each other and the two of them together form a complete partition dividing the carton into a lower main compartment and a smaller upper compartment.

Preferably the flaps 40 and 41 are of sufficient width so that when folded down into partition-forming position, the side edges of the flaps fit tightly against the side walls 22 and 23 of the carton. To assist in supporting the partition flaps at the proper elevation, the side walls 22 and 23 are preferably provided with score lines 46 and 47, respectively, at the elevation of the partition. These score lines 46 and 47 may be pressed, scores pressed from that side of the material which forms the outside of the carton, toward that side which forms the interior surface, so that the sheet material is slightly pressed inwardly along these score lines 46 and 47, to provide slight shoulders which, in some degree, support the edges of the partition flaps 40 and 41. If desired, the score lines 46 and 47 may be so formed as to provide even more pronounced shoulders by forming a pressed score pressed inwardly from the outside toward the inside surface, and immediately above it a pressed score pressed outwardly from the inner surface of the sheet material toward the outer surface, thus bending the sheet material at this point into a slight Z-shape to make a more pronounced shoulder for supporting the partition flaps.

Suitable closure flaps are provided for closing the top of the upper compartment. These may include an inner pair of closure flaps 50 and 51, hingedly connected to the upper edges of the side flaps 26 and 27, respectively, by score lines 52 and 53, respectively, and also an outer pair of closure flaps 56 and 57, hingedly connected to the upper edges of the side walls 22 and 23, respectively, by the score lines 58 and 59, respectively. The score lines 52, 53, 58 and 59 are all substantially at a common elevation when the carton is erected, as shown in Fig. 1, and are at an elevation materially above that of the score lines 42, 43, 46 and 47. Thus when the closure flaps 50, 51, 56 and 57 are folded down to close the top of the carton, there will be a substantial space or upper compartment within the carton, between these closure flaps and the partition flaps 40 and 41, and this space or upper compartment may receive a small spoon and a folded paper napkin, for example, or a piece of cake, or any other desired contents.

The closure flaps 50 and 51, like the partition flaps 40 and 41, may extend, if desired, across the entire area of the top of the container, but it is not necessary that they do so. In the particular embodiment here illustrated, these flaps 50 and 51 are of such length that they overlap with each other and together close the entire area, but neither flap alone extends all the way across the top. The flaps are sufficiently wide, however, so that their side edges make a snug fit with the sides 22 and 23 of the carton.

The inner pair of flaps 50 and 51 is preferably folded down into closed position first, and then the outer pair of flaps 56 and 57 is folded down into closed position above the flaps 50 and 51, and the flaps 56 and 57 are suitably secured to each other in any desired way, to hold the closure in closed position until it is desired to open it. Any known means for detachably securing flaps 56 and 57 to each other may be employed. For example, the flap 56 may be provided with a tongue 62 and the flap 57 may be provided with a slot 63 through which the tongue 62 may be inserted when the flaps are closed, the resulting friction being sufficient to prevent accidental withdrawal of the tongue from the slit. If a somewhat tighter holding means is desired for holding the closure flaps in closed position, the flaps 56 and 57 may be provided with tongues and slits of the form illustrated in connection with the flaps 26 and 27 of United States Patent No. 1,950,934, granted March 13, 1934, for an invention of John P. Shearer. Such form of flap interlocking means, according to the Shearer patent, is illustrated in connection with the other embodiment of the present invention, shown in Figs. 5 to 10 of the present drawings.

It is seen that the construction shown in Figs. 1 to 4 provides a simple and effective two-compartment carton, using but a small amount of sheet material in its construction, and made entirely from a single piece of such sheet material. Such a carton is relatively inexpensive to manufacture, and highly satisfactory in use.

It is noted that the upper or smaller compartment of this carton is not fully sealed by overlapping joints at all points, but is sealed only by approximately abutting edges at two corners, these being the corners at the two side edges of the wall 23. In most cases, any slight gap or opening which occurs at these two corners of the upper compartment is of no consequence, since the lower or main compartment is nevertheless fully sealed at all times. But for some special purposes, a more completely sealed upper compartment is desired, and when such is the case the carton may be constructed in the slightly modified form illustrated in Figs. 5 to 10, inclusive, since this form requires only a slight additional amount of sheet material.

Most of the features of the carton illustrated in Figs. 5 to 10 may be identical with the corresponding features of the previously described form of carton. To avoid unnecessary repetition, the parts which are the same in both forms of carton will not be again described, but only the differences between the two forms will be described. For convenience in following the construction, the parts in the embodiment of Figs. 5 to 10 are indicated by the same reference numerals used for the respective corresponding parts in the embodiment of Figs. 1 to 4 raised by 100; that is, part 121 of this second embodiment corresponds to part 21 of the previous embodiment, parts 122 and 123 of the second embodiment correspond respectively to the parts 22 and 23 of the first embodiment, and so forth.

In this second embodiment, the partition flaps 140 and 141 are made somewhat larger than the partition flaps 40 and 41 of the previous embodiment, so that they cover or extend across the entire area of the carton except for a small space at one corner thereof. At one corner of the flap 140, a section 170 is cut away from what would otherwise be the area of the partition flap, and a similar section 171 is cut away from the area of the blank which would otherwise form part of the partition flap 141. The cuts on three sides of the section 170 are indicated at 172, 174 and 176, while the corresponding cuts on three sides of the section 171 are indicated at 173, 175 and 177, in Fig. 6. The sections 170 and 171 are not cut on the fourth sides but remain hingedly attached to the upper part of the wall 123 by means of the hinge score lines 132 and 133, respectively. The cuts 176 and 177 may be omitted.

When the box is erected from the flat blank form of Fig. 6 to the complete erected form, the

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sections 170 and 171 are so placed during the erecting process, that they will lie against the inner surfaces of the end walls 126 and 127, respectively, and they are secured to these end walls by suitable means such as adhesive. Thus, instead of a mere butt joint, likely to spring open slightly, at the top corners of the edges 132 and 133 of the carton, the construction just described provides a well sealed, strong lap joint at these corners, which can not spring open and which thus keeps the upper compartment of the carton well sealed at all corners.

When the partition flaps 140 and 141 are folded down across the erected container, each flap will extend across the entire area of the body of the container except for the opening in the corner of the flap, from which the portion 170 or 171, respectively, was cut. However, the flap 140 will extend across the opening from which the portion 171 was cut in the flap 141 and the flap 141 will extend across the opening from which the portion 170 was cut in the flap 140, so that the partition formed by these flaps will nevertheless be complete and will have no openings therethrough.

The upper pair of closure flaps 156 and 157 may be provided, like the closure flaps 56 and 57 previously described, with any suitable fastening means for holding the flaps in closed position. This fastening means may be similar to the tongue 62 and slot 63 in the form previously described, or, as here shown, it may be in the form of the interlocking parts disclosed in the previously mentioned Shearer Patent No. 1,950,934. As shown in Fig. 6, the flap 156 is provided with a large tongue 180 and with a smaller tongue 181 within it, while the flap 157 is provided with a slit having end portions 182 and a central U-shaped portion 183. When the closure flaps are closed, the wide tongue 180 is inserted through the full width of the slit 182, while the small tongue 181 enters the U-shaped part 183 of the slit and interlocks therewith, all as disclosed in said Shearer patent. Small cuts 185 at the inner corners of the tongue 180 interlock with the ends of the slit 182. This provides a particularly efficient and sturdy interlock for the closure flaps which can nevertheless be readily unfastened when desired.

Except for the differences above mentioned, all of the parts of the embodiment illustrated in Figs. 5 to 10 inclusive, may be identical with the corresponding parts of the embodiment illustrated in Figs. 1 to 4 inclusive, and may operate in the same way. It will be noted that in both forms of the invention, the entire two-compartment carton is made of a single unitary piece or blank of sheet material, such as carton stock, or the like.

While certain embodiments of the invention have been disclosed, it is to be understood that the inventive idea may be carried out in a number of ways. This application is therefore not to be limited to the precise details described, but is intended to cover all variations and modifications thereof falling within the spirit of the invention of the scope of the appended claims.

I claim:

1. A carton comprising sheet material cut, scored, and folded to provide a bottom wall and a plurality of upright walls rising from said bottom wall, each of two different upright walls including two layers of sheet material superimposed on each other, the outer one of said two layers of each of said two upright walls extending upwardly to the top of its wall, to closure flap sections, one hingedly secured to the top edge of each of said two outer layers to extend laterally from said top edge across at least a part of the top of said carton in overlapping relation to each other, the inner one of said two layers of each of said two upright walls having an upper edge materially below said top edges of said outer layers, and two partition flap sections, one hingedly secured to the upper edge of each of said two inner layers to extend laterally from said upper edge across at least a part of the interior of said carton to subdivide the interior at least partially into a plurality of compartments.

2. A carton comprising sheet material cut, scored, and folded to provide a bottom wall and a plurality of upright walls rising from said bottom wall, each of two different upright walls including two layers of sheet material superimposed on each other, the outer one of said two layers of each of said two upright walls extending upwardly to the top of its wall, two closure flap sections, one hingedly secured to the top edge of each of said two outer layers to extend laterally from said top edge across at least a part of the top of said carton in overlapping relation to each other, the inner one of said two layers of each of said two upright walls having an upper edge materially below said top edges of said outer layers, and two partition flap sections, one hingedly secured to the upper edge of each of said two inner layers to extend laterally from said upper edge across at least a part of the interior of said carton to subdivide the interior at least partially into a plurality of compartments, each of said two partition flap sections extending through less than all of the cross sectional area of the carton and each extending across that part of said cross sectional area across which the other does not extend.

3. A carton comprising sheet material cut, scored, and folded to provide a substantially quadrilateral bottom, two side walls hingedly secured to tow opposite edges of said bottom and extending upwardly therefrom, two other side walls connecting said two first named side walls to each other, each of said other side walls including two overlapped layers of sheet material, the outer layer extending to substantially the same height as the top edges of said two first named side walls, the inner layer having an upper edge at an elevation materially below said top edges, a partition flap hingedly connected to said upper edge of each of said inner layers in position to extend laterally from said upper edge across at least a part of the space within said side walls, and closure flap means hingedly secured to the top edges of at least some of said side walls to extend across the top of the carton and close the same at an elevation materially above said partition flaps.

4. A carton formed from a single unitary piece of sheet material cut, scored, and folded to provide a substantially quadrilateral wall, two other walls hingedly secured to two opposite edges of said quadrilateral wall and extending for a material distance therefrom at a substantial angle to said quadrilateral wall, two wall flaps hingedly connected to two opposite edges of each of said other walls, each of said wall flaps being overlapped with another wall flap hingedly connected to a different wall to form a wall extending between said two other walls and connecting them to each other, the inner one of each of the overlapped pairs of wall flaps having an edge materially closer to said quadrilateral wall than the corresponding edge of the outer one of the overlapped

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flaps, a partition flap hingedly connected to said edge of each of said inner wall flaps to extend partially across the space within said walls to form at least in part a partition subdividing said space into a plurality of compartments, and closure flaps hingedly secured to those edges of certain of said walls which are remote from said quadrilateral wall.

5. A tapered pail formed from a single unitary piece of carton stock cut, scored, and folded to provide a substantially rectangular bottom, two side walls hinged to two opposite edges of said bottom and rising therefrom and flaring outwardly away from each other in an upward direction, two inner wall flaps hinged to two opposite upstanding edges of one of said side walls, two outer wall flaps hinged to two opposite upstanding edges of the other of said side walls, each of the outer wall flaps being arranged to lie on the outer side of one of the inner wall flaps and to be connected thereto, both of said inner wall flaps having their upper edges at an elevation substantially below the upper edges of said outer wall flaps, two partition flaps, one hinged to the upper edge of each of said inner wall flaps and each arranged to extend approximately horizontally across at least a part of the area within said pail to form a partition dividing the pail into two compartments, a score line extending approximately horizontally along each of said two side walls at substantially the same elevation as said partition, each of said score lines being pressed inwardly from the outer side of its side wall to provide an inwardly projecting ledge to assist in supporting said partition flaps at the proper elevation to form said partition, two closure flaps, one hinged to the upper edge of each of said outer wall flaps, two other closure flaps, one hinged to the upper edge of each of said side walls, said four closure flaps together being arranged, when in closed position, to lie approximately horizontally across the top of said pail to form a movable closure for the top thereof, and means for releasably interlocking two of said closure flaps with each other to hold the closure in closed position.

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