April 12, 1966 A. R. CHAPMAN 3,245,604

HIDDEN MANUFACTURER'S JOINT

Filed June 10, 1963

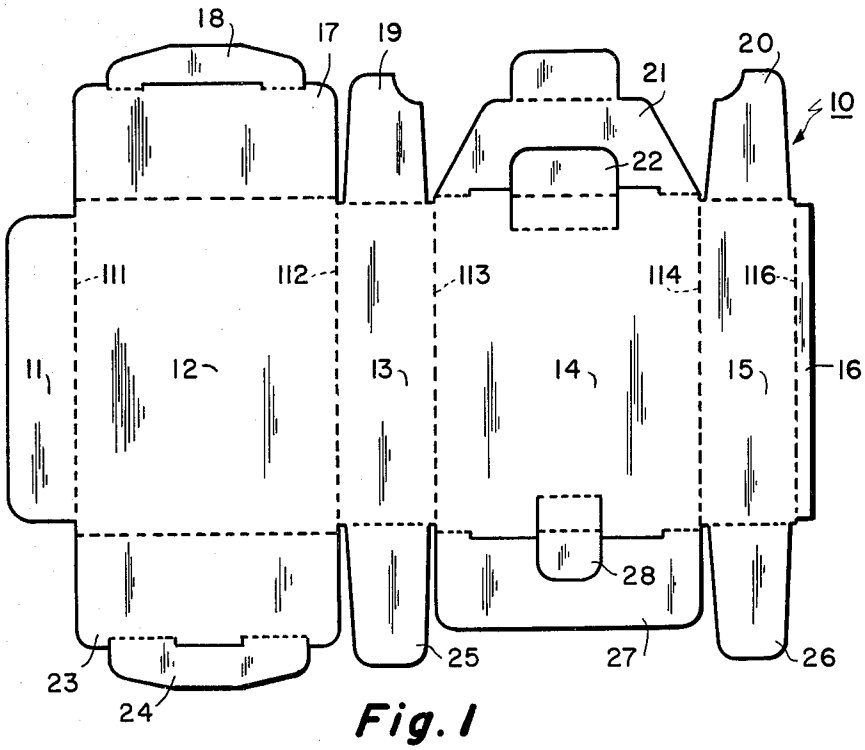


Fig. 1

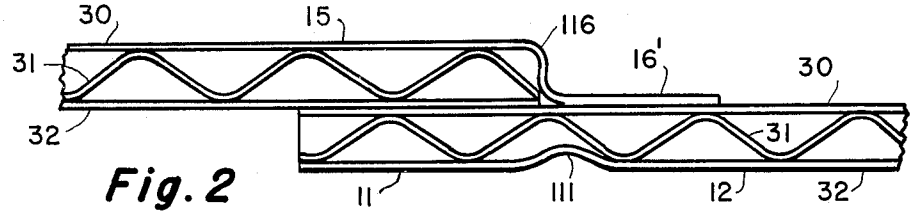


Fig. 2

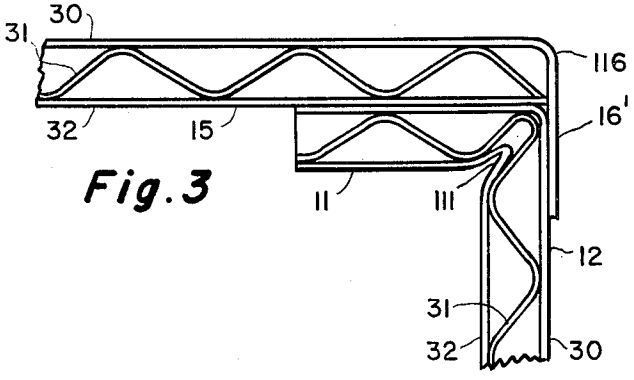


Fig. 3

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United States Patent Office 3,245,604 Patented Apr. 12, 1966

3,245,604

HIDDEN MANUFACTURER'S JOINT

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Filed June 10, 1963, Ser. No. 286,637
1 Claim. (Cl. 229—48)

This invention relates to improved corrugated carton construction for providing such cartons with a finished aesthetic appearance, and more particularly to an improved manufacturer's joint construction and corrugated cartons wherein a single liner flap extends over the raw edge of the manufacture's joint.

In the past, corrugated boxes were primarily utilized as shipping containers. In recent years, however, through the use of improved graphics, the corrugated box has become a consumer package. Although the aesthetic appeal of such corrugated cartons has been enhanced by the utilization of modern graphic techniques, nothing has been done to eliminate the crude and unsightly raw-edged structural configurations inherently produced in the formation of such cartons.

Presently, such cartons are manufactured from a blank having a glue flap at one end, which is secured, by suitable adhesive, to the inner surface of an end panel at the opposite end of the blank. The resulting connection is known as a manufacturer's joint. However, the container exhibits the raw corrugated edge of the side panel forming the manufacturer's joint, adjacent either a front or rear panel of the carbon. Such raw corrugated edge materially detracts from the aesthetic appeal produced by the improved graphics, thus lessening their value in providing an acceptable consumer package.

My invention includes the utilization of a single liner flap, formed integrally with the corrugated board from which the carton is produced, for covering or overlying the raw edge of the manufacturer's joint, and an improved method for forming such single liner flap.

It thus has been an object of my invention to provide an improved structure for corrugated containers which enhances the aesthetic appeal thereof for utilization as a consumer package.

A further object of my invention has been to provide means for covering or overlying the raw edge of a manufacturer's joint on corrugated containers.

An additional object of my invention has been to provide a simple method of forming a flap for overlying the raw edge of a manufacturer's joint.

These and other objects of my invention will become more apparent to those skilled in the art from the following disclosure and accompanying drawings in which:

FIG. 1 is a plan view of a blank for forming a corrugated container embodying a hidden manufacturer's joint in accordance with my invention;

FIG. 2 is an enlarged fragmental view in elevation illustrating the positionment of a single liner flap overlying the raw edge of a manufacturer's joint with the carton in a flattened position such as when storing or warehousing; and

FIG. 3 is an enlarged fragmental view illustrating the single liner flap overlying the raw edge of the manufacturer's joint when the carton in an assembled position.

Referring now to the drawings, and particularly FIG. 1, a carton blank **10** formed of corrugated board is shown having a glue flap **11**, a rear panel **12**, side or end panels **13** and **15**, and a front panel **14**, all of which are of known construction in the industry. However, end panel **15**, which is at the opposite end of the blank from glue flap **11**, is provided with an extra flap formed integrally therewith. Although the carton may be provided

with any suitable top and bottom closure means, such as the commonly utilized interlocking bottom flaps, or overlying taped or adhesively bound top flaps, tab-locking cover flaps are shown for the purpose of illustration. The top closure means is shown comprising a top flap **17** having a tongue **18**, a pair of side flaps **19** and **20**, and an inner top flap **21** having a locking tab **22** formed partially therein. In like manner, the bottom closure means is shown comprising a bottom flap **23** having a tongue **24**, a pair of bottom end flaps **25** and **26**, and an inner bottom flap **27** having a locking tab **28** formed partially therein. The glue flap **11** and panels **12**, **13**, **14** and **15** are separated by conventional score lines **111**, **112**, **113** and **114**, respectively. However, tab **16** is separated from end panel **15** by means of a slit score **116** formed on an inner surface of the blank **10**.

The blank **10**, and the resulting carton formed therefrom, may be made of any known type of corrugated board. Although single wall board is shown in FIGS. 2 and 3 for purposes of illustration, it is also possible to utilize double wall board or triple wall board. The single wall board is shown having an outer liner **30**, a corrugating medium **31**, and an inner liner **32**.

In preparing a single liner flap **16'** from tab **16**, for hiding or overlying the raw edge of the manufacturer's joint, inner liner **32** and corrugating medium **31** are slit scored at **116**, as mentioned above. The inner liner and corrugating medium may then be easily removed by milling them off with a molding head cutter attachment. The molding head cutter may be easily attached to presently known gluing machines used to make manufacturer's joints, thereby eliminating the need of a separate operation and separate machinery. Upon stripping the inner liner **32** and corrugating medium **31** from the flap **16** by means of the milling operation, the thin outer liner flap **16'** is left extending from outer liner **30**. The manufacturer's joint is then made by gluing the glue flap **11** to the inner surface of end panel **15**, and outer liner flap **16'** is glued to rear panel **12** so as to overlie the raw edge of side or end panel **15**, thus hiding or concealing the manufacturer's joint.

The outer liner flap not only materially increases the aesthetic appearance of the resulting carton, but also provides a more secure joint by allowing the glue or adhesive to be spread out to the edge of the glue flap. Previously, in order to avoid excess glue from seeping to the outside of the carton, and thus produce an unattractive appearance, corrugated box manufacturers had a tendency to interrupt the application of adhesive prior to reaching the edge portions of the glue flap. In addition, the exposed raw edge of the old type of manufacturer's joint, being an abrupt and unfinished edge, was subject to abrasion and peeling, thus tending to not only deface the carton but also loosen the joint. With the application of my overlying outer liner flap, which covers and hides the raw edge of the joint with a smooth flowing surface, abrasion is materially reduced thus facilitating the securement of the joint as a permanent fixture.

Although I have disclosed the now preferred embodiment of my invention, it will be apparent to those skilled in the art various changes and modifications may be made thereto without departing from the spirit and scope of my invention as defined in the appended claim.

I claim:

An improved manufacturer's joint construction for forming a carton by securing together opposite ends of a blank formed of corrugated board having an inner liner, an outer liner, and at least one corrugating medium which comprises, a first wall panel adjacent one end of the blank having a glue flap formed integrally thereon of the same board thickness as said first panel, a second wall panel adjacent the opposite end of said blank positioned

adjacent said first wall panel and having an outer liner flap formed integrally therewith and extending from a raw edge thereof, an outer liner of said glue flap being adhesively secured to an inner liner of said second wall panel, and said outer liner flap overlying the raw edge of said second wall panel and being adhesively secured to the outer liner of said first wall panel.

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