Aug. 12, 1958 W. P. FRANKENSTEIN 2,847,154

CARTON

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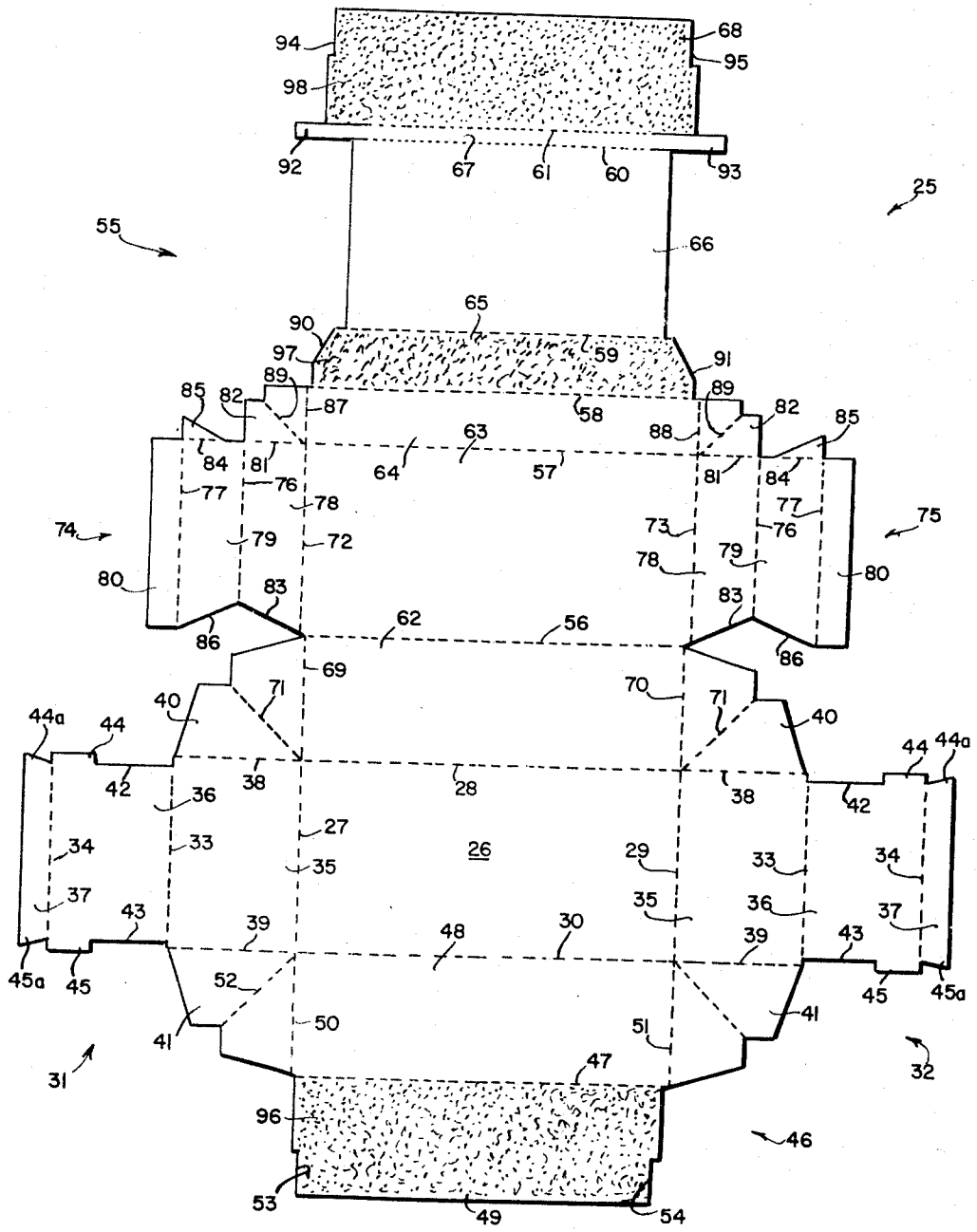


Fig. 1.

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Fig. 2.

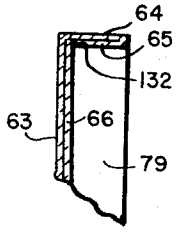


Fig. 2a.

Fig. 3.

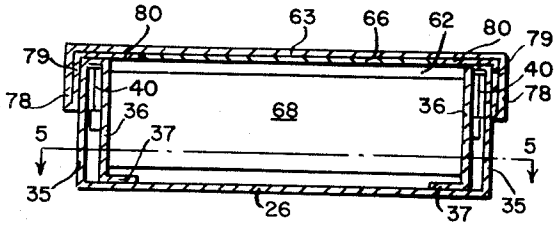


Fig. 4.

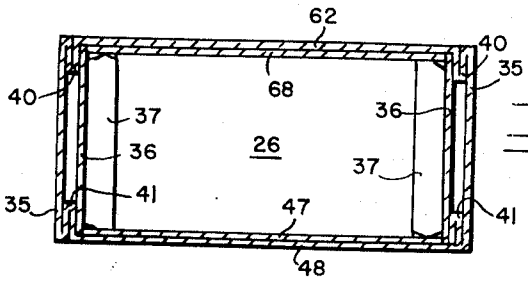


Fig. 5.

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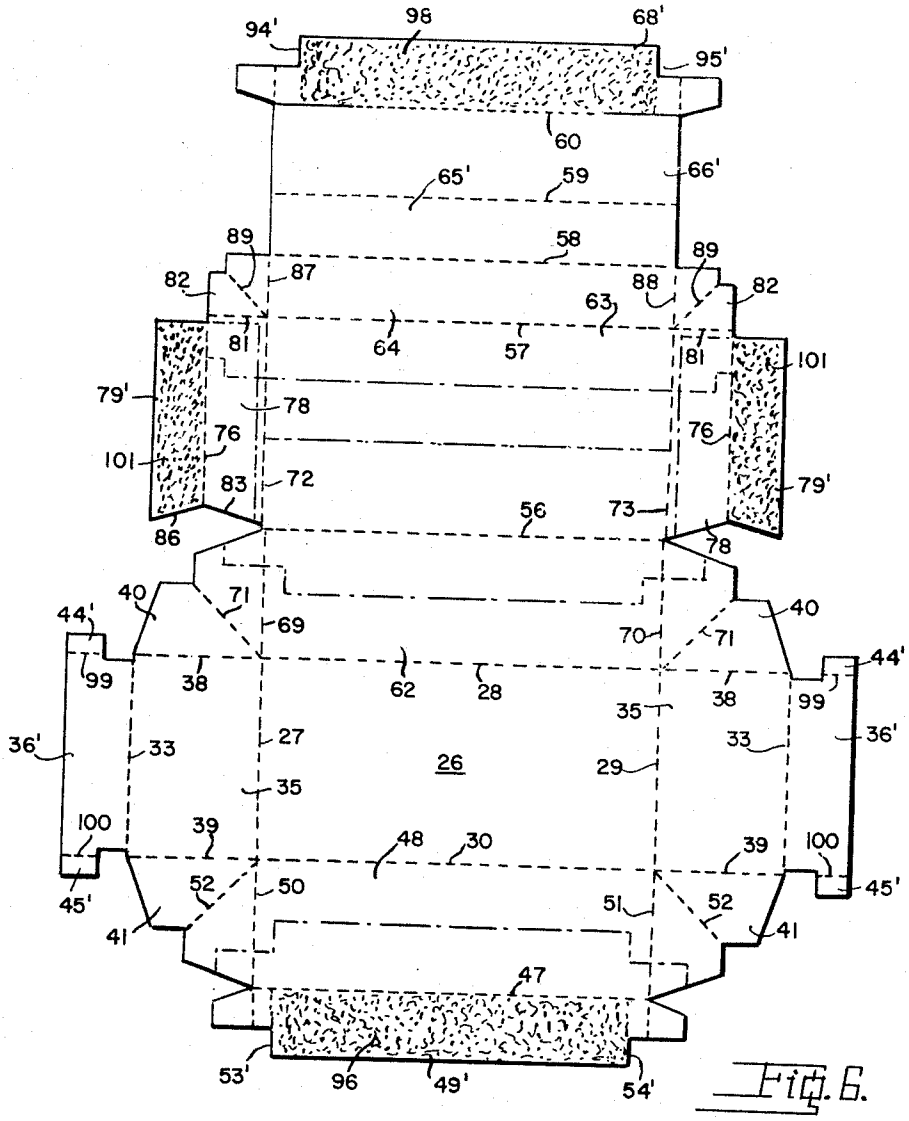


Fig. 6.

Fig. 7.

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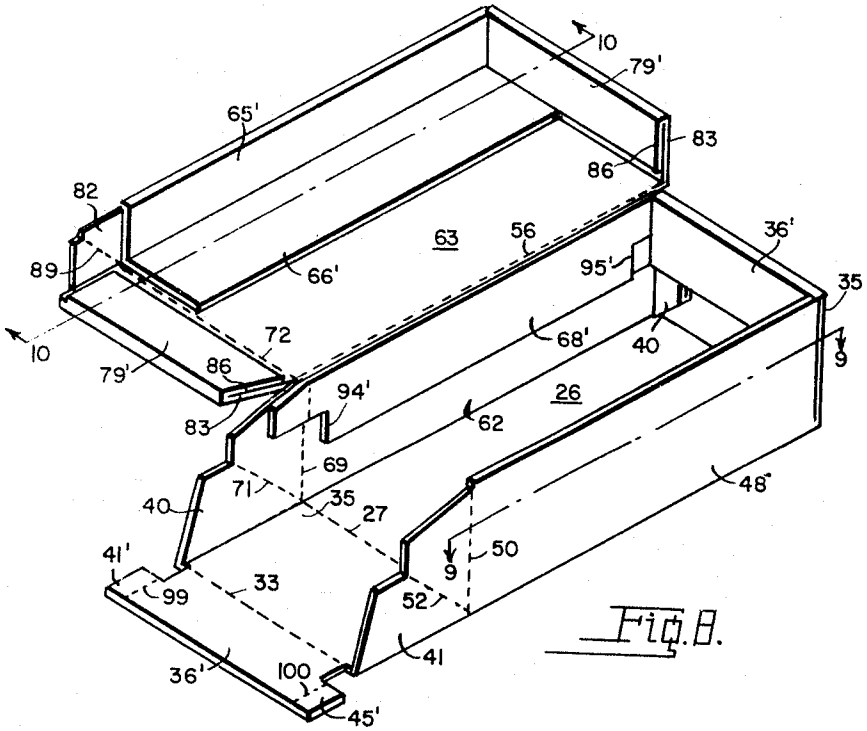


Fig. 8.

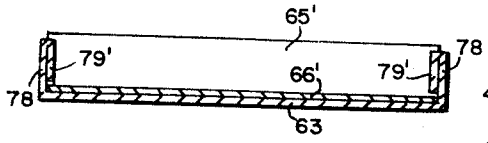


Fig. 10.

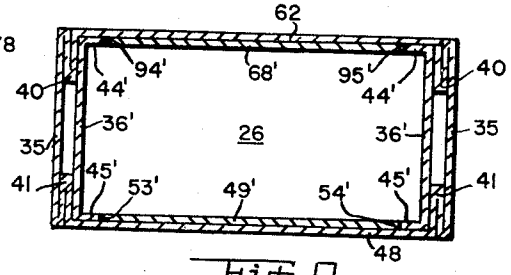


Fig. 9.

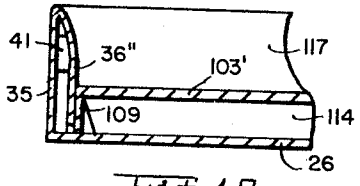


Fig. 19.

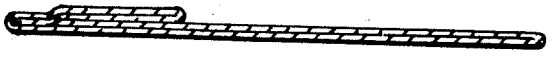


Fig. 16.

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CARTON

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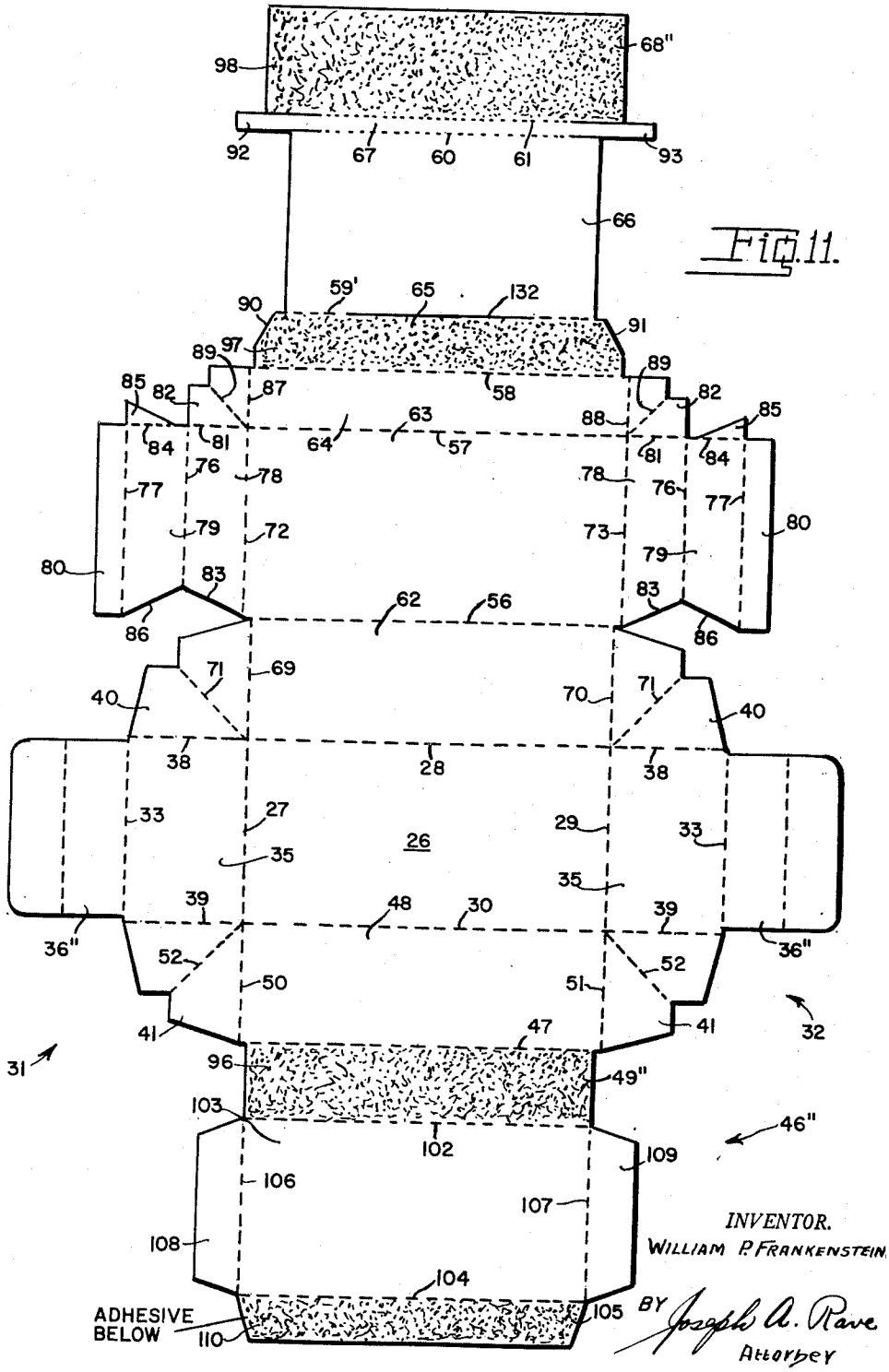


Fig. 11.

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CARTON

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Fig. 12.

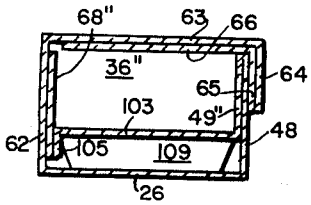


Fig. 14.

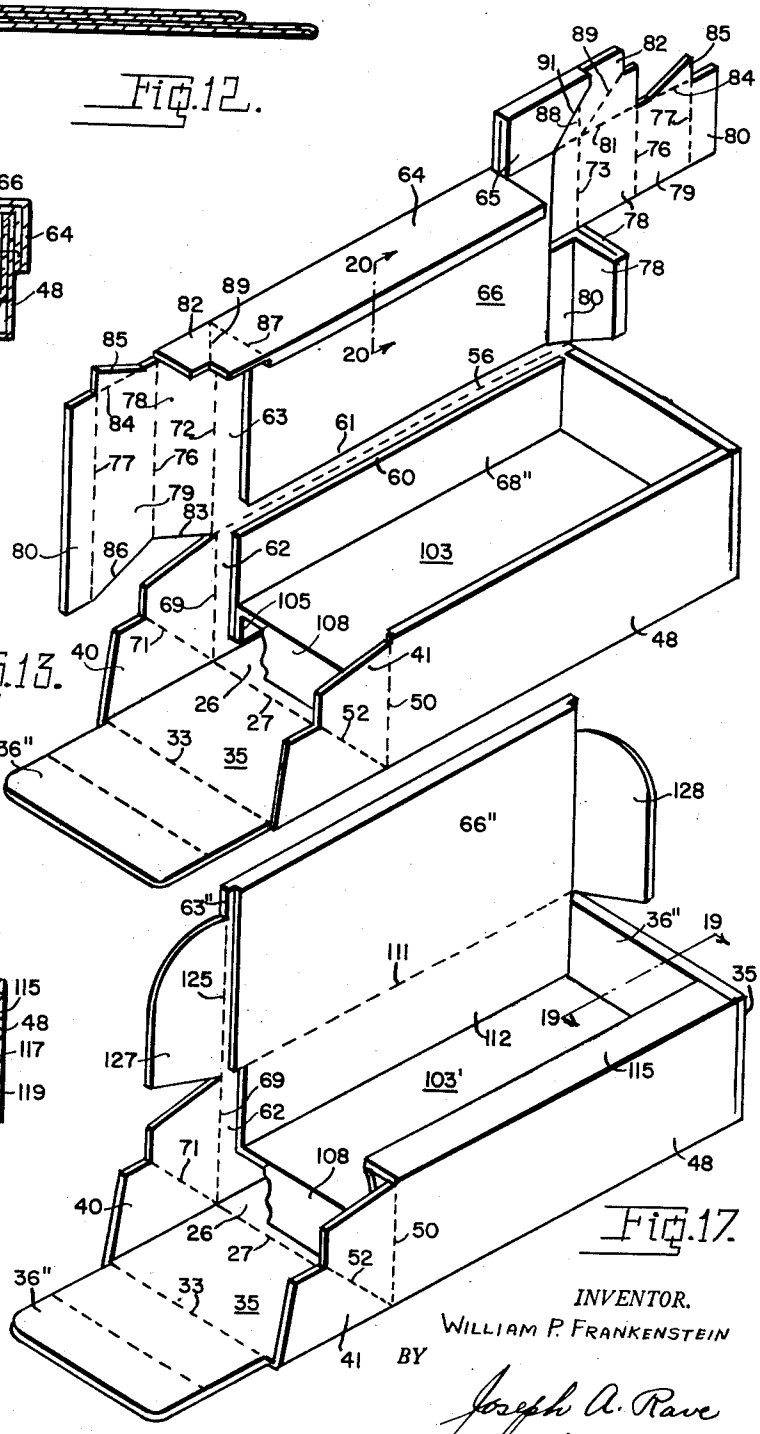


Fig. 13.

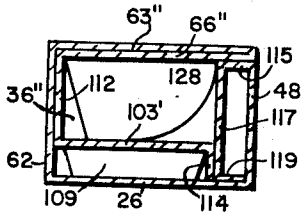


Fig. 18.

Fig. 17.

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CARTON

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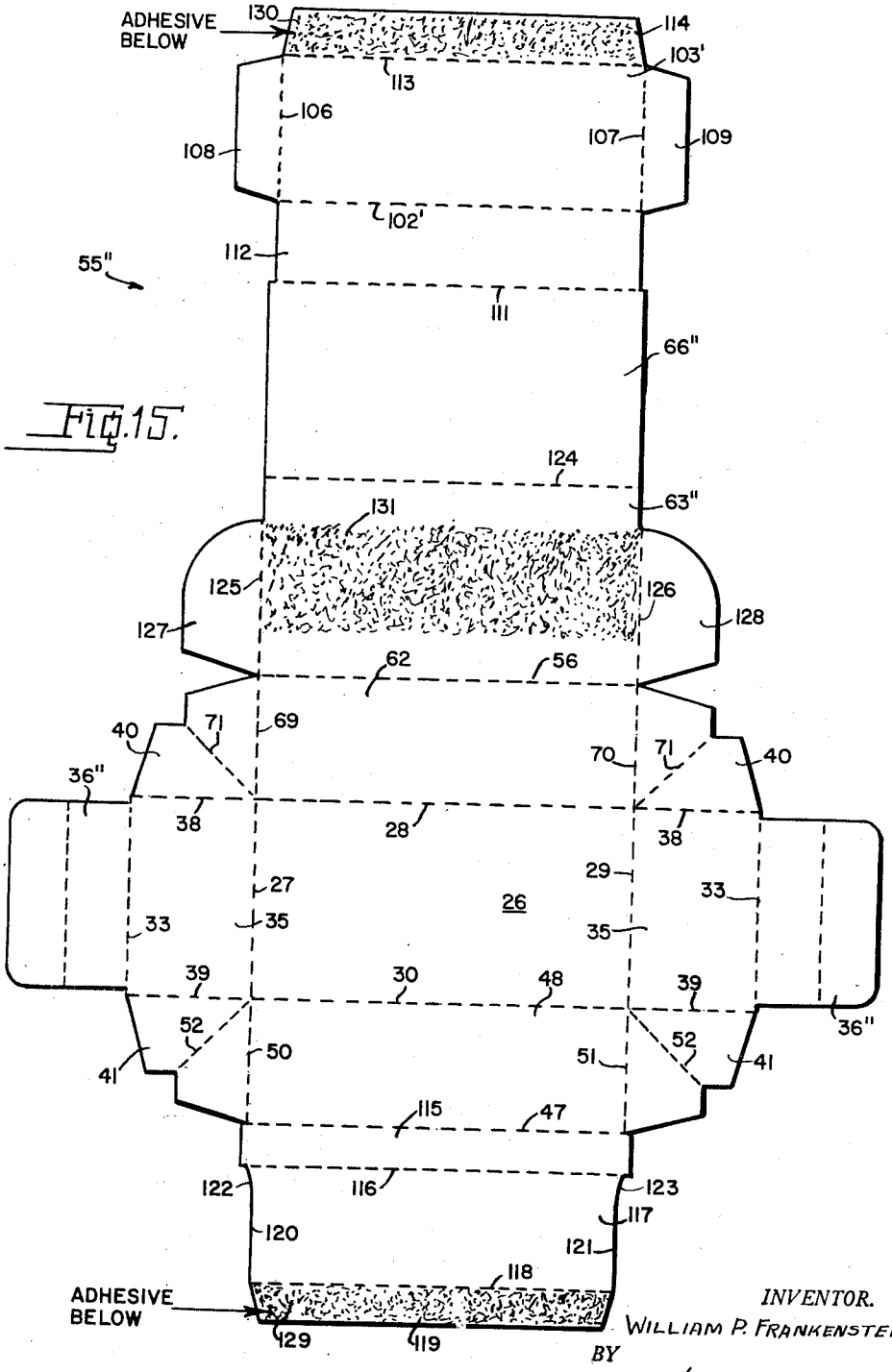


Fig. 15.

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United States Patent Office 2,847,154 Patented Aug. 12, 1958

2,847,154

CARTON

William P. Frankenstein, Cincinnati, Ohio

Application June 29, 1951, Serial No. 234,213

13 Claims. (Cl. 229—31)

This invention relates to improvements in knocked-down cartons and particularly to such cartons in which the carton proper and a cover or lid are formed from a single blank.

Cartons including a cover or lid formed from a single blank are known in the prior art but have generally been formed in such a manner that the undersurface of the cover or lid presented to the viewer the wrong side of the material when the goods therein are on display. Further with this type of carton it was necessary to perform a double printing operation if it were desired to present a message from the said undersurface of the cover when the goods were on display. Another difficulty encountered in prior art structures is providing means for locking the carton walls in their erected positions upon being erected from their flat or knocked-down positions.

The carton of the present invention obviates all of these difficulties as will be obvious from a study of the following specification.

The principal object of the present invention is, therefore, the provision of a carton in which there is provided a carton proper with an integrally hinged cover and in which the same side of the blank material, of which the carton and cover is formed, is presented to the observer whether the carton is closed or has its cover raised to display the goods therein.

Another object of this invention is the provision of a carton for accomplishing the foregoing object and which may have the undersurface of the cover or lid printed and which printing is accomplished at the same time that the outer surface of the cover and the outer surface of the carton walls are provided with printing.

Another object of this invention is the provision of a carton comprising a carton proper together with an integrally, hingedly connected cover or lid formed from a single blank of foldable paper or cardboard material and which includes means for locking the walls in their erected positions.

A still further object of this invention is the provision of a carton for accomplishing the foregoing objects and in which the blank is provided with means for effecting a depending flange from the edges of the cover for embracing or encompassing the walls of the carton proper for a distance downwardly of their upper ends.

A still further object of the present invention is a provision of a carton comprising a carton proper and an integral cover wherein a knocked-down blank is employed and which blank is adapted to have portions separated prior to erection of the blank in providing the cover with a depending flange and means for locking the carton walls in erected positions.

A still further object of this invention is the provision of a box or carton for accomplishing the foregoing objects and in which the carton proper may have walls with spaced apart inner and outer wall members and/or a false bottom, or platform, traversing the carton proper but upwardly spaced from the main bottom of said carton proper.

Other objects and advantages of the present invention should be readily apparent by reference to the following specification considered in conjunction with the accompanying drawings forming a part thereof and it is to be understood that any modifications may be made in the exact structural details there shown and described, within the scope of the appended claims, without departing from or exceeding the spirit of the invention.

In the drawings:

Fig. 1 is an extended plan view of a blank from which a carton embodying the principles of the present invention may be erected.

Fig. 2 is a transverse sectional view of the blank of Fig. 1 in its knocked-down position as shipped to the user.

Fig. 3 is a perspective view of a partially erected carton from the knocked-down blank of Fig. 2.

Fig. 4 is a longitudinal sectional view through a completely erected carton, such as would result upon the complete erection of the carton of Fig. 3.

Fig. 5 is a transverse horizontal sectional view through an errected carton as seen from line **5—5** on Fig. 4.

Fig. 6 is a view similar to Fig. 1 of an extended blank disclosing modifications in the blank for producing a modified carton embodying the principles of the present invention.

Fig. 7 is a transverse sectional view through the blank of Fig. 6 when in its folded or carton knocked-down position.

Fig. 8 is a perspective view of a partially erected carton from the blank of Fig. 6.

Fig. 9 is a transverse horizontal sectional view through Fig. 8 as seen from line **9—9** on said Fig. 8.

Fig. 10 is a longitudinal sectional view through the cover or lid of a completely erected carton as seen from line **10—10** on Fig. 8.

Fig. 11 is an extended plan view of a blank for providing a carton embodying the principles of the present invention modified over that in Figs. 1 and 6.

Fig. 12 is a transverse sectional view through the folded blank of Fig. 11 in the carton knocked-down position in which it is shipped to the user.

Fig. 13 is a perspective view of a partially erected carton from the knocked-down blank of Fig. 12.

Fig. 14 is a transverse sectional view through a completely erected carton such as would result upon the complete erection of the carton shown in Fig. 13.

Fig. 15 is an extended plan view of a further modified blank for producing a modified carton embodying the principles of the present invention.

Fig. 16 is a transverse sectional view through the folded blank of Fig. 15 when the blank is in its carton knocked-down position.

Fig. 17 is a perspective view of a partially erected carton from the knocked-down blank of Fig. 16.

Fig. 18 is a transverse sectional view of a completely erected carton such as illustrated in Fig. 17.

Fig. 19 is a fragmentary sectional view of a portion of the carton of Fig. 17 as seen from line **19—19** on said Fig. 17.

Fig. 20 is a fragmentary sectional view through the erected front flange of the carton cover of Fig. 13 as seen from line **20—20** on said Fig. 13.

Throughout the several views of the drawings similar reference characters are employed to denote the same or similar parts.

There is illustrated in the drawings several modifications of essentially similar cartons for accomplishing the objects set forth above and for accomplishing certain objects which will become apparent in the following specification. The various modifications will be successively described by specifically pointing out the modification in

successive blanks over one or more of the preceding blanks and the purpose to be accomplished by said modifications.

Referring first to the modification illustrated in Figs. 1 to 5, inclusive, the blank **25** in Fig. 1 comprises a main or carton proper bottom panel **26** having its edges defined by score or fold lines **27**, **28**, **29** and **30**.

The score or fold lines **27** and **29** respectively, integrally, hingedly connect with the main panel **26** similar extensions **31** and **32** which are substantially identical with one another and one of which, extension **31**, will be described in detail for both.

Accordingly, extension **31** is divided between the score or fold line **27** and the free end thereof by parallel score or fold lines **33** and **34** thereby providing panels **35**, **36** and **37**. In the erected carton the panel **35** forms the end wall outer wall member which has its ends defined by score or fold lines **38** and **39** which respectively integrally, hingedly connect with the panel **35** foldable corner pieces **40** and **41** which form, what is known in the trade as, bellows corners. The panel **36** in the erected carton forms the end wall inner wall member and has its ends defined, in the main, by inwardly disposed edges **42** and **43** thereby forming at the outer end of said panel laterally projecting lugs **44** and **45** which, as will later be made clear, lock with the side walls inner wall members in operative positions in holding the carton in erected position. The remaining panel **37** is employed as a creeper and locking panel and is disposed on the carton main or bottom panel **26**. In order to utilize the panel **37** as a locking panel its ends are cut to diverge to thereby provide locking corners **44***a* and **45***a*, operative as will later be made clear.

The main or bottom panel **26** score or fold line **30** integrally, hingedly connects therewith an extension **46** which, in the erected carton, forms its front wall. The extension **46** is provided longitudinally thereof with a score or fold line **47** forming in the extension **46** panels **48** and **49**. In the erected carton the panel **48** forms the front wall outer wall member and has its ends defined by score or fold lines **50** and **51** which, respectively, integrally, hingedly, connected therewith the adjacent edge of the corner pieces **41** foldable to provide bellows corners between the carton front and end walls. In order to permit the said corner pieces to be folded bellowswise they are each provided with a diagonal fold line **52**. The panel **49** in the erected carton forms the front wall inner wall member and has its ends defined by cut lines the outer portion of which is inwardly disposed as at **53** and **54** to provide locking shoulders behind which the end walls inner wall members locking lugs **45** interengage, as will presently be made clear.

The main or bottom panel **26** has integrally, hingedly connected with it through the score or fold line **28** an extension **55** which in the erected carton forms its back wall and an integral cover. For this purpose the extension **55** is provided with a plurality of substantially parallel transverse score or fold lines **56**, **57**, **58** and **59** together with a pair of weakened readily separable lines, illustrated in the drawings as lines of perforations **60** and **61**. Said score or fold lines and lines of perforations form in the extension **55** between the score or fold line **28** and the outer end of the extension a plurality of panels **62**, **63**, **64**, **65**, **66**, **67** and **68**. The panel **62** in the erected carton forms its back wall outer wall member and has its ends defined by score or fold lines **69** and **70** which, respectively, integrally, hingedly connect therewith the adjacent edge of bellows corners **40**. Each of the bellows corners **40**, similar to the bellows corners **41**, in order to permit them to be folded bellowswise, is provided with a diagonal score or fold line **71**.

The portion of the extension **55** from the score or fold line **56** to the weakened or perforation line **60** forms the carton cover with flanges depending from the free edges of the cover. The cover comprises an inner panel **66** and an outer panel **63** of substantially equal area, to all intents and purposes, while the cover inner panel **66** is somewhat narrower to provide means for locking the cover depending flanges in operative positions as will presently be made clear. The cover outer panel has two of its edges defined by the score or fold lines **56** and **57** and has its end edges defined by substantially right-angular score or fold lines **72** and **73** each of which integrally, hingedly connects with the panel **63** a similar extension **74** and **75** which in the erected carton form the cover depending side flanges.

Since the extensions **74** and **75** are substantially identical with one another it is deemed sufficient if but one of them be described in detail. Accordingly, extension **74** is provided longitudinally thereof with substantially parallel score or fold lines **76** and **77** forming thereby panels **78**, **79** and **80**. In the erected carton the panel **78** forms a cover side flange outer member and has its one end defined by a score or fold line **81** which integrally, hingedly connects therewith a corner piece **82** which, similar to the carton corner pieces **40** and **41**, forms a bellows corner. The other end of the panel **78** is biased as at **83** thereby providing the flange with a cut away end in its final assembly. The panel **79**, in the erected carton, forms a cover flange inner member having its one end, in the main, defined by a score or fold line **84** which integrally, hingedly connects therewith a substantially wedge shaped lug **85** that interlocks with the cover front flange in retaining the flanges in their erected position as will subsequently be made clear. The other end of the panel **79** is biased as at **86** to coincide with the biased end **83** of the panel **78** when said panels are in operative face engagement. The remaining panel **80** in the erected carton forms a locking flange and cooperates with the cover inner panel **66** for completing the said cover inner panel as will be subsequently made clear and as illustrated in Fig. 3.

In the erected carton the panels **64** and **65** form a two ply cover front flange with the panel **64** having its ends defined by score or fold lines **87** and **88**, respectively, integrally, hingedly connecting the adjacent edge of a bellows corner piece **82**. Each of said bellows corner pieces **82** is provided with a diagonal score or fold line **89** whereby it may be folded bellowswise at the time of erection. The panel **64** is slightly longer than the panel **65** between its score or fold lines **87** and **88** with said panel **65** having the corners removed at its outer edge whereby biased cuts **90** and **91** result. In the erected carton the cuts **90** and **91** form shoulders behind which the wedge shaped locking lugs **85** of the side flanges inner member or panel **87** interengage for locking the parts in their erected positions.

As will be later made clear the panel **67** between the weakened lines or lines of perforations **60** and **61** is a tear strip and in order to permit its ready removal from the knocked-down carton it is slightly longer than its adjacent panels **66** and **68** with the said increased length projecting laterally of said panels as finger pieces **92** and **93**. The remaining panel **68** in the erected carton forms the carton back wall inner wall member and has a portion of its opposite ends offset as at **94** and **95** to provide shoulders behind which the locking lugs **44** of the end walls inner wall members or panels **36** engage as will be later made clear and as can be seen from Fig. 3.

After the blank has been cut and scored as just described and as illustrated in Fig. 1, adhesive **96** is applied to the uppermost surface of the panel **49**, as seen in Fig. 1, whereupon the said panel **49** is folded on the score line **47** to be brought into engagement with the panel **48**. Simultaneously with applying adhesive **96** to the panel **49**, or following the folding of the panel **49**, adhesive **97** and **98** is respectively applied to the exposed surfaces of the panels **65** and **68**. After the folding of the panel **49** on its connecting score or fold line **47** the portion of the blank **55** outwardly of the score or fold line **58**

is now folded on said fold or score line **58** to be superimposed on the portion of the blank below the said score or fold line **58**. This brings the adhesive **97** on the panel **65** into contact with the panel **64** and simultaneously brings the adhesive **98** on the panel **68** into contact with the panel **62**. Pressure is now applied to the folded portions of the blank to insure the permanent adhesion of the parts with the adhesive therebetween. The blank is now further folded on the score or fold line **28** whereupon the blank is in its fully knocked-down position as illustrated in transverse cross-section in Fig. 2. It is in this position of the knocked-down blank that it is shipped to the user.

The user in desiring to set up the carton would first unfold the blank on the score or fold line **28** whereupon he would engage one or the other finger piece **92** or **93** and rip out the panel **67** which will readily tear on the weakened lines or lines of perforations **60** and **61** and discard the said panel **67**. This separates the panel **68** from the remaining portion of the blank but the said panel **68** is retained in position against the inner surface of the carton back wall outer wall member.

The user may then proceed to either set up the carton proper or the cover. Assuming the user desires to set up the carton proper ahead of the cover, he first raises the front and back walls to be normal to the main or bottom panel as illustrated in Fig. 3. The end walls extensions **31** and **32** are then in succession raised to be normal to the bottom panel simultaneously bellowswise folding the corner pieces **40** and **41** so that said bellows corners are extending transversely of the carton proper by the time the said end wall extension is normal to the bottom panel. The end wall extension panel **36** is now folded on the score or fold line **33** to depend interiorly of the carton proper in parallel with the outer wall member or panel **35**. The creeper panel **37** was bent to be normal to the panel **36** prior to its folding on the score or fold line **33**. The panel **36** is bent to lie in close contact with the end wall outer wall member or panel **35** with the bellows corners therebetween and upon reaching this position has its locking lugs **44** and **45** snapped behind the adjacent shoulders **53—94** or **54—95** of the front and back walls inner wall members or panels **49** and **68**. At the same time the free or locking corners *44a* and *45b* of the creeper and locking panel **37** snaps beneath the lower edges of the front and back walls inner wall members **49** and **68** as clearly illustrated in Fig. 3.

Upon the erection of one end wall the other end wall is similarly erected whereupon the carton has its end walls and front and back walls locked in upright positions with respect to the bottom panel, as illustrated in Fig. 3 insofar as the right-hand end wall thereof is concerned.

The cover is now erected by following substantially the same steps as above set forth with respect to the carton proper. Specifically, the front flange of the cover is raised by folding the now securely connected panels **64** and **65** on the now superposed score or fold lines **57** and **59**. In view of the fact that the folding of this front flange is on an axis inwardly of double thicknesses of material difficulty in the past has been experienced due to the binding of the parts on one another to accommodate themselves to the said double thickness. Since the inner panel, panel **66**, of the cover is now free, it shifts on the panel **63** to accommodate the said thickness of material so that the said bending of the flange **64—65** relative to the cover is readily accomplished. At the same time the inner panel **66** of the cover is retained in close contact with the panel **63** substantially throughout their superposed areas. At this time the extensions **74** and **75** are successively folded for completing the side flanges for the cover. Assuming that the side flange formed from extension **74** is to be erected, the said extension **74** is raised to a position to be normal to the

panel **63**. Simultaneously with the raising of the extension **74** the corner piece **82** was folded bellowswise on its fold line **89** to project transversely of the panel **63** adjacent the inner surface of the panel **78**. The panel **79** has now the locking flap **80** and wedge shaped locking lug **85** folded to be normal to the panel **79** outwardly thereof whereupon the panel **79** is folded to be interiorly of the cover and be parallel with and adjacent the panel **78** with the bellows corner disposed therebetween. When the panel **79** is folded to its final position the locking panel **80** snaps behind the adjacent edge of the cover inner panel **66** and simultaneously the wedge shaped locking lug **85** snaps behind the locking corner **90** of the cover front flange inner member **65**.

The carton is now in its fully erected condition ready for the reception of goods. Upon opening the lid or cover, see Fig. 3, it will display on its undersurface the same surface of the blank as is displayed by the side walls and outer surface of the cover. In the event the said inner surface of the cover is to carry and display a printed message such printing was done simultaneously with the printing of the outer surface of the front, back and side walls as well as the outer surface of the cover. It is obvious that the said printing was effected on the undersurface of the blank as illustrated in Fig. 1. By providing the blank with the panel **68** the back wall may be provided with an inner wall member together with all of the advantages thereof in providing means interiorly of the carton for locking the end walls in erected positions in a knocked-down carton. At the same time there has been provided a structure in which the parts, particularly the front flange for the cover, may be readily folded with respect to the cover and the increased thickness of material accommodated, structures and functions not possible with the prior art except by the addition of separate pieces or parts which increased the cost thereof to the point of prohibiting the carton for universal use. These advantages are made possible by the provision of the disposable strip or panel separable from the blank by the user just prior to his erection of the carton.

In the modification illustrated in Figs. 6 to 10, there is provided a structure particularly adapted for relatively deep cartons, and the carton front, back and end walls inner wall members are shown as of considerably less height than the outer wall members thereof. Since the said end wall inner wall members are of such less height they have eliminated from them the locking or creeper flaps **37**. Accordingly, the panels which form the said carton walls inner wall members are indicated in Fig. 6 by reference characters similar to those used in Fig. 1 with a prime (') character added thereto. The means for locking the end walls and front and back walls to one another in this modification comprises locking lugs **44'** and **45'** of greater length than the corresponding locking lugs of Fig. 1 and with said locking lugs **44'** and **45'** attached to the end wall inner wall members **36'** by score or fold lines **99** and **100**. These locking lugs are adapted to lie against the back wall and front wall outer wall members prior to engagement with the inner wall member shoulders and which shoulders are therefore illustrated as of greater depth than in Fig. 1 with said shoulders being indicated by reference numerals **53'**, **54'**, **94'** and **95'**.

A further modification in Fig. 6 eliminates therefrom the panel or removable tear strip **67** and has the back wall inner wall member or panel **68'** connected directly with the cover inner panel **66** through a single weakened line or line of perforations **60**. With this construction the blank upon being folded to have the back wall inner wall member or panel **68** attached to the back wall outer wall member or panel **62** has the weakened line or line of perforations **60** superimposed on the score or fold line **56** wherefore prior to erection the said line of perfora-

tions **60** is merely broken instead of removing a tear strip such as **67**.

In the modification in Figs. 6 to 10 the cover inner panel is of considerably less area than the cover outer panel, see Fig. 8, while at the same time the cover is provided with a double thickness depending front flange without the plies of said flange being secured to one another. The blank of Fig. 6 instead of being folded on the score or fold line **58** is folded on the score or fold line 57 positioning the parts as illustrated in phantom lines in Fig. 6. As noted above, in this modification the cover front flange inner and outer members are not permanently secured to one another but instead each of the side flanges has its inner and outer members or panels **78'** and **79'** secured to one another through adhesive **101** applied to the panel **79'** to be folded into face contact with the panel **78'**. A further distinction in the modification in Figs. 6 to 10 is the elimination from each of the cover side flange extensions **74'** and **75'** of the locking panel **80** and the wedge shaped locking lug **85**.

The cover parts, depending front and side flanges and inner panel, are locked in operative positions by enfolding the cover bellows corners **82** between the front flange members **64'** and **65'** and disposing the lateral edges of the cover inner panel **66'** below the lower edges of the side flanges inner members or panels **79'** as clearly illustrated in Fig. 10. The locking of the carton walls in their erected positions is clearly illustrated in Fig. 9.

It is understood that the blank of Fig. 6 after being cut, scored and folded, as shown in phantom lines on said Fig. 6, is in the position of the transverse cross-section of Fig. 7 when shipped to the user. The user in desiring to set up the knocked-down blank of Fig. 7 to the carton of Fig. 8 follows substantially the same steps as above in erecting the carton from the knocked-down blank of Fig. 2.

In the modification illustrated in Figs. 11 to 14, inclusive, the chief distinction is the provision of a transverse false bottom or platform for the box and retaining all of the advantages of a box or carton with an integral cover having front and side depending flanges. The blank of Fig. 11 differs from the blank of Fig. 1 in that the front wall inner wall member is shorter than that of Fig. 1 and acts as a spacer and support for the front end of the said platform. Said front wall inner wall member is indicated in Fig. 11 by reference numeral **49''** and has its outer end defined by a score or fold line **102** which integrally, hingedly connects therewith the platform panel **103**. The platform panel **103** has its rear edge defined by a score or fold line **104** which integrally, hingedly connects therewith a spacer or glue flap **105**. The ends of the platform panel **103** are defined by score or fold lines **106** and **107** which respectively, integrally, hingedly connect with the said platform ends spacer flaps **108** and **109**.

A further slight modification in the blank of Fig. 11 consists in changing the score or fold line **59'** between the cover inner panel **66** and front flange or panel **65** to a slit **132** for the major portion thereof. This modification will permit the cover two ply front flange, with its inner and outer members permanently secured to one another, to be more readily folded on the superposed score or fold lines **57** and **59'** since the added thickness of material will be able to accommodate itself. This is effected, as clearly shown in Fig. 20, by permitting the upper or forward edge of the cover inner panel to project itself beneath the lower or inner edge of the cover flange inner member **65**.

After the blank of Fig. 11 is cut and scored adhesive **96** is applied to the panel **49''** and simultaneously adhesive **110** is applied to the undersurface of the flap **105** whereupon the panels **49''**, **103** and **105** are folded on the score or fold line **47** as above described for folding the front wall inner wall member **49** onto the front wall outer wall member of Fig. 1. The adhesive **97** and **98** is then applied to panels **65** and **68** whereupon the blank is folded on the score or fold lines **58**, again, as above described in connection with Fig. 1. The subsequent folding of the blank on the score or fold line **28** now brings the back wall inner wall member **68** into engagement with the adhesive **110** on the spacer or glue flap **105** for permanently adhesively securing these parts to one another. The knocked-down blank is now as illustrated in transverse cross-section in Fig. 12 and is so shipped to the user.

The user in desiring to set up the knocked-down blank of Fig. 12 to the carton of Fig. 13 follows the same steps as above described in connection with the blank of Figs. 1 and 2. It should be noted that the raising of the front and back walls to be normal to the main or bottom panel automatically swings the platform to its position parallel with but upwardly spaced with respect to the said main or bottom panel as clearly illustrated in Fig. 13. The end walls are now erected and the cover parts are likewise erected. The platform type of carton requires no locking lugs from the end walls inner wall members since such end wall may be inserted behind the adjacent edge of the platform and which will retain it in its erected position.

It will be noted from Fig. 13 that the carton therein has all of the attributes of the carton of Fig. 3 plus an upwardly positioned false bottom or platform.

The modification illustrated in Figs. 15 to 19, inclusive, differs from the modification in Figs. 11 to 14 principally in that the front wall is of a hollow construction, that is having the inner and outer wall members thereof appreciably spaced from one another, and in that the cover is not provided with flanges for embracing the carton front and end walls.

In order to accomplish this and have a support for the front end of the false bottom or platform, the said platform spacer panel, platform panel and glue flap are integrally, hingedly connected with the cover blank extension **55''**. Accordingly, the weakened line, or line of perforations **60**, at the outer end of the cover inner panel is changed to a score or fold line **111** for integrally, hingedly connecting therewith a panel **112** which has its other end defined by a score or fold line **102'** for integrally, hingedly connecting therewith the platform panel **103'**. The outer end or front edge of the platform panel **103'** is defined by a score or fold line **113** for integrally, hingedly connecting therewith the spacer panel or glue flap **114**. The ends of the platform panel **103'**, similar to the platform panel **103** is defined by score or fold lines **106** and **107** for integrally, hingedly connecting therewith spacer panels **108** and **109**.

The other end of the blank or front wall extension **46''** has its front wall panel **48** connected therewith through the score or fold line **47** the front wall top wall member **115** in turn having integrally, hingedly connected with its other edge through score or fold line **116** a panel **117** which in the erected carton forms the front wall inner wall member. The other edge of the said panel **117** is defined by a score or fold line **118** which integrally, hingedly connects therewith a glue flap **119**. The front wall top wall member is slightly longer than the front wall inner wall member or panel **117** with said panel **117** having its ends **120** and **121** contoured or arced as at **122** and **123** for a purpose to be presently described.

As was noted above, the modification in Figs. 15 to 19 is not provided with depending flanges from its cover wherefore the cover inner panel **63''** is directly integrally, hingedly connected with the cover inner panel **66''** through the score or fold line **124**. The ends of the cover outer panel **63''** are defined, in the main, by the score or fold lines **125** and **126** which respectively, integrally, hingedly connect with the cover outer panel flaps **127** and **128** which in the erected carton are disposed within the carton proper as illustrated in Fig. 18.

After the blank of Fig. 15 has been cut and scored as

there shown adhesive 130 is applied to the undersurface of the spacer panel or glue flap 114 and additional adhesive 131 applied to the cover outer panel 63'' whereupon the blank extension 55'' is folded on the score or fold line 124 for thereby bringing the cover inner panel 66'' into face contact with the adhesive 131 of the cover outer panel 63'' and disposing the spacer panel or glue flap 114 on the main or bottom panel 26 with the adhesive 130 uppermost. Adhesive 129 is now applied to the glue flap 119 and the blank extension 46'' folded on the score or fold line 116 whereupon a further fold is effected in the blank extension 46'' on the score or fold line 30 to bring the adhesive 129 into contact with the carton main or bottom panel 26 inwardly of the score or fold line 36. This second folding of the blank extension 46'' on the score or fold line 30 also brings the front wall inner wall member, or panel 117, into fact contact with the adhesive 130 for adhesively securing the forward end of the platform panel 103' to said front wall inner wall member 117 to upwardly space said front end of the platform 103' from the main or bottom panel.

The blank is now in the folded position of Fig. 16 for shipment to the user. The user upon desiring to set up the carton from the knocked-down blank of Fig. 16 follows substantially the same steps as above outlined and particularly with respect to the setting up of the knocked-down blank of Fig. 12.

It will be noted that the panels 63'' and 66'' of the cover of the modification in Figs. 15 to 19 are adhesively secured to one another as distinguished from the panels of the covers heretofore described. It will also be noted that the back wall inner wall member, panel 112, is not secured to the back wall outer wall member as is the construction with the other above described modifications. Further, it will be noted that no portion of the blank is separated from the remaining part of the blank. It should be noted, however, that the problem of folding the portion of the blank around an axis inwardly of double thickness material is present, since the score or fold line 111 is superposed on the score or fold line 56 between the back wall outer wall member and cover outer panel 63''. The unsecured back wall inner wall member, or platform spacing panel, 112 permits this ready hinging or oscillating movement of the cover on the score lines 56—111, since the said back wall inner wall member will slightly vertically shift during said swinging or oscillating movement.

The purpose of the contoured or arced ends of the front wall inner wall member or panel 117 is to accommodate the double thickness of the bellows corners 40 and 41 and provide a sharp corner and neat appearance at the ends of the front wall top wall member. As clearly illustrated in Fig. 19 the bellows corners cause the inner wall member or panel 36' to be slightly, inwardly, downwardly inclined before it descends in parallelism with the outer wall member. The ends of the front wall inner wall member or panel 117 is contoured to fairly accurately follow this inward and downward line of said inner end wall member and thereby retain the said end wall inner wall member in this position. By forming the top wall member or panel 115 slightly longer than the said front wall inner wall member or panel 117 the end of the top wall member projects onto the end wall to be flush with the outer surface of the end wall outer wall member.

It should be noted that while several forms of cartons have been disclosed with different forms of covers, the various covers may be readily adapted to the various forms of carton proper so that any carton modification herein illustrated may be employed with any cover modification even though the drawings do not show the substitution of different cover modifications with all carton modifications.

From the foregoing, it is believed now evident that there has been provided a carton which will accomplish the objects initially set forth and obviate the objections to cartons as heretofore known and employed.

What is claimed is:

1. In a carton of the class described formed from a single blank comprising a carton proper and an integral cover articulated thereto, said carton proper including a bottom with upstanding front, back and end walls, said front and end walls each including an outer wall member articulated to the bottom panel and an inner wall member articulated to the outer wall member to depend within the carton proper, said back wall including an outer wall member articulated to the bottom panel, a cover including an outer panel and an inner panel articulated to one another to form a double thickness two ply cover with said cover outer panel articulated to the back wall outer wall member, a back wall inner wall member articulated to the cover inner panel with said back wall inner wall member depending within the carton adjacent to and in contact with the back wall outer wall member to form a double thickness two ply back wall, and adhesive securing the plies of one of said double thickness cover and double thickness back wall to one another, said articulation of the cover inner panel to the back wall inner wall member being through a line of separable perforations.

2. In a carton of the class described formed from a single blank comprising a carton proper and a cover integrally, hingedly connected to the carton proper, said carton proper including a bottom, with upstanding front, back and end walls, said front and end walls each including an outer wall member integrally, hingedly connected with the bottom, a front wall inner wall member depending from the front wall outer wall member to be interiorly of the carton, said cover including an inner and an outer panel with the outer panel integrally, hingedly connected with the back wall, a back wall inner wall member separably carried by the cover inner panel for permanent attachment to the back wall outer wall member, adhesive means for effecting the permanent attachment of the back wall inner wall member to the back wall outer wall member, a removable strip between the back wall inner wall member and cover inner panel removable so that the said cover inner panel may be separated from the back wall inner wall member, offset locking shoulders formed in the ends of the front and back walls inner wall member, and end walls inner wall members integral with and depending from the upper ends of the end wall outer wall members including locking lugs for engagement behind the front and back walls inner wall members locking shoulders.

3. In a carton of the class described formed from a single blank comprising a carton proper and a cover integrally, hingedly connected to the carton proper, said carton proper including a bottom, with upstanding front, back and end walls, said front and end walls each including an outer wall member integrally, hingedly connected with the bottom, a front wall inner wall member depending from the front wall outer wall member to be interiorly of the carton, said cover including an inner and an outer panel with the outer panel integrally, hingedly connected with the back wall, a back wall inner wall member separably carried by the cover inner panel for permanent attachment to the back wall outer wall member, adhesive means for effecting the permanent attachment of the back wall inner wall member to the back wall outer wall member, a removable strip between the back wall inner wall member and cover inner panel removable so that the said cover inner panel may be separated from the back wall inner wall member, offset locking shoulders formed in the ends of the front and back walls inner wall member, end walls inner wall members integral with and depending from the upper ends of the end wall outer wall members including locking lugs for engagement behind the front and back walls inner wall members locking shoulders, a depend-

ing flange from the front end of the cover inner and outer panels, and depending flanges from the ends of the cover outer panel.

4. In a carton of the class described formed from a single blank comprising a carton proper and an integral cover articulated thereto, said carton proper including a bottom with upstanding front, back and end walls, said front and end walls each including an outer wall member articulated to the bottom panel and an inner wall member articulated to the outer wall member to depend within the carton proper, said back wall including an outer wall member articulated to the bottom panel, a cover including an outer panel and an inner panel articulated to one another to form a double thickness two ply cover with said cover outer panel articulated to the back wall outer wall member, a back wall inner wall member articulated to the cover inner panel with said back wall inner wall member depending within the carton adjacent to and in contact with the back wall outer wall member to form a double thickness two ply back wall, and adhesive securing the plies of one of said double thickness cover and double thickness back wall to one another, and a platform transversely of the carton upwardly of the carton bottom having its front and back edges articulated to the front and back walls inner wall members.

5. A blank for forming a carton with upstanding front, back and end walls and a hinged cover, including a bottom panel, a front wall extension from said panel comprising a front wall inner and outer wall members forming panels, an end wall extension from each end of the bottom panel with each end wall extension including an end wall inner and outer wall members forming panels, and a back wall and cover forming extension from the back of the bottom panel comprising panels forming a back wall outer wall member, a cover outer panel, a cover inner panel and a back wall inner wall member, said front and back walls inner wall members panels each including locking shoulders, and said end walls inner wall members panels each including locking lugs for locking engagement with the front and back walls inner wall members locking shoulders for holding the carton walls in erected positions.

6. A blank for forming a carton with upstanding front, back and end walls and a hinged cover, including a bottom panel, a front wall extension from said panel comprising a front wall inner and outer wall members forming panels, an end wall extension from each end of the bottom panel with each end wall extension including an end wall inner and outer wall members forming panels, and a back wall and cover forming extension from the back of the bottom panel comprising panels forming a back wall outer wall member, a cover outer panel, a cover inner panel and a back wall inner wall member, said front and back walls inner wall members panels each including locking shoulders, said end walls inner wall members panels each including locking lugs for locking engagement with the front and back walls inner wall members locking shoulders for holding the carton walls in erected positions, and corner pieces between adjacent edges of the front and back walls outer wall members panel and the end walls outer members panel each provided with a diagonal crease and adapted to be folded bellowswise.

7. A blank for forming a carton with upstanding front, back and end walls and a hinged cover, including a bottom panel, a front wall extension from said panel comprising a front wall inner and outer wall members forming panels, an end wall extension from each end of the bottom panel with each end wall extension including an end wall inner and outer wall members forming panels, and a back wall and cover forming extension from the back of the bottom panel comprising panels forming a back wall outer wall member, a cover outer panel, a cover inner panel and a back wall inner wall member, said front and back walls inner wall members panels each including locking shoulders, said end walls inner wall members panels each including locking lugs for locking engagement with the front and back walls inner wall members locking shoulders for holding the carton walls in erected positions, said back wall inner wall member panel being adapted to be adhesively secured to the back wall outer wall member panel, and a line of perforations between the back wall inner wall member panel and cover inner panel so that said parts may be separated from one another after the attachment of the back wall inner wall member panel to the back wall outer wall member panel.

8. A blank for forming a carton with upstanding front, back and end walls and a hinged cover, including a bottom panel, a front wall extension from said panel comprising a front wall inner and outer wall members forming panels, an end wall extension from each end of the bottom panel with each end wall extension including an end wall inner and outer wall members forming panels, and a back wall and cover forming extension from the back of the bottom panel comprising panels forming a back wall outer wall member, a cover outer panel, a cover inner panel and a back wall inner wall member, said front and back walls inner wall members panels each including locking shoulders, said end walls inner wall members panels each including locking lugs for locking engagement with the front and back walls inner wall members locking shoulders for holding the carton walls in erected positions, said back wall inner wall member panel being adapted to be adhesively secured to the back wall outer wall member panel, a line of perforations between the back wall inner wall member panel and cover inner panel so that said parts may be separated from one another after the attachment of the back wall inner wall member panel to the back wall outer wall member panel, said back wall and cover forming extension including cover front flange forming panels, and extensions from the ends of the cover outer panel providing cover side flange forming panels.

9. A blank for forming a carton with upstanding front, back and end walls and a hinged cover, including a bottom panel, a front wall extension from said panel comprising a front wall inner and outer wall members forming panels, an end wall extension from each end of the bottom panel with each end wall extension including an end wall inner and outer wall members forming panels, and a back wall and cover forming extension from the back of the bottom panel comprising panels forming a back wall outer wall member, a back wall inner wall member, a cover inner panel and a cover outer panel, said front and back walls inner wall members panels each including locking shoulders, said end walls outer wall members panels each including locking lugs for locking engagement with the front and back walls inner wall members locking shoulders for holding the carton walls in erected positions, said back wall inner wall member panel being adapted to be adhesively secured to the back wall outer wall member panel, and a removable panel between the back wall inner wall member panel and cover inner panel so that said parts may be separated from one another after the attachment of the back wall inner wall member panel to the back wall outer wall member panel.

10. A blank for forming a carton with upstanding front, back and end walls and a hinged cover, including a bottom panel, a front wall extension from said panel comprising a front wall inner and outer wall members forming panels, a platform forming panel and a glue flap at the free end of the front wall extension, an end wall extension from each end of the bottom panel with each end wall extension including an end wall inner and outer wall members forming panels, and a back wall and cover forming extension from the back of the bottom

panel comprising panels forming a back wall outer wall member, a cover outer panel, a cover inner panel, and a back wall inner wall member, said back wall inner wall member panel being adapted to be adhesively secured to the back wall outer wall member panel, and a removable panel between the back wall inner wall member panel and cover inner panel so that said parts may be separated from one another after the attachment of the back wall inner wall member panel to the back wall outer wall member panel.

11. A blank for forming a carton with upstanding front, back and end walls and a hinged cover, including a bottom panel, a front wall extension from said panel comprising a front wall inner wall member panel, a top wall spacing panel, an outer wall member panel and a glue flap at the free end of the front wall extension, an end wall extension from each end of the bottom panel with each end wall extension including an end wall inner and outer wall members forming panels, and a back wall and cover forming extension from the back of the bottom panel comprising panels forming a back wall outer wall member, a cover outer panel, a cover inner panel, and a back wall inner wall member, said back wall inner wall member panel being adapted to be adhesively secured to the back wall outer wall member panel, and a removable panel between the back wall inner wall member panel and cover inner panel so that said parts may be separated from one another after the attachment of the back wall inner wall member panel to the back wall outer wall member panel.

12. A blank for forming a carton with upstanding front, back and end walls and a hinged cover, including a bottom panel, a front wall extension from said panel comprising a front wall inner wall member panel, a top wall spacing panel, an outer wall member panel and a glue flap at the free end of the front wall extension, an end wall extension from each end of the bottom panel with each end wall extension including an end wall inner and outer wall members forming panels, and a back wall and cover forming extension from the back of the bottom panel comprising panels forming a back wall outer wall member, a cover outer panel, a cover inner panel, and a back wall inner wall member, a platform

panel and a glue flap at the free end of the back wall and cover forming extension, said back wall inner wall member panel being adapted to be adhesively secured to the back wall outer wall member panel, and a removable panel between the back wall inner member panel and cover inner panel so that parts may be separated from one another after the attachment of the back wall inner wall member panel to the back wall outer wall member panel.

13. A blank for forming a carton with upstanding front, back and end walls and a hinged cover, including a bottom panel, a front wall extension from said panel comprising a front wall inner wall member forming panel, a front wall outer wall member forming panel, a platform forming panel and a glue flap at the free end of the front wall extension, an end wall extension from each end of the bottom panel with each end wall extension including an end wall inner and outer wall members forming panels, and a back wall and cover forming extension from the back of the bottom panel comprising panels forming a back wall outer wall member, a cover outer panel, a cover inner panel, and a back wall inner wall member, said back wall inner wall member panel being adapted to be adhesively secured to the back wall outer wall member panel, and a removable panel between the back wall inner wall member panel and cover inner panel so that said parts may be separated from one another after the attachment of the back wall inner wall member panel to the back wall outer wall member panel, said back wall and cover forming extension including cover front flange forming panels, and extensions from the sides of the cover outer panel providing cover side flange forming panels.

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