June 24, 1969 L. ADAMS, JR 3,451,611

PREWRAP CARTON FOR HIGH-SPEED ERECTION

Filed June 10, 1968 Sheet 1 of 2

Fig. 1

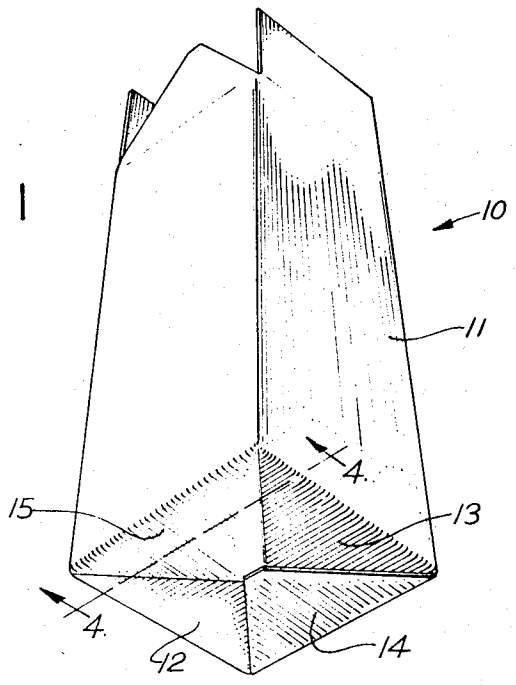


Fig. 2

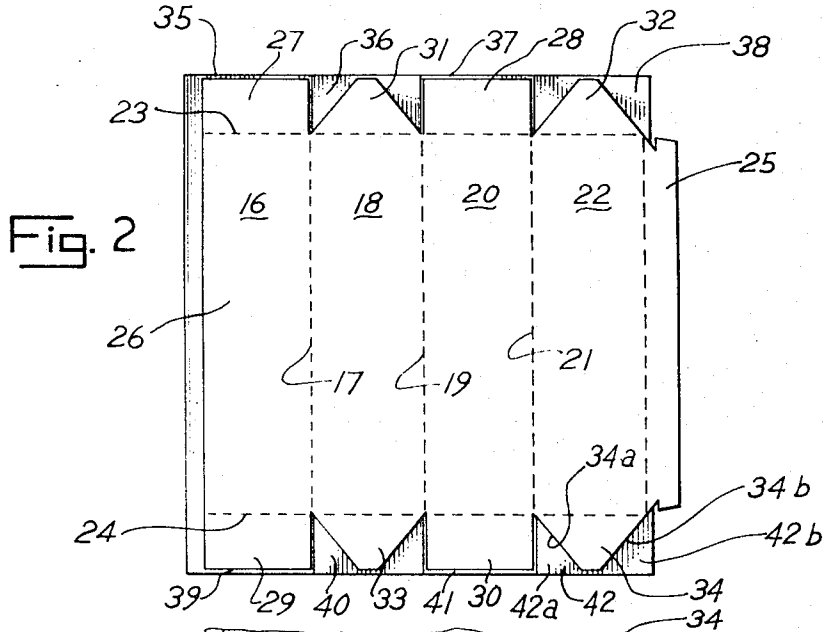
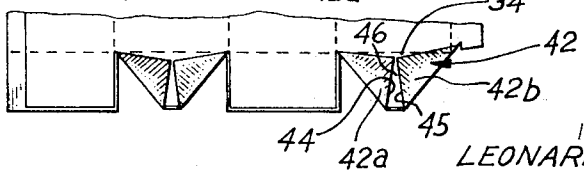


Fig. 3



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Filed June 10, 1968 Sheet 2 of 2

Fig. 4

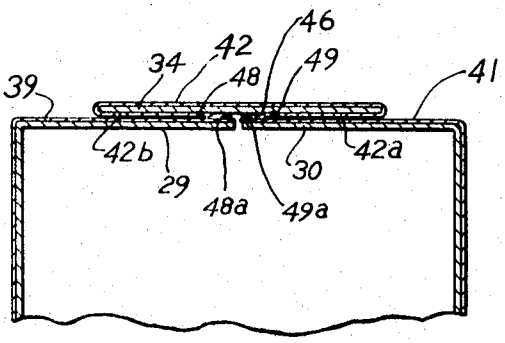


Fig. 5

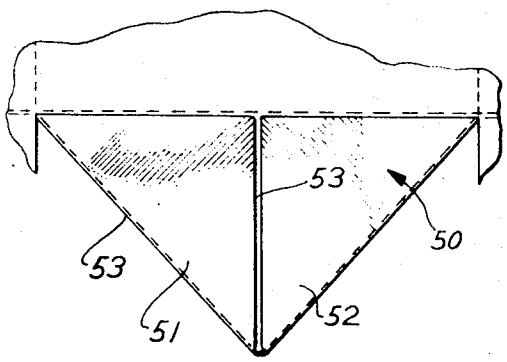


Fig. 6

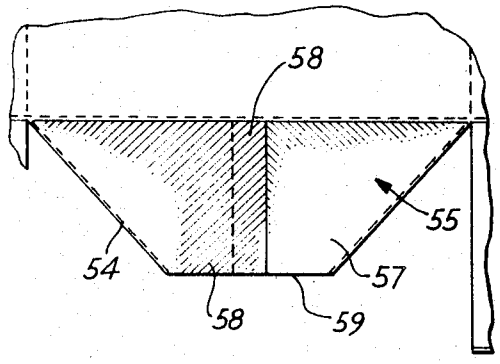
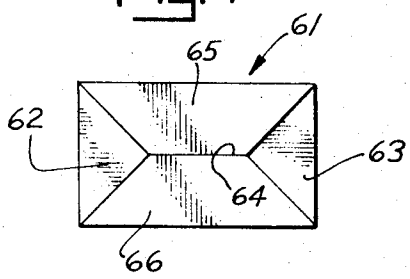


Fig. 7



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PREWRAP CARTON FOR HIGH-SPEED ERECTION

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U.S. Cl. 229—37 9 Claims

ABSTRACT OF THE DISCLOSURE

A flat-foldable carton having simulated wrapping spot bonded to the exterior surface of the carton, and the carton having said simulated prewrap mounted in an improved manner around closure flaps which, at least at one end, include a pair of opposed triangular flaps with their apices in end to end relationship, and a pair of opposed rectangular flaps in end closure relationship. The simulated prewrap is wrapped around the angular raw edges of the triangular closures and is bonded to the undersides of such triangular closure flaps. When metallic finish material is used as the prewrap, a gap is provided between the ends of the overlap prewrap on the underside of the triangular closure flaps so that raw board is exposed for cold gluing to said metallic finish material. A carton of this type is opened on a high speed erection machine of the Jones type in an improved manner without tearing or other undesirable actions which would occur on such machine if the simulated prewrap were continuous or unsupported between such closure flaps.

This invention relates to a folding carton having a simulated prewrap bonded to the exterior surface, and to closure flaps present on at least one end of the carton whereby such cartons may be advantageously used with high speed erection machines while still leading to the desired prewrap appearance at the closure end.

Cartons having simulated attractive prewrap material bonded to the exterior surface have attained popularity in the packaging art. Such prewrap material may be laminated to the exterior surface or, preferably, spot bonded so that the erected or open carton presents the appearance of loose wrapping commonly observed in gift packaging. The art has been concerned not only with providing such simulated prewrap material on the exterior lateral or side walls of the carton, but also on the opposite closure ends so that the erected carton assumes a wrapped appearance at the closure flaps on the opposite ends of the carton. Such cartons with simulated prewrap bonded to the exterior surface are commonly provided in a flat-foldable form wherein the side walls are continuous as a result of a glue flap or the like on one terminating end wall being bonded to a similar glue flap or a portion of the other terminating side wall of the carton blank. Such cartons are conventionally opened by applying pressure to the remote edges of the flat-foldable carton, whereupon the carton then assumes its particular tubular configuration which may be square-shaped or otherwise.

There is a demand for cartons with simulated prewrap which can be usefully employed in high speed erection machines such as the well known Jones machine. Flat foldable cartons are handled by such machines and are erected by means inserted into one of the open ends. An article, such as a liquid filled bottle, may then be inserted or deposited within the erected or open carton, whereupon the closure end of the carton may then be sealed.

The attractive features of the simulated prewrap carton have not been adapted to processing by such high speed

erection machines. For example, the closure flaps of such cartons have been provided with continuous or unsupported prewrap material extending past the top and bottom edges of the lateral or side walls of the carton. Such continuous or unsupported material has been folded or creased and tucked between the closure flaps so that the fully assembled carton resembles wrapping at the closure ends. Such a means for obtaining a simulated prewrap at the closure of the carton has been disclosed in U.S. Letters Patent 3,257,068, issued to M. M. Wright. The presence of such a continuous or unsupported web of prewrap material at the opposite ends of the cartons has made such cartons totally unsuitable for procesing in high speed erection machines. In particular, such continuous unsupported prewrap material webs are physically detached or spaced from the closure flaps so that, after the closure flaps are assembled, the wrap material may be folded, creased and tucked into place by manipulative steps similar to those manually executed in the preparing conventional gift wrapping at the ends of a carton or container. Such unsupported prewrap material webs would be torn or would otherwise become disadvantageously entangled with the erection means on the high-speed erection machines.

It is therefore one important object of the present invention to provide a simulated prewrap carton in which the prewrap material is mounted to the closure flaps at the end of a carton in an improved way.

Still another important object of the invention is a folding carton with simulated prewrap bonded to the exterior surface and to closure flaps at the ends of the carton in an improved way which permits such cartons to be opened by high-speed erection machines without tearing, entanglement or other undesirable complications which could arise from the disposition of unsupported prewrap material at the closure flaps of the carton.

Still another important object of the invention is a folding carton in which closure flaps which are present at least at one of the ends of the carton include a pair of triangular opposed flaps and a pair of rectangular opposed flaps, which flaps have prewrap material bonded thereto in an improved way so that the erected carton assumes the appearance of a wrapped closure end following erection and formation of the carton in high-speed erection machines.

Yet another important object of the invention is a flat-foldable carton having prewrap material spot bonded to the outside of the side walls of the carton, and loosely mounted to closure flaps present at at least one end of the carton so that when said carton is opened, as in a high speed erection machine, said closure end assumes a loose wrapped appearance without any exposed edges to simulate conventional closure wrapping.

Still another important object of the invention is a flat-foldable carton with prewrap material mounted to the closure flaps present at at least one end, in the manner described, so that said closure flaps may be bonded to one another following erection of the carton by cold gluing to simulate the conventional wrapping at the closure end of the carton. The foregoing object provides, as a feature, cold gluing even when the prewrap material has a metallic finish, which normally would require hot melt bonding.

Objects such as the foregoing are attained along with still other objects which will occur to practitioners from time to time, from considering the invention of the following disclosure, including drawings wherein:

FIGURE 1 is a perspective view of an erected carton with simulated prewrap disposed along lateral sides and closure ends in accordance with the teachings of this invention;

FIGURE 2 is a side elevational view of a carton blank which can be folded and erected to assume the simulated prewrap appearance indicated in FIGURE 1;

FIGURE 3 is a side elevational view of the closure flaps of FIGURE 2, with the prewrap material bonded to said closure flaps in an improved way;

FIGURE 4 is a sectional view, on an enlarged scale, of an end closure of an erected carton, said view taken along a plane through both rectangular flaps and through an upper triangular flap on the closure end;

FIGURE 5 is a portional side elevational view illustrating an alternative way of bonding the prewrap material to a triangular flap on the closure end;

FIGURE 6 is a portional side elevational view showing still another alternative way for bonding the prewrap material to a closure flap having an isosceles trapezoidal configuration; and

FIGURE 7 is an end view of an alternative form of assembled closure flaps.

The use of the same reference numerals in the various views of the drawings will indicate a reference to the same structures or parts, as the case may be.

Referring to the drawings, FIGURE 1 indicates an erected or open carton generally at **10** in which a simulated prewrap material **11** is mounted to the entire exterior surface of the carton. The prewrap material is preferably spot bonded to the outside surface of the carton to simulate conventional loose wrapping. One end of the carton is shown with opposed triangular closure flaps **12** and **13** with their opposed apices in near abutting relationship and with opposed underlying rectangular closure flaps **14** and **15** in near abutting relationship. Both pairs of closure flaps are in overlying relationship to close the tubular configuration of the opened carton. The simulated prewrap material **11** is mounted in an improved way to the closure flap at the end of the carton so that the carton may be erected to the form shown in high-speed erection machines such as the Jones machine.

Referring now to FIGURE 2, the carton is transformed into a flat-foldable form from a blank having four lateral or side walls **16**, **18**, **20** and **22**. The lateral walls are divided by vertical score or crease lines **17**, **19** and **21** which extend to the top and bottom edges of the lateral walls as demarcated by horizontal upper score line **23** and horizontal lower score line **24**. Terminating side wall **22** is shown as having a glue flap **25** and the outside of this glue flap may be bonded to the inside edge portion **26** of the other terminating side wall **16**. This will provide a flat-foldable carton with mutually paired continuous walls. When the remote edges of such a flat-foldable carton are pressed, or forced toward each other, the carton may be erected or opened to assume a tubular configuration which, in the illustrated embodiment, will be a square cross sectional configuration.

The embodiment illustrated in FIGURE 2 shows alternating side walls **16** and **20** as having similar rectangular closure flaps **27** and **28** along the top horizontal score line **23**, and rectangular closure flaps **29** and **30** along the bottom horizontal score line **24**. Alternating side walls **18** and **22** are shown as having opposite closure flaps of similar configuration, which are shown in the form of isosceles triangles **31** and **32** along top horizontal score line **23**, and as like isosceles triangle flaps **33** and **34** along bottom horizontal score line **24**.

The simulated wrap material **11** is shown as discontinuous separate portions at both the top and bottom closure flaps. Discontinuous rectangular flaps **35–38** are supported by the top closure flaps, and discontinuous rectangular flaps **39–42** are supported by the bottom closure flaps. The prewrap material is supported by rectangular flaps **27**, **28**, **29** and **30** by being bonded thereto. The rectangular prewrap flaps may be laminated to the rectangular closure flaps or may be spot bonded thereto.

The discontinuous rectangular prewrap flaps **36**, **38** at the top, and **40**, **42** at the bottom, are bonded to the inside surfaces of the respective isosceles triangular flaps. The manner by which the prewrap is bonded to such triangular flaps may be illustrated by reference to the prewrap material **42** and isosceles triangular closure flap **34**, but it will be understood that the description will likewise apply in the same manner to the other isosceles triangular closure flaps. The triangular closure flap **34** has angular lateral edges **34***a* and **34***b* which may take the form of raw paperboard edges. The corners **42***a* and **42***b* of the rectangular prewrap material are folded over or wrapped around the raw edges **34***a* and **34***b*, and such portions assume overwrap portions, the inside surfaces being in face to face contact with the inside of the isosceles triangular flaps. In the illustrated embodiment, the side edges **44** and **45** of the overwrap portion are spaced so a gap **46** is defined therebetween. A raw paperboard area is therefore exposed in the gap **46**, which area may be cold glued to the simulated prewrap material laminated to the outside of the rectangular closure flaps **35**, **37** and **41**. This is particularly important if the simulated prewrap is a metallic finish material, which would otherwise require hot melt bonding in face to face contact of such metallic finish materials.

Looking at FIGURE 4, it is seen that the overlap portions **42***a*, **42***b* of prewrap material **42** are bonded to the underside of triangular flap **34** by cohesive or adhesive bonding material indicated at **48** and **49**. Spot bonding is preferably provided between the prewrap material and the walls and the closure ends, so that the exterior appearance simulates a loose wrapping. It is preferred that no bonding material is applied to the outer face of the triangular closure flaps to obtain a loose fit relationship between the prewrap and the outer face of the triangular closure. The raw board gap **46** is shown bonded at **48***a* and **49***a* to prewrap material on the rectangular closure flaps **39** and **41**.

FIGURE 5 indicates a prewrap flap **50** with overwraps **51** and **52** which are in edge to edge abutting relationship as at **53**. The angular edges of the isosceles triangular closure flap **53** are effectively covered, and the overwrap portions **51**, **52** of the prewrap material are bonded to the inside surfaces of the flap **53**. Such an edge to edge abutting relationship may be provided where the prewrap material is other than the metallic finish type, so that such prewrap material may be bonded in face to face contact with like prewrapped material by cold gluing.

In FIGURE 6, an isosceles trapezoidal closure flap is indicated at **54**, and a prewrap material is shown at **55** with overwrap portions **56** and **57** in overlapping relation as indicated at **58**. The straight edge **59** or apex of the trapezoidal configuration will be in close proximity or near abutting relationship to a similar isosceles trapezoidal triangular closure flap in the formed closure end to simulate conventional end wrapping.

The embodiment shown in FIGURE 2 has similar closure flaps at the top and bottom of the carton, and a flat-foldable carton formed from such a blank is readily processed by a high speed erection machine to open the carton so that an article may be deposited therein. Following such deposit, closure ends with the mounted prewrap material are assembled by any desired means so that the ends assume the simulated conventionally wrapped appearance.

Advantages of the invention are realized by providing closure ends such as those shown in FIGURE 2 at least at one of the ends of the cartons. The other end of the carton may be provided with other closure means which do not necessarily include opposed triangular closure flaps.

It is not required that the apices of the opposed triangular flaps abut or that they even be positioned in close proximity. The view of FIGURE 7 shows a closure of a carton having a rectangular tubular configuration. An end **61** has opposed isosceles triangular closure flaps **62** and **63** with their apices spaced a distance sufficient to display a substantial length of a seam **64** formed by abut-

ting edges of opposed rectangular flaps **65** and **66**. The prewrap material is preferably bonded to the undersides of the triangular flaps to overwrap the angled raw edges. The prewrap need only extend beyond the straight edges of the rectangular flaps to a small degree, say, about 1/16-inch to thereby simulate a desired gift wrap appearance. If desired, one rectangular flap may overlap the other, said overlapping flap thereby only requiring an extending portion over the raw straight edge.

The cartons of this invention may accordingly be erected in high speed machines of the Jones type in which about 120 cartons per minute are erected. Such high erection speeds are possible because no free or unsupported prewrap webs are disposed next to closure flaps or between closure flaps. Such high speed erection leads to formed cartons having an end closure or closures with simulated loose gift wrapping.

The invention may now be practiced in the various ways which will occur to practitioners, and it should be understood that all such practice is intended to comprise a part of the present invention as given further meaning by the language of the preceding specification.

What is claimed is:

1. A prewrap folding carton comprising, in combination:

four side walls formed for a tubular erected configuration to thereby define a tubular portion,

rectangular end flaps at least at one end in opposed orientation,

said rectangular end flaps formed and proportioned to meet in end closure relationship at the one end of said tubular portion,

pairs of opposed isosceles outer flaps simulating a gift wrapped appearance at said at least one end, said isosceles flaps having lateral angled raw edges, and

a prewrap loosely adhered to said tubular portion and extending to the ends of said rectangular flaps and opposed isosceles outer flaps, said prewrap being cut and folded over each raw edge of the isosceles flaps to thereby define overlap portions, said overlap portions each being securely bonded to the inside surface of each isosceles flap to thereby eliminate all loose prewrap at the at least one end of the carton to facilitate high speed automatic opening, filling and sealing of the at least one said end, and in which said overwrap portions are cut to meet in substantially opposed edge relationship at said inside surface of an isosceles flap.

2. A prewrap carton as in claim **1** in which said overwrap portions are proportioned so that the opposed edges of the overwrap portions are spaced to leave a raw board open portion on the inside surface of the isosceles flap thereby permitting cold gluing when metallic type prewrap is employed.

3. A prewrap carton as in claim **1** wherein both ends of said carton have identical rectangular and isosceles flaps.

4. A prewrap carton as in claim **1** in which said prewrap is not bonded to the outer face of an isosceles flap to obtain a loose fit relationship therebetween, said prewrap being securely only to the underside raw board, thereby extending the loose prewrap relationship to the ends of said carton.

5. A prewrap carton as in claim **1** in which said overwrap portions are proportioned so the opposed edges of the overwrap portions are in substantially abutting relationship to thereby cover substantially all the raw board underneath said overwrap portions.

6. A prewrap carton as in claim **1** in which both opposite ends of said carton have rectangular end flaps in opposed orientations proportioned to overlie the end of the tubular portion in substantial abutting relationship, and both opposite carton ends further having pairs of opposed isosceles outer flaps, thereby simulating a gift wrapped appearance at both opposite ends of said carton.

7. A prewrap carton as in claim **1** in which said opposed triangular flaps are isosceles triangular flaps having their pointed apices in substantially abutting relationship.

8. A prewrap carton as in claim **1** in which said opposed triangular flaps are isosceles triangular trapezoids, having their straight edge apices in substantially abutting relationship.

9. A prewrap carton as in claim **1** in which the apices of said opposed triangular flaps are spaced a distance sufficient to display a substantial length of seam formed by said opposed rectangular flaps.

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DAVIS T. MOORHEAD, *Primary Examiner.*

U.S. Cl. X.R.

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