July 10, 1956 S. PLATT 2,753,993

COVER FOR CARRYING A PAIR OF UPRIGHT RECTANGULAR CARTONS AS A UNIT

Filed March 27, 1953

2 Sheets-Sheet 1

Fig. 1

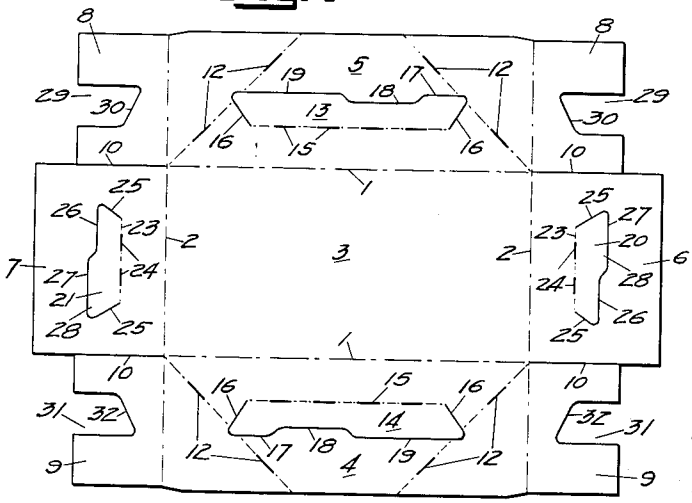


Fig. 6

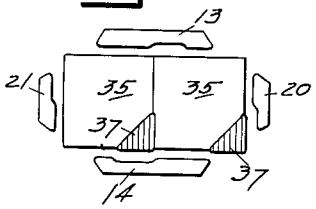


Fig. 7

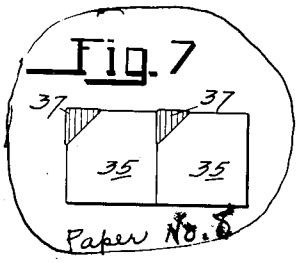


Fig. 2

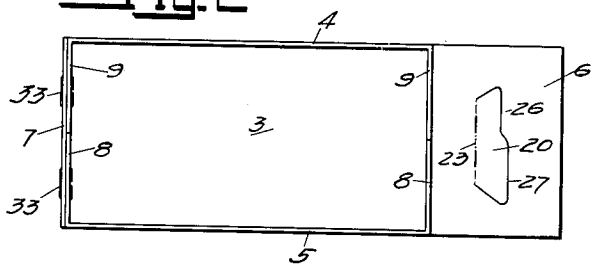


Fig. 7

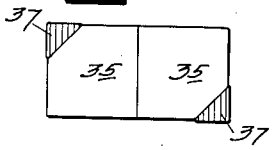


Fig. 3

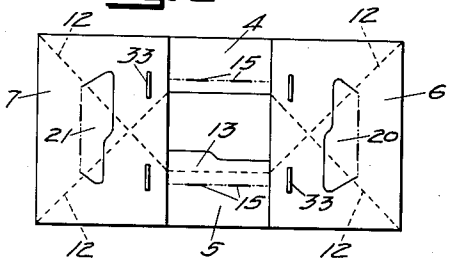
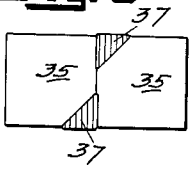


Fig. 8



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COVER FOR CARRYING A PAIR OF UPRIGHT RECTANGULAR CARTONS AS A UNIT

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Fig. 4

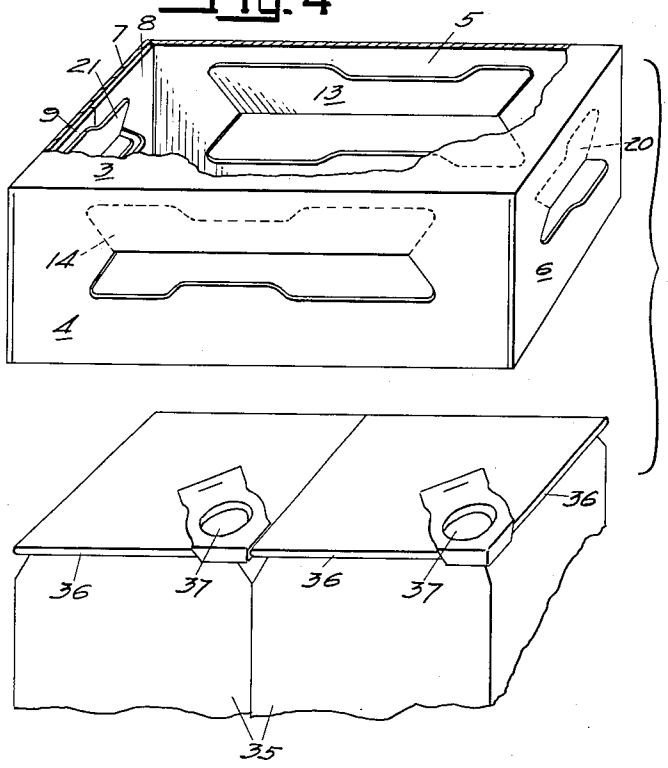
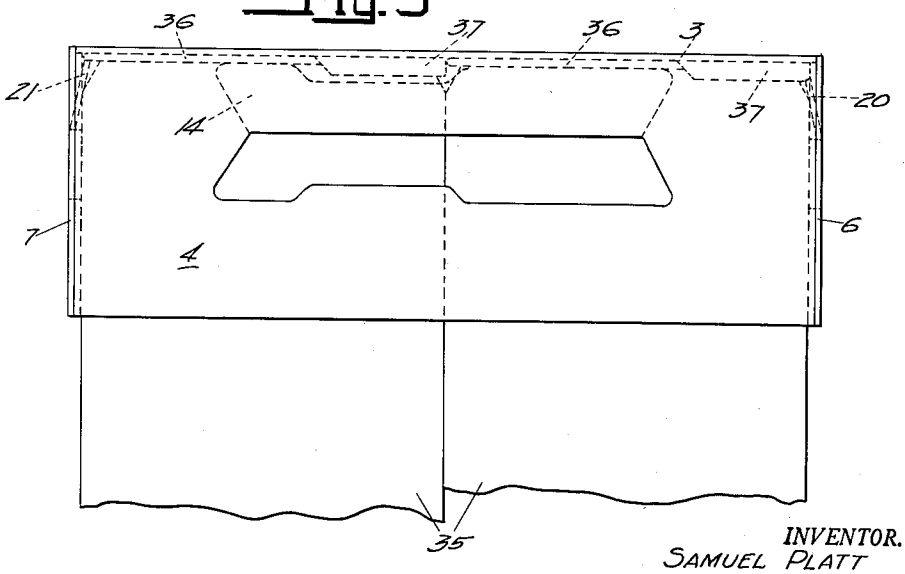


Fig. 5



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COVER FOR CARRYING A PAIR OF UPRIGHT RECTANGULAR CARTONS AS A UNIT

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Application March 27, 1953, Serial No. 345,188

7 Claims. (Cl. 206—65)

This invention relates to a cover for a pair of rectangular cartons, such as milk cartons, and has for one of its objects the provision of such cover that is also adapted to secure a pair of such cartons together and which cover is further adapted to be grasped for carrying the cartons of such pair.

Heretofore most attempts to secure a pair of rectangular cartons together have involved the use of a handle of some kind and some means projecting between the cartons of the pair and this same type of structure has been used when a cover is used for covering the upper ends of the cartons of each pair.

One of the most serious difficulties in using structure of the above character is that of applying carton cover and handle to the pairs of cartons with sufficient speed and certainty to be economically practical as well as commercially acceptable. Since the user has been accustomed to picking up a single carton by the upper end, he or she will continue this practice where a pair of cartons are secured together, hence the cover that is to be placed over the top of such pair must be securely connected with the pair of cartons so that neither of the cartons will be accidentally released.

Inasmuch as conventional rectangular milk cartons are formed at one corner in these top walls with a pouring opening that in turn has a closure that is crimped over the adjacent laterally projecting flanges that are at the top of such carton at said corner, it will be seen that any cover to be secured over the upper ends of a pair of cartons must not interfere with these closures nor tend to loosen them in either applying the cover or in carrying the cartons by the cover or in removing the cover.

It is one of the objects of this invention to provide a cover for a pair of cartons that securely holds such pair together and that is easily applied, and that does not interfere with the closures on the cartons of said pair when the cover is applied or removed or when the cartons are carried by the cover.

A still further object of the invention is the provision of a cover for a pair of cartons that is collapsible to compact relatively flat condition for shipment and for storage, and that is easily and quickly set up for use, and which cover is adapted to be easily applied to a pair of cartons by a relatively simple mechanical operation thus adapting it for application by automatic machinery.

Other objects and advantages will appear in the description and in the drawings.

In the drawings:

Figure 1 is a plan view of a blank from which the cover is formed.

Figure 2 is a bottom plan view of the cover partially folded.

Figure 3 is a bottom plan view of the cover after it has been formed and then folded to flat collapsed position for shipment or for storage.

Figure 4 is a perspective view of a cover above the upper ends of a pair of conventional milk cartons preparatory to being lowered onto said upper ends, the said

cover being partially broken away and the upper ends only of the cartons being shown.

Figure 5 is an enlarged side elevation view of the cover on a pair of cartons, the upper ends only of the latter being shown.

Figure 6 is a semi-diagrammatic view showing the upper ends of a pair of cartons in plan view and the locking means on the cover shown adjacent to each side to show their structural relationship to the pouring opening closure on each carton, such closure being indicated by vertical shade lines at one of the corners of each carton.

Figures 7 and 8 illustrate different possible arrangements of the cartons insofar as their respective closures are concerned, and in which the cover of Figure 4 is suitable for use without modification.

In detail, the blank (Figure 1) from which the cover is formed comprises a single sheet of material, such as cardboard, that is scored or creased along pairs of perpendicularly extending lines 1, 2 which folding creases define a rectangular central portion 3 of the blank, the creases 1 defining the sides and creases 2 the ends of said portion 3.

Outwardly of and along folding creases 1 are strips that define side walls 4, 5 of the finished cover, while the strips 6, 7 along and outwardly of creases 2 define the end walls. Corner pieces 8 are at opposite ends of the side wall 4 and in longitudinal extension of said side wall, while similar corner pieces 9 are in longitudinal extension of side wall 5. The folding creases 2 define the junctures between corner pieces 8, 9 and the side walls 4, 5 respectively, and said corner pieces are disconnected from the end walls 6, 7 by cuts 10 that are in extension of the creases 1.

Extending across the side walls 4, 5 at forty-five degree angles from the points where creases 1 and 2 meet at the corners of portion 3 are rows of aligned slits 12 defining lines of weakness to facilitate folding along said lines.

The side wall 4 includes an elongated member 14 and side wall 5 includes an elongated member 13, which members extend longitudinally of the said side walls about centrally of their widths and between the pair of folding lines 12 in each side wall. The members 13, 14 have the same structure and contour except that they are reversed end for end, after being defined along one longitudinally extending edge by spaced slits 15 that define lines of weakness to facilitate folding.

For purpose of convenience, the lines of weakness defined by slits 12, 15 will be called "folding creases," it being understood that they are preferably cut through by slits 12, 15 rather than being true creases, although the sections between the slits are creased to insure accuracy of folding.

The folding creases 15 are parallel with creases 1 and are adjacent to but spaced from the latter. The remaining edges of each of the members 13, 14 are free from the side walls 4, 5 so that each member may be folded to one side of the side wall along its folding crease 15, as will later be described.

The end edges 16 of members 13, 14 extend divergently outwardly from the ends of folding creases 15 until they substantially reach the folding creases 12, and the edge of each member opposite and extending longitudinally of the crease 15 is in several parallel sections 17, 18, 19 in which section 18 is between aligned sections 17, 19 and is offset slightly toward the crease 15. Thus the edge of each member 13, 14 is recessed along its edge that is opposite crease 15 along the section 18 that defines the bottom of such recess.

Section 17 of the edge of member 13 and of member 14 are of the same length and are substantially shorter

than the section 19 of each edge, said section 17 of member 13 is nearest the end of the blank that has end wall 6 while section 17 of member 14 is nearest the end of the blank that has wall 7.

From the foregoing description it will be seen that the edges 17 and 19 virtually define the edges of projecting portions of members 13, 14 that are separated in each member by a recess, and the lengths of the projections along edge sections 19 are longer than the lengths of the projections along edge sections 17.

End walls 6, 7 are respectively formed with members 20, 21, the member 20 being in end wall 6 and member 21 being in end wall 7. Each of these members is horizontally elongated and connected with the end wall carrying the same along its upper horizontal edge by a folding crease 23 that may include slits 24 to facilitate bending said members along said crease.

The opposite end edges 25 of said members extend divergently from the ends of each crease 23, and are free from each end wall as are the remaining edges of the members.

The edges of member 20, 21 opposite creases 23, respectively, extend longitudinally of each crease 23 and are in several sections 26, 27 with section 26 closer to the crease 23 than section 27. This results in a projection 28 on each member that projects slightly further from crease 23 than the rest of the member.

Each of the edges 18, 26 is spaced the same distance from the folding creases 1, 2 respectively and each of the edges 17, 19 and 27 is also spaced the same distance from creases 1, 2 respectively.

As already explained, corner pieces 8, 9 are at the corners of the blank, the pieces 8 being at the ends of wall 5, and pieces 9 being at the ends of wall 4.

The corner pieces 8 are slotted at 29 from their free edges that are opposite the ends of creases 2 and the inner ends 30 of said slots extend slantingly at the same angle relative to creases 2 and the corner pieces 9 are similarly slotted as indicated at 31 with their closed ends 32 also inclined.

In setting up the cover, the walls 4, 5 may first be bent to one and the same side, perpendicular to the central portion 3, and then the corner pieces 8, 9 at the ends of the walls 4, 5 are bent toward each other to meeting relation along their outer vertical free edges. The open ends of slots 29, 31 at each end of the cover will then come together so that a closed slot is formed at each end of the cover.

The next step is to swing the end walls 6, 7 to the same side of the central portion as the walls 4, 5 and when so done, the said walls 6, 7 are stapled to the corner pieces by staples 33 (Figures 2, 3).

The members 20, 21 will lie outside but within the projected outline of each closed slot formed by bringing the open ended slots 29, 30 together, and then the members 20, 21 can be swung through said slots to upwardly inclined position as seen in Figure 4.

After the cover is folded so that both end walls 6, 7 are stapled to the corner pieces respectively adjacent thereto, the cover may further be flattened as seen in Figure 3, by folding the end and side walls along folding creases 12 to positions overlying the central portion. In this compact form the set-up covers may be shipped. It is to be understood that the folding creases 12 are not necessary if the covers are formed substantially at the time they are used, or if the covers are partially nested. However, the structure adapts itself to use of the folding creases if and when desired.

After a cover is set up, the operation of placing it on a pair of cartons is quick and simple and is readily done by mechanical means.

In Figure 4 the upper ends of a pair of cartons 35 are shown. Each carton has a laterally projecting flange 36 around its upper end, which flange is formed by crimping the top along the edges thereof and in doing this the side walls are forced inwardly along said edges so that the outer edges of said flanges and the outer sides of the carton side walls are coplanar at each side of each carton. This enables a pair of cartons to be placed in side by side relationship with the adjacent sides in engaging relationship.

The usual structure in the rectangular milk cartons includes a pouring opening formed in one corner of the top of the carton and this is covered by a cap 37 that extends over the adjacent flanges at such corner.

The cartons are carried along a conveyor below a filling machine. The arrangement of pouring openings shown in Figure 4 and in Figure 6 is a usual one, although the arrangements shown in Figures 7 and 8 are all possible with the present structure of the cover. The shaded portions in Figures 7, 8, 9 represent the closures 37 in diagrammatic form.

These arrangements of the closures for the filling and pouring openings in the cartons are mentioned because the structure on which the caps or closures 37 extend over the adjacent flanges has heretofore precluded the safe use of locking means on a cover for locking the cover onto a pair of cartons. Any upward thrust on the portions of each closure 37 that is crimped over the adjacent flanges will result in loosening the closure.

The operation of placing a cover over a pair of cartons 35 is as follows:

The set up covers may be held by any suitable means over the conveyor that carries the filled and sealed cartons along a path of travel. Suitable fingers at the sides and ends of each cover that is in position to descend onto a pair of cartons will force the members 13, 14, 20, 21 inwardly and as the cover descends over the pair of cartons these members will be caused to swing upwardly against the walls from which they have been partially cut and will slide past the flanges 36 that are adjacent thereto. As soon as said members clear the flanges they will snap under the flanges as seen in Figure 5 and the cartons of the pair are so securely locked together that they can be lifted by the cover, handled, packed, and shipped without becoming loosened. When the housewife or user wishes to use the milk from one of the cartons of the pair, it is only necessary for her to hold the bottom portion of one carton of the pair in each hand and to swing said bottom portions oppositely to opposite sides of the plane in which the pair is disposed. The cover will then be hoisted slightly but sufficiently to free the cartons, since one or the other of the corner pieces will break loose.

The important feature in the structure, is the fact that the projecting portions 28 of members 20, 21 and 17, 19 of members 13, 14 are offset so that they engage under the flanges of the cartons when the central portion 3 is substantially against the upper sides of the carton tops, and the cut away portions along edges 26 and 18 extend below the extensions of closures 37. Thus there is no pressure against the closures. Instead, any detrimental strain or force resulting from the locking of the cover onto the cartons is transmitted to the flanges of the cartons and not to the closures for their pouring openings, and by cutting away members 13, 14, 20, and 21 to provide a relieved portion along their longitudinally extending free edges enables the said members to snap into locking relation to the cartons just as soon as the cover is seated on a pair of cartons. While edges 18, 26 may contact the extensions on the closures 37 they will not loosen the closures.

Thus they may contribute to the rigidity of the cover on the pair of cartons, and the fact that the members 20, 21, 13, 14 are sufficiently elongated to extend across the central portion of each flange adjacent thereto and across the junctures between the pair of cartons materially adds to the rigidity of the cover and pair of cartons when the cover is in position on the cartons.

The elongated slot left by the inward swinging of members 13, 14 provides convenient finger holds for the fingers of a hand that spans the top of the cover, and enables a pair of cartons to be easily lifted by the cover. The walls 4, 5 tend to bow outwardly along the rows of slits 15 when the cover is in position on a pair of cartons, thus providing a secure hold for the fingers of a hand.

From the foregoing it will be apparent that the structure disclosed readily lends itself to automatic capping machines for capping cartons and the provision of a cover for a pair of rectangular cartons prevents dirt and germs from contacting the top and the portions of the cartons around the pouring openings. The protection of carton tops against contamination from the hands and other sources is very important. By the present means, the delivery man and others can carry a pair of cartons by the cover without contacting the cartons and protection from contamination continues as long as the cover stays on the cartons.

It is obvious, of course, that the provision of members such as 20, 21 on each of the four sides of a square cover would provide a cover for a single carton.

I claim:

1. In combination with a pair of corresponding vertically disposed rectangular cartons disposed side by side with one of their flat sides together and each formed with a laterally outwardly directed flange along each side at the upper end thereof and each also being formed with a pouring spout in one upper corner provided with a closure therefor having portions extending over adjacent flanges at said corner, a horizontal oblong sheet having depending walls integral therewith along its edges providing two opposed end walls and two opposed side walls, said sheet being positioned over the upper ends of said cartons, said side walls extending downwardly over the pair of flanges along the exposed corresponding oppositely outwardly facing sides of said pair and said end walls extending downwardly over the flanges along the remaining exposed sides of said pair, horizontally elongated members respectively stamped from said side walls along their lower and end edges and bent inwardly along their upper edges to generally lapping relation to the parts of said side walls adjoining said upper edges with their free edges disposed below the said pair of flanges along said corresponding sides, a part of each of said portions of said closures being along said pair of flanges and each of said members being partially relieved along its free edge to receive each such part of said portions.

2. In combination with a pair of corresponding vertically disposed rectangular cartons disposed side by side with one of their flat sides together and each formed with a laterally outwardly directed flange along each side at the upper end thereof and each also being formed with a pouring spout in one upper corner provided with a closure therefor having portions extending over adjacent flanges at said corner, a horizontal oblong sheet having depending walls integral therewith along its edges providing two opposed end walls and two opposed side walls, said sheet being positioned over the upper ends of said cartons, said side walls extending downwardly over the pair of flanges along the exposed corresponding oppositely outwardly facing sides of said pair and said end walls extending downwardly over the flanges along the remaining exposed sides of said pair, horizontally elongated members respectively stamped from said side walls along their lower and end edges and bent inwardly along their upper edges to generally lapping relation to the parts of said side walls adjoining said upper edges with their free edges disposed below the said pair of flanges along said corresponding sides, a part of each of said portions of said closures being along said pair of flanges and each of said members being partially relieved along its free edge to receive each such part of said portions, a horizontally elongated member partially stamped from said end walls

and bent inwardly to positions extending below the flanges along said remaining exposed sides of said pair.

3. In combination, a pair of rectangular cartons with their upper ends square, horizontal, and coplanar and in horizontal alignment next to each other, a laterally outwardly directed flange along the upper end of each carton, a pouring opening formed in each upper end at one corner thereof, a closure extending over each opening and over each of the two adjacent flanges at each corner, a cover over said upper ends, depending walls on said cover extending downwardly past said flanges, members integral with said walls bent inwardly and upwardly to positions below the exposed outer flanges of said pair for engagement with the lower sides of said flanges, openings formed in the two of the opposed walls depending from said cover over the aligned flanges on the corresponding sides of said pair of cartons from which two of said members have been bent providing finger openings to enable the fingers of a hand to engage the upper edges of said openings for lifting said pair of cartons, each of said members being relieved along the edge that is engaged with the lower sides of said flanges at points where said closures extend over said flanges.

4. A combination cover, holder and carrier for a pair of rectangular milk cartons of the type having a pouring opening and closure therefor at a corner of the top wall of each carton comprising; a horizontally disposed oblong sheet having depending connected, horizontally elongated walls along the edges thereof providing a pair of opposed end walls and a pair of opposed walls, each of said side walls being substantially double the length of each end wall, a horizontally elongated member partially stamped from each of said walls and bendable along one horizontal longitudinally extending edge of each member inwardly into the space between each pair of opposed walls and upwardly toward said sheet, each of said members extending horizontally across and a substantial distance to opposite sides of a point midway between the ends of each wall, a portion of each member at one side of each of said points projecting therefrom in direction away from said one longitudinally extending edge a greater distance than the part of each member at the other side of each of said points and immediately adjacent the latter for engaging the outer sides of such pair of cartons at their upper ends when said oblong sheet extends over said pair with said walls lapping the sides of said cartons at their upper ends.

5. A combination cover, holder and carrier for a pair of rectangular milk cartons of the type having a pouring opening and closure therefor at a corner of the top wall of each carton, comprising; a horizontally disposed sheet of oblong outline, a pair of horizontally elongated opposed side walls integral with and depending from the longest edges of said sheet and a pair of horizontally elongated opposed end walls integral with and depending from the remaining two edges of said sheet, extensions on the ends of said side walls secured against the opposedly facing sides of said end walls in lapping relation to the latter, a horizontally elongated member partially stamped from each of said end walls bendable along one horizontal longitudinally extending edge of each member inwardly into the space between said end walls and upwardly toward said sheet, openings formed in said extensions through which said members are so bendable and portions of said extensions extending above and below each of said members.

6. A combination cover, holder and carrier for a pair of rectangular milk cartons of the type having a pouring opening and closure therefor at a corner of the top wall of each carton, comprising; a horizontally disposed oblong sheet, a pair of opposed horizontally elongated side walls extending along and integral with the unjust edges of said sheet and depending therefrom and a pair of opposed horizontally elongated end walls depending from and extending the full length of the remaining two edges said

sheet and integral therewith, means connecting said end walls and said side walls at the corners of said sheet for securing said walls together in depending position, a horizontally elongated member partially stamped from each of said side walls and bendable along one horizontal longitudinally extending edge of each member inwardly into the space between said pair of opposed side walls and upwardly toward said sheet, each of said members extending horizontally across and a substantial distance to opposite sides of a point intermediate the ends of each of said side walls, spaced portions respectively at opposite ends of said members projecting therefrom in direction away from said one longitudinally extending edge a greater distance than the part between said portions for engaging the outer sides of each pair of cartons at their upper ends when said oblong sheet extends over said pair with said walls lapping opposite sides of said pair of cartons at their upper ends.

7. A combination cover, holder and carrier for a pair of rectangular milk cartons of the type having a pouring opening and a closure therefor at a corner of the top wall of each carton, comprising; a horizontally disposed oblong sheet, a pair of opposed horizontally elongated side walls and a pair of horizontally elongated opposed end walls integral with said sheet and depending therefrom, means connecting said walls at the corners of said sheet, a horizontally elongated member partially stamped from each

of said end walls and bendable along one horizontal longitudinally extending edge of each member inwardly into the space between said pair of opposed end walls and upwardly toward said sheet, each of said members extending horizontally across and a substantial distance to opposite sides of a point intermediate the ends of each of said end walls and a portion of one member at one side of a plane bisecting said end walls transversely thereof through such points projecting a greater distance from said one horizontally extending edge thereof than the remainder of said one member and a portion of the other member at the other side of said plane projecting a greater distance from said one horizontally extending edge thereof than the remainder of said other member.

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