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2,849,112

PAPERBOARD CARRIER HAVING EMBOSSED END EDGE PORTIONS

Filed Feb. 20, 1957

2 Sheets-Sheet 1

Fig. 1

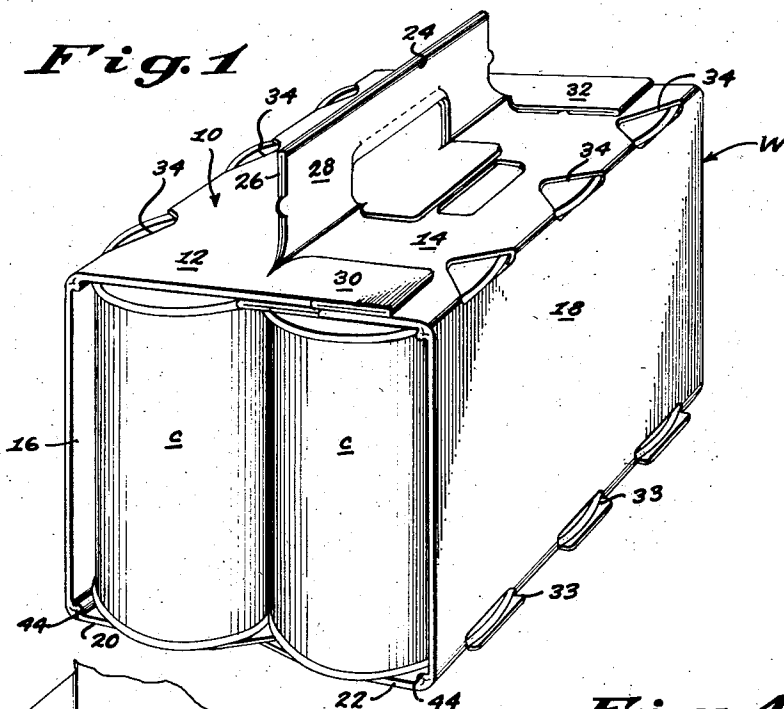
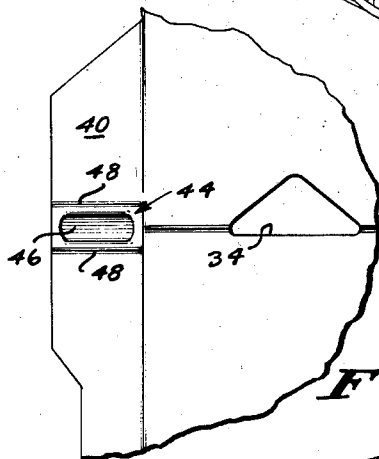


Fig. 2

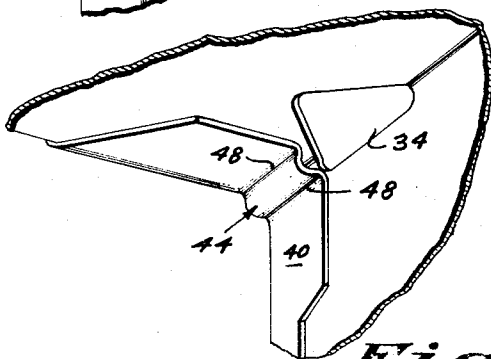
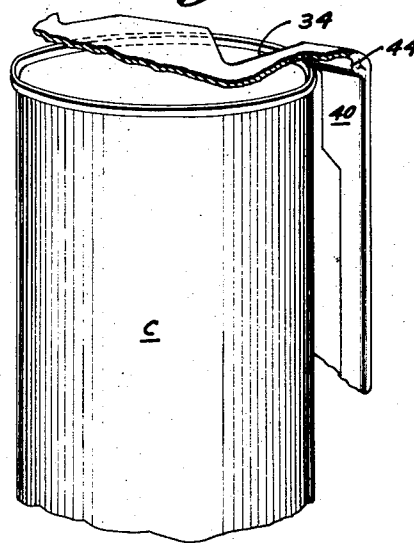


Fig. 3

Fig. 4



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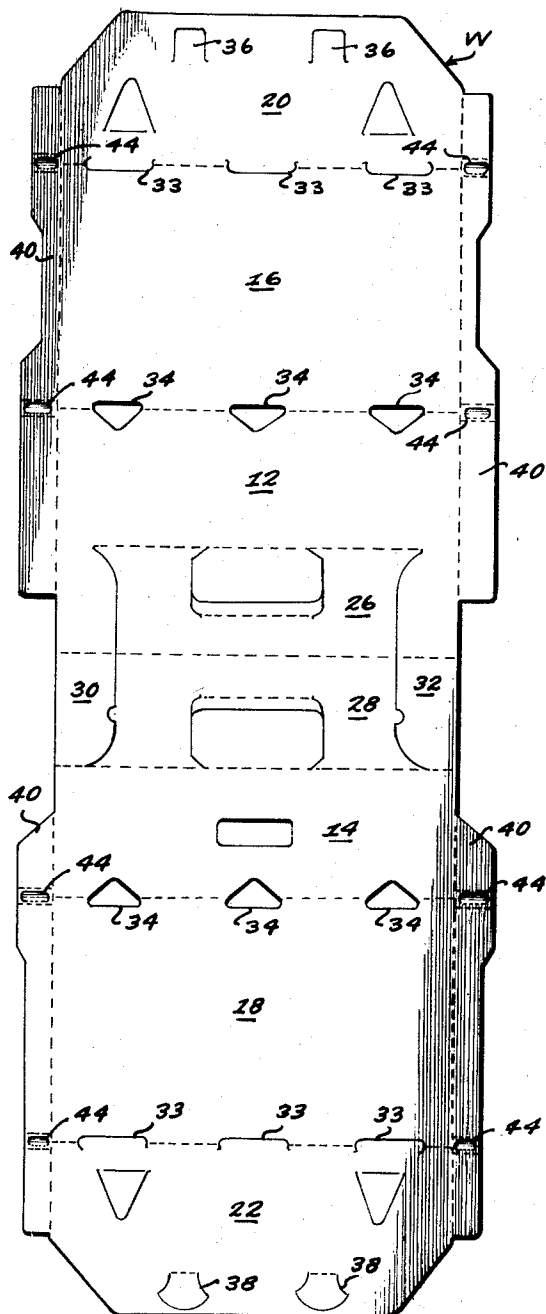


Fig. 5

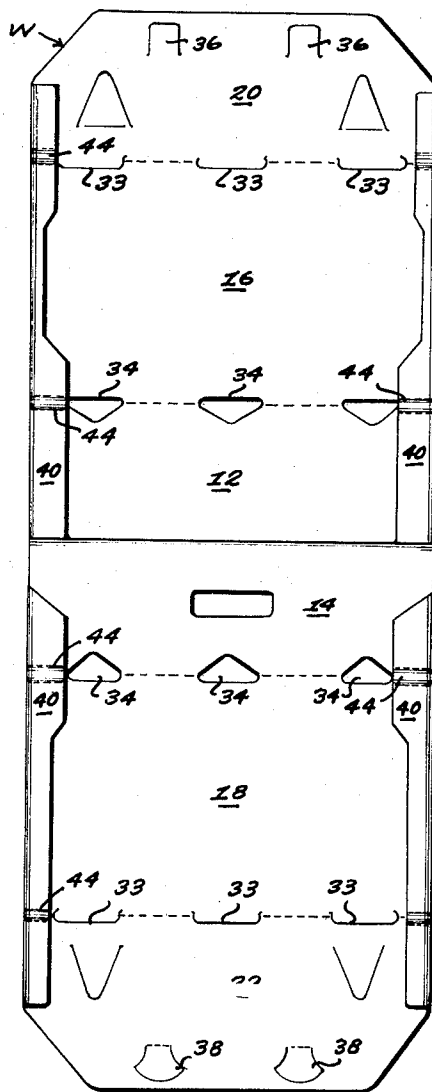


Fig. 6

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PAPERBOARD CARRIER HAVING EMBOSSED END EDGE PORTIONS

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Application February 20, 1957, Serial No. 641,292

6 Claims. (Cl. 206—65)

This invention relates to paperboard wrappers of the type adapted for packaging cylindrical objects, such as cans, by folding about a group of cans or the like to form an open ended package, and more particularly to an improved wrapper of this sort having embossed sections on end edge portions of the carrier to aid in retaining the cylindrical objects in the carrier.

The paperboard wrapper of the present invention constitutes an improvement in the form of wrapper disclosed and claimed in copending application Serial No. 459,918, filed October 4, 1954, now Patent No. 2,768,572 issued March 26, 1957. In this copending application the wrapper is arranged to be transversely folded and secured about a group of cans or the like to form a four-sided package with open ends, and with positioning slots spaced along the transverse folds to engage the end edge portions of the cans. Usually in the prior carriers, the end edges of the wrapper adjacent the open ends of the paperboard carrier are of a single thickness and there is a tendency of the end edge portions of the cans to push outwardly from the end positioning slots. This sometimes results in the slipping of the cans from the ends of the carrier or a tearing of the carrier along the hinge lines adjacent the end positioning slots at the open ends of the carrier.

In applicant's copending application Serial No. 602,114, filed August 6, 1956, there is disclosed a wrapper type carrier in which the wrapper edges adjacent the end positioning slots are inwardly folded to form a double thickness section at the end edges. The doubled end edges are of particular advantage in the use of heavy can loads for minimizing tearing of the paperboard carrier outwardly along the hinge lines at the end positioning slots. Even if the cans do not tear outwardly from the end positioning slots there is a tendency of the cans to slip out of the carrier.

According to the present invention, embossed sections are arranged between the end positioning slots and the adjacent ends of the carrier. These embossed sections, when folded, bulge inwardly of the carrier and present a raised height substantially greater than their height in flat unfolded relation. This raised height is disposed adjacent the end edge portions of the cans arranged in the adjacent end positioning slots and engage the end edge portions, thereby aiding in securing the cans within the carrier.

These and other features of the present invention are described in further detail below in connection with the accompanying drawings, in which:

Fig. 1 is a perspective view of a paperboard wrapper embodying the present invention and secured about a group of cans;

Fig. 2 is an enlarged view showing an embossed section before folding and the adjacent end positioning slot;

Fig. 3 is an enlarged perspective view of an embossed section after it has been folded and showing its disposition adjacent a positioning slot;

Fig. 4 is an enlarged perspective view of the end edge portion of a can arranged within a positioning slot with

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the end edge portion contacting the abutting edge of the embossed section;

Fig. 5 is a top plan view of a blank for the wrapper shown in Fig. 1; and

Fig. 6 is a further top plan view of the blank of Fig. 5 after the first folding step with the edge flaps doubled inwardly.

Referring now in detail to the drawings, the paperboard wrapper embodying the present invention, as indicated generally by the reference character W, comprises a top wall indicated generally by the numeral 10 formed from a pair of component half panels 12, 14 arranged to meet midway of the length of top wall 10, and a pair of side wall panels 16, 18 foldably hinged at opposite edges of the top wall 10, and a pair of bottom wall lap panels 20, 22 proportioned to overlap at their extending edge portions to form a rectangular four-sided wrapper enclosing at least one row of cans C and having the ends thereof entirely open as seen in Fig. 1.

The paperboard carrier is further arranged with an integral handle structure 24 foldably hinged to the top wall 10 for disposition in a flat position at which it is depressed against the top wall 10 or extended to an erected position for carrying as shown in Fig. 1. Handle structure 24 comprises handle panels 26, 28 foldably connected to each other at one side thereof and foldably connected at the opposite side to one of the half panels 12, 14 as shown in Figs. 5 and 6. Side retaining flaps 30, 32 are arranged adjacent the ends of handle structure 24 in the manner described in detail in copending application Serial No. 641,374, filed February 20, 1957.

The handle panels 26, 28, side retaining flaps 30, 32, component half panels 12, 14, side wall panels 16, 18 and bottom wall lap panels 20, 22 comprise portions of a unitary blank, as shown in Figs. 5 and 6 which is substantially rectangular in form and transversely scored to arrange the above mentioned panels in a foldably hinged series. The bottom wall lap panels 20, 22 when overlapped form a bottom wall having a width and length equal to the top wall 10, and the side wall panels 16, 18 are proportioned in correspondence with the height of cans C, so as to arrange the wrapper W to enclose the can group to be packaged between the side wall panels 16 and 18.

The foldably hinged bottom edge of side wall panels 16, 18 is notched to provide bottom positioning slots 33 spaced along the hinge lines. Aligned positioning slots 34 are formed at the foldably hinged top edge of side wall panels 16, 18 from cut out portions. It is noted that the top positioning slots 34 are of a length less than the length of bottom positioning slots 33. This feature allows an increased length of paperboard between the top end positioning slots 34 and the adjacent end edges of the carrier.

The wrapper W arranged in the above noted manner is adapted to be folded and secured about a load or package group of cans C during a packaging operation; bottom wall lap panels 20, 22 being formed with respective aligned retaining and locking tabs 36, 38 for interlocking engagement to secure the wrapper W in the manner disclosed and claimed in the above mentioned application Serial No. 459,918. Reference should also be made to U. S. Patent No. 2,751,730, issued June 26, 1956, and to copending application Serial No. 593,604, filed June 25, 1956, now Patent No. 2,809,486, issued October 15, 1957 for further details of the packaging operation and of the manner in which the retaining and locking tabs 36, 38 are interlocked to secure the wrapper W.

The blank for the wrapper W may be formed with edge flaps 40 arranged for doubling at the wrapper blank edges adjacent the end positioning slots 34 as shown in Figs. 5 and 6. The edge flaps 40 are proportioned in a

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width equal to or less than the spacing of the end positioning slots 33, 34 from the adjacent end edges of the carrier. End edges of double paperboard thickness are thus provided adjacent the end positioning slots 33, 34 and aid in strengthening the paperboard carrier. This is important since cans within a wrapper type paperboard carrier tend to tear along the hinge lines at the top of the carrier, and this increased paperboard length along the hinge lines adjacent the top end positioning slots 34 minimizes the tearing of the carrier by the cans within the carrier. It should be noted further that the top end positioning slots 34 do not have the overlapping lips as provided on the bottom positioning slots, since the lip portions would extend beyond the end edge portions of the cans C if arranged at the top positioning slots 34 as the top positioning slots 34 are of shorter length.

Embossed sections 44 are provided between the end positioning slots 33, 34 and the adjacent end edges of the carrier. In the blank shown in Figs. 5 and 6, the embossed sections 44 are arranged on edge flaps 40 with depressions 46 in the inner face of the blank. When the edge flaps 40 are provided with a suitable glue application by means of a glue roller, the glue roller does not reach the depressions 46 in the edge flaps 40, thereby the depressions 46 are unsecured to the adjacent inner face of the paperboard carrier when the edge flaps 40 are disposed in face-to-face contact with the adjacent panels and secured thereto by the glue application. The embossed sections 44 are provided with a hinge line 48 at each side thereof that is arranged in parallel relation to the transverse folds in the wrapper and when the paperboard carrier is folded about a group of cans C the hinge lines 48 defining the edges of the embossed sections 44 are moved together, and thereby result in a bulging of the embossed sections 44 inwardly of the carrier.

The inward bulging of the embossed sections 44 presents a raised surface inwardly of the carrier and the end edge portions of the cans C disposed within the end positioning slots 33, 34 engage the raised embossed sections 44 at the inner edge thereof. The embossed sections 44 when inwardly bulged are increased in height as a result thereof and present a height substantially three times that of the height of the embossed sections 44 when in a flat unfolded relation. Thus, the end edges of the cans C are engaged by the end edges of the embossed sections 44 and the cans held within the carrier.

Fig. 3 shows the inwardly bulging of an embossed section 44, and Fig. 4 discloses the engagement of a can C with an edge of a raised embossed section 44.

The present invention has been described in detail above for purposes of illustration only and is not intended to be limited by this description or otherwise except as defined in the appended claims.

I claim:

1. In a paperboard wrapper of the type arranged to be transversely folded and secured about a group of cylindrical objects, such as cans, to form a four-sided package with open ends, and having positioning slots located adjacent the transverse folds therein for engagement with end edge portions of the cans within the carrier, the improvement which comprises inwardly doubled edge portions on the open ends of said wrapper terminating adjacent the end positioning slots of said wrapper, each of said edge portions having at least one embossed section positioned between an end positioning slot and the adjacent end edge, said embossed section being defined by a score line at each side thereof parallel to the transverse folds in said wrapper and having a portion therein depressed away from the adjacent wrapper surface and unsecured thereto, said score lines being moved towards each other upon a folding of the wrapper thereby forcing the embossed section between said hinge lines inwardly of the carrier and resulting in an inward bulging of the embossed section with a height in the erected carrier substantially greater than that of

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the height of said embossed sections in a flat unfolded position.

2. A paperboard carrier for cans comprising a wrapper scored transversely to define top and bottom, and side panels and having positioning slots spaced along the transverse score lines and receiving the end edge portions of the cans, said wrapper having inwardly doubled edges at the open ends of said carrier, said inwardly doubled edges terminating adjacent the end positioning slots of said wrapper and having at least one embossed section arranged between an end positioning slot and the adjacent end edge, said embossed section defined by a score line at each side thereof parallel to said transverse score lines and having a portion therein depressed away from the adjacent wrapper surface, said score lines being moved towards each other upon a folding of the wrapper thereby forcing the embossed section between said score lines inwardly to present a raised surface adjacent the end edges of said cans.

3. A paperboard carrier for cans comprising a wrapper scored transversely to define top and bottom, and side panels and enclosing at least one row of cans therein, positioning slots spaced along the transverse score lines and receiving the end edge portions of the cans, said top panel having a handle structure extending medially thereof and adapted for folding downwardly in face-to-face contact with said top panel, inwardly doubled edge portions arranged on the open ends of said carrier and terminating adjacent the end positioning slots of said wrapper, each of said edge portions having at least one embossed section arranged between an end positioning slot and the adjacent end edge, the embossed section defined by a score line at each side thereof parallel to said transverse score lines, said embossed section having a depression thereon disposed in face-to-face contact with the adjacent panel face, said depression being unsecured to said adjacent end face, whereby upon the folding of said wrapper the score lines of the embossed section are moved towards each other thereby bulging the embossed section inwardly of the carrier and resulting in a bulged height substantially three times that of said embossed section in flat unfolded relation, thereby presenting a raised surface adjacent the end edges of said cans.

4. A paperboard carrier for cans as defined in claim 3 and further characterized in that an embossed section is arranged between each end positioning slot and the adjacent end edge.

5. A paperboard blank forming a four-sided wrapper with open ends to package cylindrical objects, such as cans, arranged in at least one row, said blank having an elongated substantially rectangular form and being arranged for folding transversely to define a first pair of handle panels arranged centrally with respect to the length of said blank, and foldably hinged to each other, a pair of half panels foldably hinged respectively at the edges of said first pair of handle panels opposite said common handle panel hinge line, a pair of panels foldably hinged respectively at the edges of said pair of half panels opposite said handle panel edges, and a pair of lap panels foldably hinged respectively at the edges of said pair of panels opposite said half panel edges, said blank having a width corresponding to the multiple diameter of the objects in said row to be packaged, said pair of lap panels being proportioned for forming a composite panel corresponding in width to said first panel, each of said pair of panels foldably hinged to said pair of half panels having positioning slots formed along the foldably hinged edges thereof for engaging end edge portions of objects packaged in said wrapper blank, foldably hinged edge flaps arranged for doubling at the blank edges formed on said blank adjacent said end positioning slots, the width of said edge flaps being substantially that of the spacing of said end positioning slots from the adjacent blank edges, said edge flaps formed adjacent each end positioning slot with an embossed

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section, the raised portion of the embossed section being disposed on the outer face of said blank, the inner face of said blank having a depression therein at said embossed section, and hinge lines arranged at each side of the embossed section parallel to the transverse hinge lines arranged between adjacent panels.

6. A can package comprising an open ended wrapper scored transversely to define top and bottom, and side panels, two longitudinal rows of cans positioned within said package and having top and bottom edge portions thereon, positioning slots spaced along the transverse score lines and receiving the end edge portions of the cans, an embossed section arranged in alignment with said transverse score lines between the outer end positioning slots and the adjacent end edges of said wrapper, the embossed section being defined by a score line at each side thereof parallel and offset with respect to said

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transverse score lines, and said embossed section score lines being moved towards each other upon folding of the wrapper and forcing the embossed section between said score lines inwardly of the can package thereby presenting a raised surface adjacent the end edge of the adjacent can.

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