Aug. 2, 1966 A. J. WEISS 3,263,893

SEPARATOR FOR BOTTLES

Filed March 8, 1962 2 Sheets-Sheet 1

FIG. 1

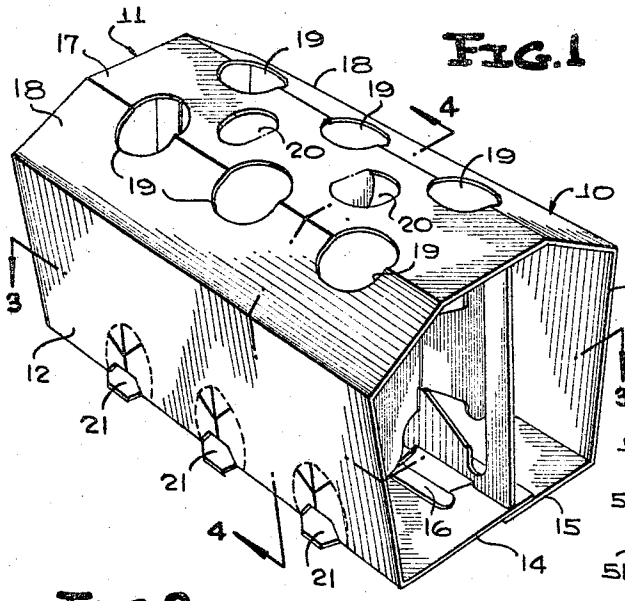


FIG. 2

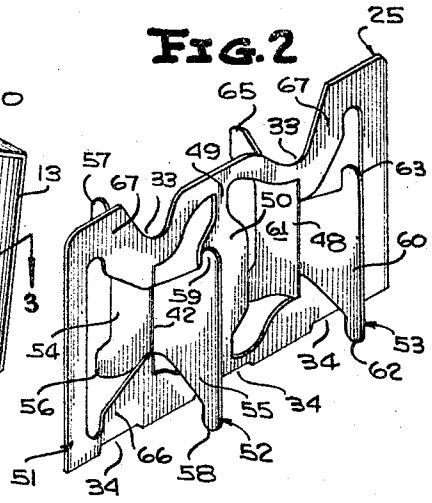


FIG. 3

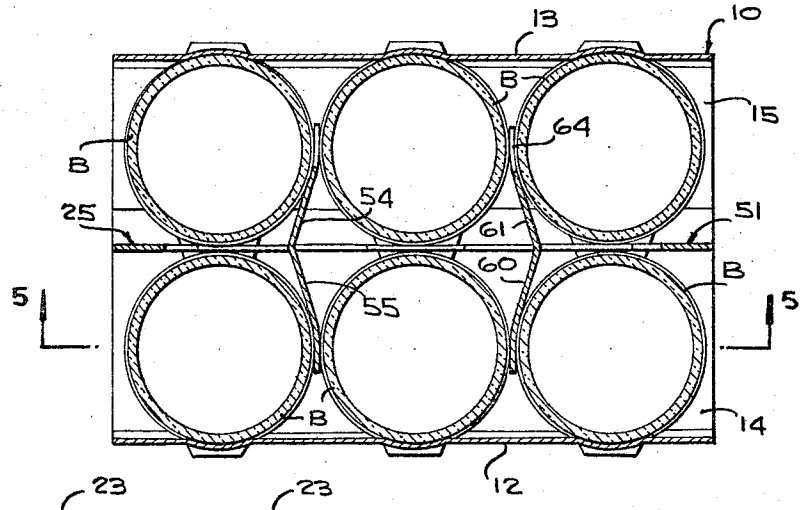
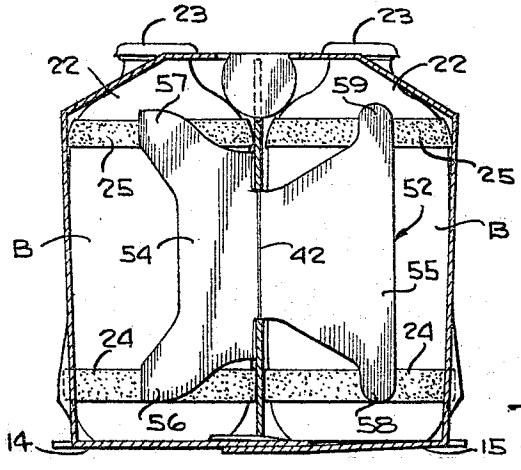


FIG. 4



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SEPARATOR FOR BOTTLES

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FIG. 5

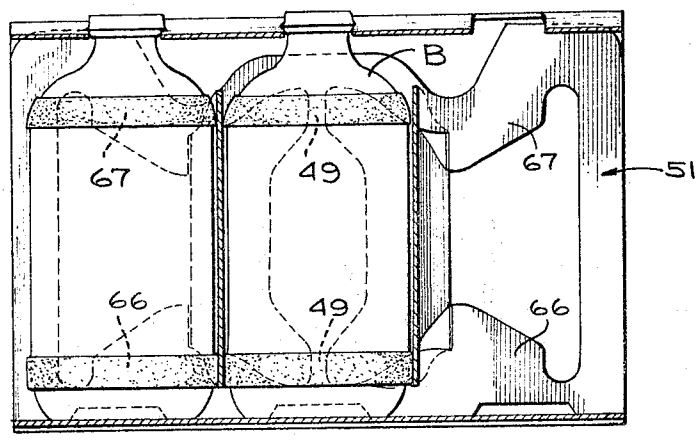


FIG. 6

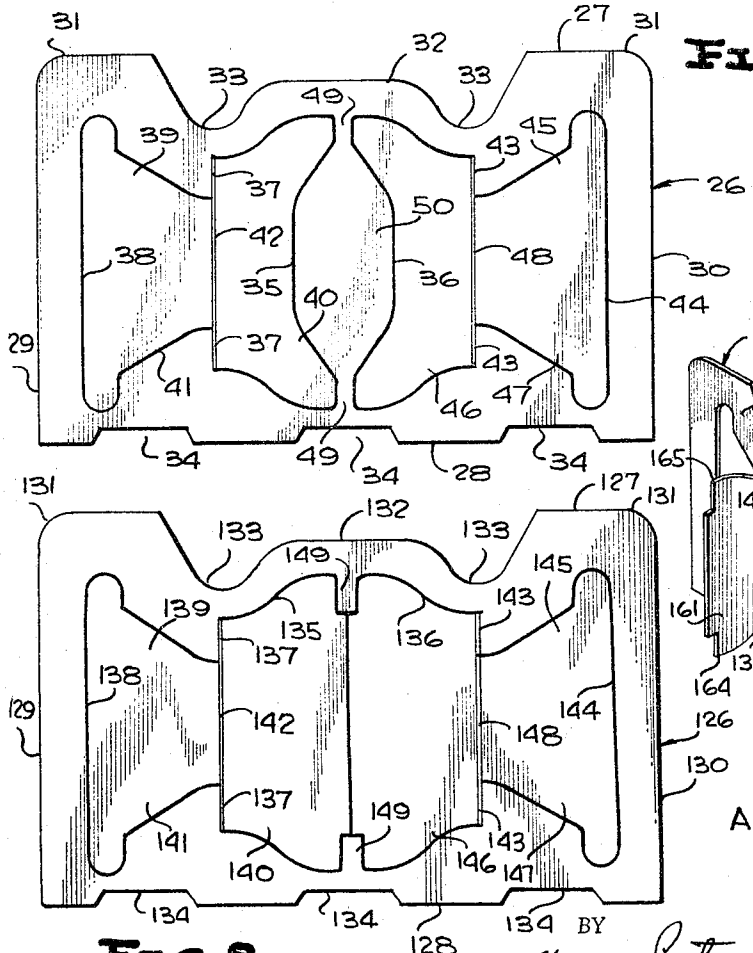


FIG. 7

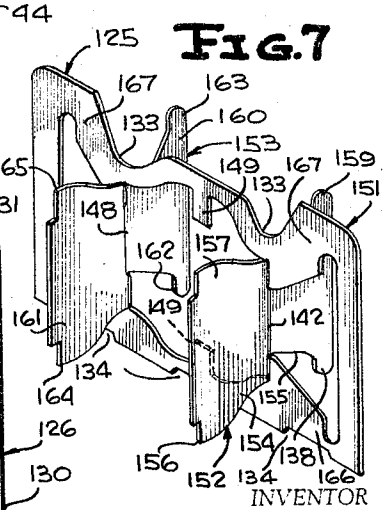


FIG. 8

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3,263,893

SEPARATOR FOR BOTTLES

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Filed Mar. 8, 1962, Ser. No. 178,481
18 Claims. (Cl. 229—15)

This invention relates in general to new and useful improvements in the packaging field, and more particularly to a novel separator which may be placed between bottles disposed in rows so as to retain the bottles out of contact with one another and thereby preventing damage to the bottles during handling.

It has been found that one of the most economical manners of packaging bottles for shipment and ease of handling is to provide a wrap-around bottle carrier wherein bottles, with the exception of the necks thereof, are encased, and the necks project through a suitable opening in a top wall of the bottle carrier. While the bottle carrier is of an extremely simple econstruction and may be readily placed around the bottles, the bottle carrier in itself has no means for preventing the lower portions of the bottles from coming into contact with one another. This is not only undesirable for shipment of packages of bottles disposed within the bottle carriers by truck, but is prohibited for railroad shipment. It is therefore the primary object of this invention to provide a novel separator which may be inserted between the bottles within a bottle carrier so as to absolutely prevent contact of the bottles with one another.

In the past, there have been devised bottle carriers which have been provided with separators of the general type to which this invention relates. However, these separators, when the simplicity thereof is maintained, are not suitable for use with bottles having projections or bulge points thereon. In the usual bottle separator construction, the bottle separator is shaped from a single ply which is suitably divided to provide a body panel having a pair of dividers struck therefrom, the body panel being disposed between rows of bottles, and the dividers being disposed between the individual bottles in the rows. Such a bottle separator has proved successful for use with bottles having straight walled lower portions in that the bottle contacting surfaces on the body panel may be vertically offset from the bottle contacting surfaces on the dividers. However, when the bottles have relatively narrow projecting contact areas, prior single ply bottle separators fail in that no means can be provided on the body panel for contacting the specific restricted areas of the bottles since the material of the original blank which is aligned with the bottle contact areas is taken up by the dividers. This is particularly true of that portion of the body panel which will engage the central bottles of the two rows.

In view of the foregoing, it is another object of this invention to provide a novel separator for bottles arranged in rows wherein the bottles are provided with projecting contact areas, the separator including a body panel and a pair of dividers, and the body panel having bottle contact areas which are aligned with bottle contact areas of the dividers so that the dividers and the body panel may engage bottles in the same general plane.

Another object of this invention is to provide a novel bottle separator for use in bottle carriers of the wrap-around type, the bottle separator including a body panel having a pair of dividers struck therefrom, each of the dividers having corner portions arranged to be engaged between projecting portions of bottles, and the body panel having opposed tabs which are centrally located and which lie in the same plane as respective corners of the dividers so that the corners of the dividers and the tabs on the body panel may engage the same general projecting portions of bottles.

A further object of this invention is to providee a novel bottle separator which is of a single panel construction and which includes a body panel having at least two dividers struck therefrom with each divider extending to opposite sides of the body panel, and the dividers being connected to the body panel along hinge lines, the hinge lines of the dividers being spaced apart a distance in excess of the diameter of the bottle for which the bottle separator is intended whereby each divider has a larger central area of the body panel from which material is available and at the same time, the divider location makes available additional material adjacent the ends of the body panel, which material has not previously been utilized in bottle separator construction, thereby permitting the use of material of the body panel in forming the dividers which is not aligned with the bottles in the two rows of bottles so that the body panel has material remaining at critical points and at the same time, the dividers are of full width and properly engage between bottles in the individual rows of bottles.

Still another object of this invention is to provide a novel bottle separator which includes a body panel having a pair of dividers struck therefrom and connected thereto along spaced hinge lines, the spacing between the hinge lines being in excess of the diameter of a bottle for which the bottle separator is intended, whereby additional material is made available at the center of the body panel for forming the dividers, and there remaining as part of the body panel a central web which assures against the engagement of central ones of the bottles in the two rows, the dividers each having a half extending to an opposite side of the body panel, and two halves of each divider being disposed in angular relation so as to project back towards the center of the separator and thus be aligned between endmost ones of the bottles in the rows and the central bottles in the rows.

A still further object of this invention is to provide a simple blank construction which may be readily die cut in a single operation and which may be handled by existing bottle separator positioning equipment, the blank being particularly shaped to accomplish the desired results of the aforementioned bottle separator.

With the above and other objects in view that will hereinafter appear, the nature of the invention will be more clearly understood by reference to the following detailed description, the appended claims and the several views illustrated in the accompanying drawing:

In the drawing:

FIGURE 1 is a perspective view of a conventional type of bottle carrier which is provided with a bottle separator in accordance with this invention.

FIGURE 2 is a perspective view of the bottle separator utilized in the bottle carrier of FIGURE 1.

FIGURE 3 is a horizontal sectional view taken along the line 3—3 of FIGURE 1, and shows the specific relationship of the bottle separator with respect to bottles disposed within the bottle carrier.

FIGURE 4 is a vertical sectional view taken transversely of the bottle carrier of FIGURE 1 along the line 4—4 of FIGURE 1 and shows further the specific relationship of the bottle separator with respect to the bottles within the bottle carrier.

FIGURE 5 is a longitudinal vertical sectional view taken along the line 5—5 of FIGURE 3, and shows the specific position of the dividers of the bottle separator between adjacent bottles in a row, one of the bottles being omitted to show the details of the bottle separator.

FIGURE 6 is a plan view of the blank from which the bottle separator of FIGURE 2 is formed.

FIGURE 7 is a perspective view of a slightly modified form of bottle separator.

FIGURE 8 is a plan view of a blank from which the bottle separator of FIGURE 7 is formed.

Referring now to the drawings in detail, reference is first made to FIGURE 1 wherein the general details of a conventional type of bottle carrier, generally referred to by the numeral **10**, are illustrated. The bottle carrier **10** includes a top wall, generally referred to by the numeral **11**, side walls **12** and **13**, and bottom panels **14** and **15** connected to the side walls **12** and **13**, respectively. The bottom panels **14** and **15** are disposed in overlapping relation and are connected together at spaced points corresponding to bottle spacing within the carrier **10** by suitable locking tab units **16** which will not be described in detail here.

The top wall **11**, although it may be flat, is of the arched type and includes a central horizontal panel **17** having outer panels **18** sloping downwardly and outwardly therefrom. Bottle neck receiving openings **19** are formed in the top wall **11**, the openings **19** extending in the panels **17** and **18**. The top wall panel **17** is also provided with finger receiving openings **20** disposed substantially at the third points to facilitate the passage of one's fingers to effect the lifting and carrying of the bottle carrier **10** and the contents thereof.

The side walls **12** and **13** are illustrated as being in downwardly converging relation. However, as far as the construction of the bottle separator of this invention is concerned, the side walls **12** and **13** may be of any construction. The side walls **12** and **13** are illustrated as having cut-out areas **21** to receive bottom portions of the bottles which may be carried by the carrier **10** to effect an interlock between the bottles and the side walls of the carrier **10**.

Reference is now made to FIGURE 3 in particular, wherein it will be seen that the bottle carrier **10** contains six bottles B which are arranged in two rows of three bottles each. Attention is also directed to FIGURE 4, wherein it is shown that the bottles B are of the type having a very short neck **22** and the upper ends of the bottles B are closed by the customary removable crown cap **23**. The bottles B also differ from the usual bottles in that each bottle is provided with a lower bulge or projection **24** which extends entirely thereabout and an upper bulge **25**, the bulges **24** and **25** being similar. It will thus be apparent that when two of the bottles B are disposed in side-by-side relation, if contact between the bottles occurs, it will be either between the bulges **24** or the bulges **25**. It is therefore necessary to provide means within the bottle carrier **10** for preventing the engagement of the bulges **24** or the bulges **25**. To this end, the bottle carrier **10** is provided with a bottle separator, generally referred to by the numeral **25**, the bottle separator **25** being best shown in FIGURE 2.

The details of construction of the bottle separator **25** may be best understood after a detailed description of the blank from which it is formed, is considered. Accordingly, reference is now made to FIGURE 6, wherein there is shown the blank from which the bottle separator **25** is formed, the blank being referred to by the numeral **26**. The blank **26** is generally rectangular in outline and is formed of an inexpensive paperboard. The blank **26** has a top edge **27**, a bottom edge **28**, and end edges **29** and **30**. The blank **26** is provided with upper rounded corners **31**. The top edge **27** is provided with a centrally located recessed area **32** which includes relatively deep recessed portions **33** which are aligned with the finger receiving openings **20** in the bottle carrier **10** when the bottle separator **25** is disposed therein, for receiving one's fingers. The bottom edge **28** of the blank **26** is also provided with suitable notches **34** which are aligned with the intended bottle spacing so as to provide clearance for the connecting tabs **16** of the bottle carrier.

It is to be noted that the blank **26** is symmetrical about a vertical centerline and a central portion of the blank is provided with two generally C-shaped cut lines **35** and **36** which are identical except for being in back-to-back relation. The C-shaped cut line **35** terminates in two transversely aligned free ends which intersect outer ends of hinge lines **37**. Another generally C-shaped cut line **38** is formed in the left hand half of the blank **26** and opens towards the cut line **35**. The cut line **38** has free ends which are transversely aligned and which are disposed at the inner ends of the hinge lines **37**. The cut lines **35** and **38**, together with the hinge lines **37**, define a panel **39** which may be swung out of the plane of the blank **26** about the hinge lines **37**. The panel **39** is divided into two halves **40** and **41**, with the half **40** being defined by the cut line **35** and the half **41** being defined by the cut line **38**. The halves **40** and **41** are separated by a transverse fold line **42** which is aligned with the hinge lines **37**.

The cut line **36** terminates in two transversely aligned free ends which, in turn, terminate at outer ends of transversely aligned hinge lines **43** which correspond to the hinge lines **37**. Another C-shaped cut line **44** is formed in the right hand half of the blank **26** and opens in opposition to the cut line **36**, the cut line **44** being identical with the cut line **38**. The cut line **44** has two transversely aligned free ends which terminate at the inner ends of the hinge lines **43**. The cut lines **36** and **44**, together with the hinge lines **43**, define a panel **45** which may be swung out of the plane of the blank **26** along the hinge lines **43**. The panel **45** is divided into two halves **46** and **47** by a transverse fold line **48** which is aligned with the hinge lines **43** and forms a continuation thereof. The half **46** is defined by the cut line **36** while the half **47** is defined by the cut line **44**.

It is to be noted that the shapes of the two cut lines **35** and **36** are such so as to leave between the panels **39** and **45** a pair of inwardly projecting opposed tabs **49** which are connected together by a relatively wide web **50**.

Reference is now made to FIGURE 2, wherein it will be seen that the blank **26** has the panels **39** and **45** struck therefrom so as to form the bottle separator **25**. The bottle separator **25**, when opened for insertion between six bottles B, includes a body panel **51** and a pair of dividers **52** and **53**. The two dividers **52** and **53** are identical in outline, and reference is made to FIGURE 4, where the specific shape of the divider **52** is illustrated.

The divider **52**, having been formed from the panel **39**, has the central fold line **42** and is divided into two halves **54** and **55** which correspond to the panel halves **40** and **41**, respectively. The divider half **54** is provided with two corner portions **56** and **57** which are vertically positioned to be aligned with the bulges **24** and **25**, respectively, of the bottles B, and these two corner portions **56** and **57** are disposed between adjacent bottles in a row of bottles to prevent engagement of the respective bulges **24** and **25** thereof.

The divider half **55** is provided with a lower corner portion **58** and an upper corner portion **59** which are vertically aligned with the corner portions **56** and **57**, respectively, and are vertically positioned for engagement between bulges **24** and **25**, respectively, of adjacent ones of the bottles B disposed in a row.

The divider **53** is divided into two halves by the fold line **48**, the halves being referred to by the numerals **60** and **61**, which correspond to the panel halves **47** and **46**, respectively. The divider half **60** has corner portions **62** and **63**, which correspond to the corner portions **58** and **59**, and the divider half **61** has corner portions **64** and **65** which correspond to the corner portions **56** and **57**, respectively.

From the foregoing, it will be readily apparent that the corner portions of the two dividers **52** and **53** serve to separate the bottles B from each other in the individual rows of bottles. On the other hand, the body panel **51**

is relied upon to separate adjacent bottles in the two rows of bottles, as is generally shown in FIGURE 3.

As is clearly shown in FIGURE 5, the tabs **49** are aligned with the centers of the central ones of the bottles B and are vertically positioned for engaging the bulges **24** and **25**. In this manner, the adjacent central bottles B are prevented from coming into contact with one another.

At this time, it is pointed out that the respective hinge lines **37** and **43** and the fold lines **42** and **48** are outwardly offset beyond the normal third points of the blank **26** so that the hinge lines **37** and **43** are not aligned with the intersection between adjacent bottles in the rows of bottles. This is clearly shown in FIGURE 3. As a result, material is available on the body panel **51** at **66**, as is best shown in FIGURES 2 and 5, aligned with the centers of the endmost bottles B and disposed in the same vertical plane as the corners **56**, **58**, **62** and **64**, and the bulges **24** of the bottles B. In like manner, material is available at **67** on the body panel **51** in alignment with the centers of the endmost bottles B in the two rows and lying in the same plane as the corners **57**, **59**, **63** and **65** and the bulges **25** of the bottles, the material available at **67** providing for the spacing of the upper bulges **25** of transversely aligned end ones of the bottles B.

Attention is directed to FIGURE 3 wherein it will be seen that due to the fact that the hinge lines **37** and **43** and the fold lines **42** and **48** are not aligned with the intersections between adjacent bottles B, the halves of the dividers **52** and **53** do not lie in common planes, but slope inwardly towards the center of the carrier **10**. However, the various corners of the dividers **52** and **53** are sufficiently spaced from the plane of the body panel **51** so as to be disposable between the bulges **24** and **25** along the longitudinal centers of the two rows of bottles B, as is clearly shown in FIGURE 3.

From the foregoing, it will be readily apparent that the specific configuration of the bottle separator **25** provides for material thereof to be disposed between the bottles at all possible points of contact. Accordingly, while the bottle separator **25** requires a minimum amount of material and is of a single sheet construction, it is sufficient for the purpose and meets the shipping requirements of both trucking concerns and the railroads.

Reference is now made to FIGURE 7, wherein a modified form of bottle separator, generally referred to by the numeral **125**, is illustrated. The bottle separator **125** is very similar to the bottle separator **25** and differs therefrom only in one minor detail. However, once again, it is deemed advisable to describe the details of the blank from which the bottle separator is formed prior to describing the details of the bottle separator per se. Accordingly, reference, is made to FIGURE 8 wherein the details of the blank, generally referred to by the numeral **126**, are shown.

The blank **126** has the same outline as the blank **26** and includes a top edge **127**, a bottom edge **128**, and end edges **129** and **130**. The blank **126** has upper rounded corners **131** and the central portion of the top edge **127** is cut out as at **132**, with the cut out including relatively deep depressions **133** for receiving a person's fingers during the carrying of a bottle carrier of which the bottle separator **125** is a part. The bottom edge **128** is provided with notches **134**.

The central portion of the blank **126** is provided with a pair of C-shaped cut lines **135** and **136** which are disposed in back-to-back relation and which have a common portion extending transversely of the blank **126** along the center line thereof, the blank **126** being symmetrical about the center line thereof. The free ends of the cut line **135** terminate at the outer ends of transversely aligned fold lines **137**. The left half of the blank **126** is provided with a C-shaped cut line **138** which opposes and opens into the C-shaped cut line **135**. The cut line **138** has inner free ends which terminate at the inner ends of the fold lines **137**. The cut lines **135** and **138** combine with the fold lines **137** to define a panel **139**. The panel **139** is divided into two halves **140** and **141** by a transverse fold line **142** which is aligned with the hinge lines **137** and forms a continuation thereof.

The outer free ends of the cut line **136** terminate at outer ends of aligned hinge lines **143**. A second C-shaped cut line **144** is formed in the right hand part of the blank **126** and opens inwardly towards the cut line **136** in opposition thereto. The cut lines **136** and **144**, together with the fold lines **143**, combine to define a panel **145**. The panel **145** is divided into halves **146** and **147** by a transverse fold line **148** which is aligned with and forms a continuation of the hinge lines **143**.

It is to be noted that the shapes of the cut lines **135** and **136** are such that opposed inwardly projecting tabs **149** remain on the main portion of the blank **126** between the panels **139** and **145**.

It will be noted that the blank **126** differs from the blank **26** only in the configuration of the cut lines **135** and **136** as compared to the configuration of the cut lines **35** and **36**. While the tabs **149** correspond to the tabs **49**, due to the particular configuration of the cut lines **135** and **136**, the web **50** is eliminated in the blank **126**.

Referring now to FIGURE 7, it will be seen that the bottle separator **127** includes a border-like body panel **151** which carries two dividers **152** and **153**. The dividers **152** and **153** extend to opposite sides of the plane of the body panel **151** and are identical in outline.

The divider **152** is divided into two halves by the fold line **142**, the halves being identified by the numerals **154** and **155**. The divider half **154** has a lower corner **156** and an upper corner **157** while the divider half **155** has a lower corner **158** and an upper corner **159**, the four corners of the divider **152** corresponding to the four corners of the divider **52**.

The divider **153** is also divided into two halves **160** and **161** by the fold line **148**. The half **160** is provided with a lower corner **162** and an upper corner **163**, while the divider half **161** is provided with a lower corner **164** and an upper corner **165**, the four corners of the divider **153** corresponding to the four corners of the divider **53**.

It is to be noted that the body panel **151** has the tabs **149** which correspond to the tabs **49** and serve to separate transversely adjacent central ones of bottles when the bottle separator **125** is in use. In addition, the body panel **151** is provided with lower bottle contacting areas **166** which correspond to the bottle contacting areas **66**, and upper bottle contacting areas **167** which correspond to the upper bottle contacting areas **67** of the bottle separator **25**.

It will be readily apparent that the function of the bottle separator **125** is the same as that of the bottle separator **25**. It will also be readily apparent that the bottle separator **125** will cooperate with a bottle carrier, such as the bottle carrier **10**, in the same manner as described above with respect to the bottle separator **25**. On the other hand, the bottle separator **125** has an advantage over the bottle separator **25** in that the divider halves extend continuously between the corners thereof and are adaptable for being engaged between smooth surface bottles and therefore, the bottle separator **125** is more useful when associated with smooth surfaced bottles than is the bottle separator **25**.

From the foregoing, it will be seen that novel and advantageous provision has been made for carrying out the desired end. However, attention is directed to the fact that other variations may be made in the example bottle separators disclosed herein without departing from the spirit and scope of the invention, as defined in the appended claims.

I claim:

1. A separator for use in a bottle carrier of the wrap-around type for maintaining bottles arranged in rows out of contact with one another, said separator comprising an elongated body panel having at least two dividers

struck therefrom, each of said dividers being hingedly connected to said body panel along two aligned hinge lines for swinging movement from the plane of said body panel to a position generally transverse of said body panel with a portion thereof projecting to each side of said body panel, each of said dividers having two upper and two lower projecting corner portions for engagement between adjacent bottles, and said body panel having upper and lower sets of projecting bottle contacting surfaces for engagement with bottles, the number of bottle contacting surfaces in each set being one more than the number of said dividers.

2. A separator for use in a bottle carrier of the wrap-around type for maintaining bottles arranged in rows out of contact with one another, said separator comprising an elongated body panel having at least two dividers struck therefrom, each of said dividers being hingedly connected to said body panel along two aligned hinge lines for swinging movement from the plane of said body panel to a position generally transverse of said body panel with a portion thereof projecting to each side of said body panel, each of said dividers having two upper and two lower corner portions for engagement between adjacent bottles, and said body panel having upper and lower sets of bottle contacting surfaces for engagement with bottles, the number of bottle contacting surfaces in each set being one more than the number of said dividers, the bottle contacting surfaces of each of said sets of surfaces being coplanar and in alignment with corresponding ones of said corner portions.

3. A separator for use in a bottle carrier of the wrap-around type for maintaining bottles arranged in rows out of contact with one another, said separator comprising an elongated body panel having at least two dividers struck therefrom, each of said dividers being hingedly connected to said body panel along two aligned hinge lines for swinging movement from the plane of said body panel to a position generally transverse of said body panel with a portion thereof projecting to each side of said body panel, each of said dividers having two upper and two lower projecting corner portions for engagement between adjacent bottles, and said body panel having upper and lower sets of projecting bottle contacting surfaces for engagement with bottles, the number of bottle contacting surfaces in each set being one more than the number of said dividers, the bottle contacting surfaces of each set including at least one intermediate contacting surface disposed intermediate said dividers.

4. A separator for use in a bottle carrier of the wrap-around type for maintaining bottles arranged in rows out of contact with one another, said separator comprising an elongated body panel having at least two dividers struck therefrom, each of said dividers being hingedly connected to said body panel along two aligned hinge lines for swinging movement from the plane of said body panel to a position generally transverse of said body panel with a portion thereof projecting to each side of said body panel, each of said dividers having two upper and two lower corner portions for engagement between adjacent bottles, and said body panel having upper and lower sets of bottle contacting surfaces for engagement with bottles, the number of bottle contacting surfaces in each set being one more than the number of said dividers, each of said dividers having a centrally disposed fold line aligned with respect to respective ones of said hinge lines and dividing each divider into halves which are to be disposed in angular relation to each other when disposed between bottles.

5. The separator of claim 1 wherein said divider corner portions are in the form of projecting ears.

6. The separator of claim 3 wherein said intermediate contacting surfaces have a wide web extending therebetween.

7. The separator of claim 3 wherein a single opening is formed in said body panel by said dividers, and said intermediate contacting surfaces are in the form of opposed tabs projecting into the opening in the body panel.

8. A separator for use in a bottle carrier of the wrap-around type carrying six bottles arranged in two rows of three bottles each for maintaining bottles out of contact with one another, said separator comprising an elongated body panel having ends, two dividers struck from said body panel with the combined lengths of said dividers approaching the length of said body panel but less than the length, each of said dividers having aligned stepped upper and lower edges with said edges being connected to said body panel along aligned hinge lines for swinging movement out of the plane of said body panel, each of said dividers having four projecting corners areas adapted to be positioned between adjacent bottles, and said body panel having central bottle contact areas and outer bottle contact areas longitudinally aligned with said divider corners.

9. A separator for use in a bottle carrier of the wrap-around type carrying six bottles arranged in two rows of three bottles each for maintaining bottles out of contact with one another, said separator comprising an elon-
said dividers having four projecting corner areas adapted
gated body panel having ends, two dividers struck from
said body panel with the combined lengths of said dividers approaching the length of said body panel but less than the length, each of said dividers having aligned stepped upper and lower edges with said edges being connected to said body panel along aligned hinge lines for swinging movement out of the plane of said body panel, each of said dividers having four corner areas adapted to be positioned between adjacent bottles, and said body panel having central bottle contact areas and outer bottle contact areas longitudinally aligned with said divider corners, said hinge lines being offset outwardly of third points of said body panel, and said dividers having central fold lines aligned with said hinge lines whereby each divider is divided into halves projecting to opposite sides of said body panel and in angular relation to one another when received between bottles.

10. The separator of claim 8 wherein said intermediate contacting surfaces have a wide web extending therebetween.

11. The separator of claim 8 wherein a single opening is formed in said body panel by said dividers, and said intermediate contacting surfaces are in the form of opposed tabs projecting into the body panel opening.

12. In combination with a bottle carrier of the wrap-around type having bottles disposed therein in two rows, a separator maintaining said bottles out of contact with one another, said separator including a body panel disposed between said two rows of bottles, dividers struck from said body panel and disposed between adjacent bottles in said rows of bottles, each divider having a half disposed on each side of said body panel, said body panel and said dividers having upper and lower sets of surfaces engaged by said bottles, and the bottle contact surfaces of each set lying in a single plane.

13. In combination with a bottle carrier of the wrap-around type having bottles disposed therein in two rows, a separator maintaining said bottles out of contact with one another, said separator including a body panel disposed between said two rows of bottles, dividers struck from said body panel and disposed between adjacent bottles in said rows of bottles, each divider having a half one another, said separator including a body panel and said dividers having upper and lower sets of surfaces engaged by said bottles, and the bottle contact surfaces of each set lying in a single plane, said bottles having upper and lower enlargements lying in respective ones of said planes.

14. In combination with a bottle carrier of the wrap-around type having bottles disposed therein in two rows, a separator maintaining said bottles out of contact with one another, said separator including a body panel

disposed between said two rows of bottles, dividers struck from said body panel and disposed between adjacent bottles in said rows of bottles, each divider having a half disposed on each side of said body panel, said body panel and said dividers having upper and lower sets of surfaces engaged by said bottles, and the bottle contact surfaces of each set lying in a single plane, each of said dividers being hingedly connected to said body panel along hinge lines offset from the spaces between adjacent bottles, and said divider halves being in angular relation.

15. A blank for forming a bottle separator adapted to be disposed between bottles arranged in two rows, said blank being formed of paperboard and being generally rectangular in outline, a pair of dividers lying in the plane of said blank with each divider being defined by a pair of opposed generally C-shaped cut lines having free ends terminating in offset transverse alignment, hinge lines extending between adjacent ends of said cut lines to hingedly connect each divider to the remainder of said blank, said blank having a transverse center line and being symmetrical thereabout, and central tabs defined at least in part by said cut lines projecting between said dividers in transversely opposed and aligned relation.

16. A blank for forming a bottle separator adapted to be disposed between bottles arranged in two rows, said blank being formed of paperboard and being generally rectangular in outline, a pair of dividers lying in the plane of said blank with each divider being defined by a pair of opposed generally C-shaped cut lines having free ends terminating in offset transverse alignment, hinge lines extending between adjacent ends of said cut lines to hingedly connect each divider to the remainder of said blank, said blank having a transverse center line and being symmetrical thereabout, and central tabs defined at least in part by said cut lines projecting between said dividers in transversely opposed and aligned relation, and a transverse fold line across each divider in alignment with respective ones of said hinge lines dividing each divider into two parts connected together for disposition in angular relation to one another when disposed between bottles.

17. The blank of claim **15** wherein an enlarged web extends between said dividers and is connected to said central tabs.

18. The blank of claim **15** wherein said dividers are in contiguous relation and portions of said cut lines of the two dividers being coextensive and along said blank transverse center line.

References Cited by the Examiner

UNITED STATES PATENTS

2,304,683	12/1942	Finn et al.	220—13
2,575,654	11/1951	Casler	220—113
2,965,278	12/1960	Phillips	229—28
3,031,813	5/1962	Ganz.	

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