March 15, 1966 R. R. SPIERING ETAL 3,240,419

CARTON WITH INTEGRAL TEAR-STRIP SEALING MEANS

Filed Sept. 15, 1964 2 Sheets-Sheet 1

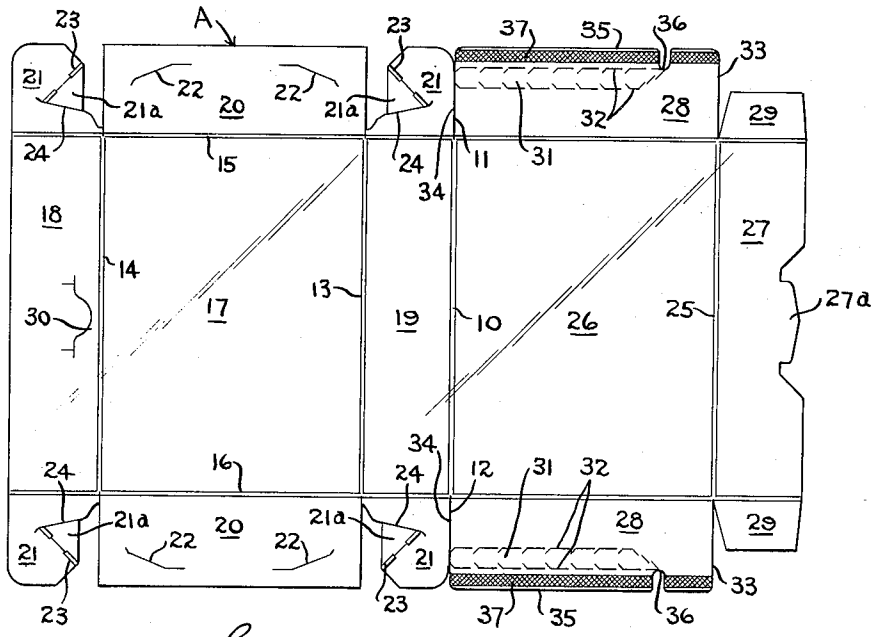


Fig. 1

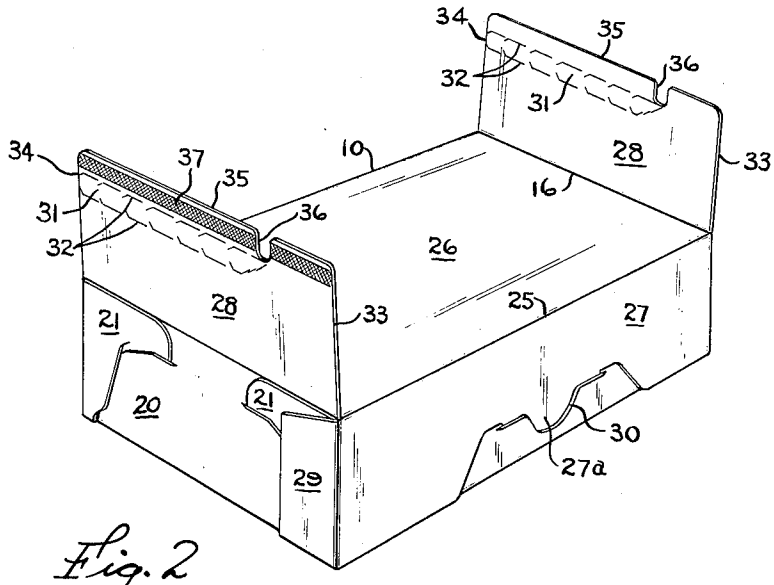


Fig. 2

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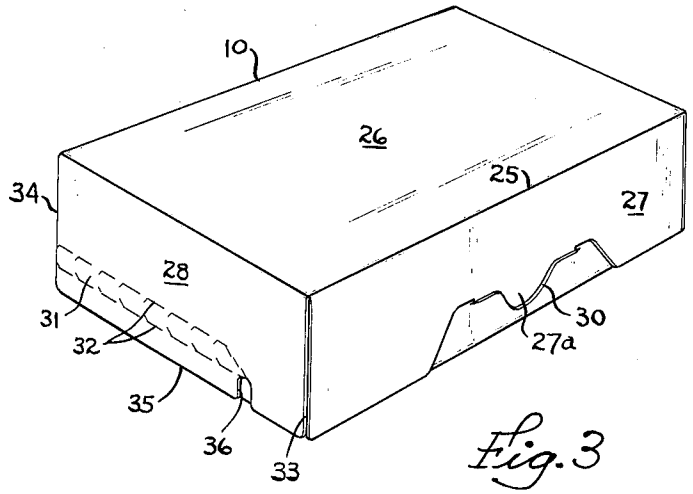


Fig. 3

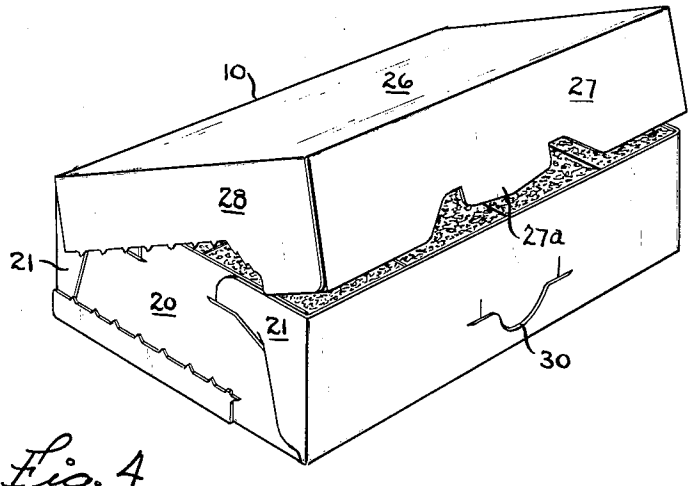


Fig. 4

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CARTON WITH INTEGRAL TEAR-STRIP SEALING MEANS

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3 Claims. (Cl. 229—51)

This invention relates to tamperproof reclosable cartons and more specifically to an opening feature for cartons having a cover portion adapted to telescope over a receptacle portion.

Heretofore, in the manufacture of sealed cartons having a cover portion adapted to telescope over a receptacle portion and having a tear strip opening feature, it was necessary to apply that adhesive which secured together the panels and flaps forming the corners of the cover and which sealed the cover portion of the carton to the receptacle portion in some pattern other than a straight line. The application of an adhesive in a pattern other than a straight line is, of course, much costlier than the application of a straight-line strip of adhesive which can be applied by the paper converter during the manufacture of the carton blanks in one pass on a conventional high-speed straight-line gluer. This is commonly referred to in the industry as preapplied adhesive in that it is applied before the carton is set up. Instead of using the preapplied adhesive method, the adhesive may, of course, be applied at the time of the setting up of the carton in the packaging line. In order to apply adhesive in some pattern other than a straight line, it is necessary in preapplying adhesive to make more than one pass of the blank through a conventional straight-line gluer or in applying adhesive at the time the carton is being set up it is necessary to use more complicated and expensive gluing machinery to obtain the accurate registration required in applying a pattern of adhesive.

Accordingly, an object of this invention is to provide a new and improved carton having a cover portion adapted to telescope over a receptacle portion and an opening feature which allows that adhesive which secures together the panels and flaps forming the corners of the cover and which seals the cover portion of the carton to the receptacle portion to be applied in a straight line strip.

Another object of this invention is to provide a new and improved carton having a cover adapted to telescope over a receptacle portion and a side opening feature which facilitates the sealing together of the panels and flaps forming the cover corners and the sealing of the cover to the receptacle portion by passing the carton between a pair of heated sealing bars to activate preapplied, heat-activatable, straight-line strips of adhesive.

Further objects and advantages will become apparent from the following detailed description made in connection made in connection with the accompanying drawings in which:

FIGURE 1 is a plan view of a paperboard carton blank embodying a preferred form of the invention,

FIGURE 2 is an enlarged perspective view of a partially formed carton,

FIGURE 3 is an enlarged perspective view of a completed carton, and

FIGURE 4 is an enlarged perspective view of the carton with the tear strips removed and the cover portion swung supwardly to open the carton.

Referring now more specifically to the drawings, the preferred embodiment shown in FIGURE 1 comprises a unitary paperboard blank, A, which is divided by score

line **10** and cut lines **11** and **12** into a receptacle portion and a hinged cover portion.

The receptacle portion is divided by score lines **13–16** into panels and flaps including receptacle bottom panel **17**, receptacle front and back panels **18** and **19**, respectively, receptacle side panels **20** and receptacle corner locking flaps **21**. Score line **10** defines the upper edge of receptacle back panel **19**.

Cut lines or slits **22** are provided in receptacle side panels **20** for receiving corner locking flaps **21**. Score lines **23** and cut lines **24** define in each of the corner locking flaps **21** a tab portion **21***a* which is adapted to be folded 180° about score line **23** to facilitate the insertion of a portion of the locking flaps together with the tab portions into the slits **22** in the receptacle side panels to form the receptacle portion of the carton.

Although a specific receptacle corner-lock construction is shown herein, it is to be understood that any number of other known corner constructions for the receptacle portion can be employed without departure from the ininvention.

The cover portion is divided by score lines **15**, **16**, and **25** into panels and flaps including top panel **26**, front panel **27**, and a pair of opening panels **28**, and cover corner flaps **29**.

Score line **25** defines the front edge of top panel **26** and score lines **15** and **16** defines its opposed side edges as well as the opposed ends of front cover panel **27**.

Front cover panel **27** has a male member **27***a* which is adapted to be inserted into a slit **30** in receptacle front panel **18**.

Each opening panel **28** has a tear strip **31** defined therein by a pair of lines of weakness **32**. Each opening panel has a front, a rear, and bottom edge **33**, **34** and **35**, respectively, and an upwardly extending cutout portion **36**. Tear strips **31** extend from the rear edge **34** of each opening panel forwardly to the cutout portion **36**. It is understood that the bottom edge **35** of opening panels **28** includes the edge of any interruption in the bottom of the panels such as the edge of cutout portion **36** or the edge of a slit or line of weakness which may be employed instead of a notch or cutout portion.

In the preferred form, the cover portion of the carton is adapted to be formed and sealed to the receptacle portion by preapplied, heat-activatable strips of adhesive depicted by the strippling **37** in FIGURE 1.

The cutout portions **36** in the opening panels **28** are important in that they facilitate the rapid and efficient application of a straight line strip of adhesive to the carton blank. The strips of adhesive which secure together the flaps and panels forming the corners of the cover portion and which seal the cover portion of the carton to the receptacle portion may be applied by a single pass of the carton blank over the adhesive applicator wheels of a conventional straight line gluer. To apply the strips of adhesive, the blank A is placed on a straight line gluer with the surface to which the adhesive is to be applied facing downwardly and receptacle side panels **20** and receptacle corner locking flaps **21** folded upwardly so as not to contact the adhesive applicator wheels. The opening panels **28** of the blank are then passed over the adhesive applicator wheels of the gluer. The carton blanks with preapplied, heat-activatable adhesive thereon are shipped to the user in flat form.

In setting up, filling and sealing the carton, the receptacle portion is formed first by folding the receptable side panels **20** into an upright position and folding receptacle corner locking flaps **21** about score lines **15** and **16** into an upright position. Tab portions **21***a* are then folded back against the receptacle corner locking flaps to facilitate the insertion of the tab portion together with a por-

tion of each locking flap into the female slits **22** in the receptacle side panels **20**. Receptacle front and rear panels **18** and **19**, respectively, are then folded upwardly about score lines **14** and **13**, respectively, and locking flaps **21** are inserted into slits **22**. The tab portions **21***a* of the locking flaps are then allowed to swing free so as to retain the locking flaps in the side panel slits.

The completed receptacle portion is then filled with a product.

After filling, the top panel **26** and its associated panels and flaps are folded about hinge line **10** over the receptacle portion. Front cover panel **27** is folded down to overlie receptacle front panel **18** and male member **27***a* is inserted into slit **30** in the receptacle front panel. Cover corner flaps **29** are folded backwardly about score lines **15** and **16** to overlie receptacle side panels **20** as seen in FIGURE 2.

Lastly, opening panels **28** are folded down to overlie the receptacle side panels **20** and cover corner flaps **29**. That portion of the opening panels **28** forwardly of the cutout portion **36** and bearing preapplied adhesive is adhered to the cover corner flaps **29** to form the corners of the cover portion. That portion of opening panels **28** below the tear strips **31** and rearwardly of the cutout portions **36** and which bears preapplied adhesive is adhered to the underlying receptacle side panels **20**, thus sealing the hinged cover portion of the carton to the receptacle portion thereof.

The preapplied adhesive is activated by heated sealing bars which are moved into pressure contact with the outer surface of the opening panels opposite the adhesive bearing areas of the inner surface.

Referring to FIGURE 3, the carton is opened by grasping the end of the tear strips at the rear edge **34** of the opening panels **28** and pulling outwardly and toward the front of the cartion to the cutout portions **36**. The removal of the tear strips thus severs that portion of opening panels **28** which is adhered to receptacle side panels **20** from that portion which is not so adhered and allows the cover to be swung open about hinge line **10** as seen in FIGURE 4. The corners of the cover portion, of course, remain intact to facilitate reclosure of the carton.

While a preferred embodiment of the invention is shown in the drawings and described in detail herein, the invention is susceptible of embodiment in various different forms and it should be understood that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the invention to that particular form illustrated. The scope of the invention will be pointed out in the appended claims.

We claim:

1. A tamperproof reclosable carton having a receptacle portion and a cover portion adapted to telescope over the receptacle portion; said receptacle portion comprising receptacle front, bottom and back panels and a pair of receptacle side panels; said cover portion comprising a top panel having a front edge and opposed side edges; a cover front panel hingedly attached to the front edge of said top panel and having opposed ends; cover corner flaps hingedly attached to the ends of said cover front panel; opening panels hingedly connected to the side edges of said top panel, said opening panels having front, rear, and bottom edges, said opening panels having said cover corner flaps adhered thereto to form the front corners of the cover portion, said opening panels in an area adjacent the bottom edge thereof and rearwardly

of said corner cover flaps being adhered to said receptacle side panels; and a tear strip in each of said opening panels above the area of adhesion thereof to the receptacle side panels, said tear strip operatively extending from the rear edge of said opening panels to the bottom edge of said opening panels rearwardly of said cover corner flaps to provide for a disconnection in each opening panel between the portion thereof adhered to the receptacle side panel and the remaining portion thereof.

2. A tamperproof reclosable carton formed from a unitary paperboard blank suitably cut and scored to provide a carton having a receptacle portion and a cover portion adapted to telescope over the receptacle portion; said receptacle portion comprising receptacle front, bottom and back panels and a pair of receptacle side panels, said back panel having an upper edge; said cover portion comprising a top panel hingedly connected to the upper edge of said back panel, said top panel having a front edge and opposed side edges; a cover front panel hingedly attached to the front edge of said top panel and having opposed ends; cover corner flaps hingedly attached to the ends of said cover front panel; opening panels hingedly connected to the side edges of said top panel, said opening panels having front, rear, and bottom edges, the bottom edge of each of the opening panels having an upwardly extending cutout portion therein, said cover corner flaps being adhered to said opening panels forwardly of said cutout portions to form the corners of the cover portion, each of said opening panels having a tear strip extending from its rear edge forwardly to said cutout portion, said opening panels being adhered below said tear strips and rearwardly of said cutout portions to said side receptacle panels.

3. A tamperproof reclosable carton formed from a unitary paperboard blank suitably cut and scored to provide a carton having a receptacle portion and a cover portion adapted to telescope over the receptacle portion; said receptacle portion comprising receptacle front, bottom and back panels and a pair of receptacle side panels, said back panel having an upper edge; said cover portion comprising a top panel hingedly connected to the upper edge of said back panel, said top panel having a front edge and opposed side edges; a cover front panel hingedly attached to the front edge of said top panel and having opposed ends; cover corner flaps hingedly attached to the ends of said cover front panel; opening panels hingedly connected to the side edges of said top panel, said opening panels having front, rear and bottom edges, each of said opening panels having a tear strip therein extending from its rear edge to an upwardly extending cutout portion in said opening panel, said cover corner flaps being adhered to said opening panels forwardly of the cutout portions in said opening panels to form the corners of said cover portion, said opening panels being adhered below said tear strip and rearwardly of said cutout portions to said side receptacle panels.

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