Aug. 2, 1966 M. LINK ETAL 3,263,900

TEAR STRIP CARTON

Filed Feb. 12, 1965

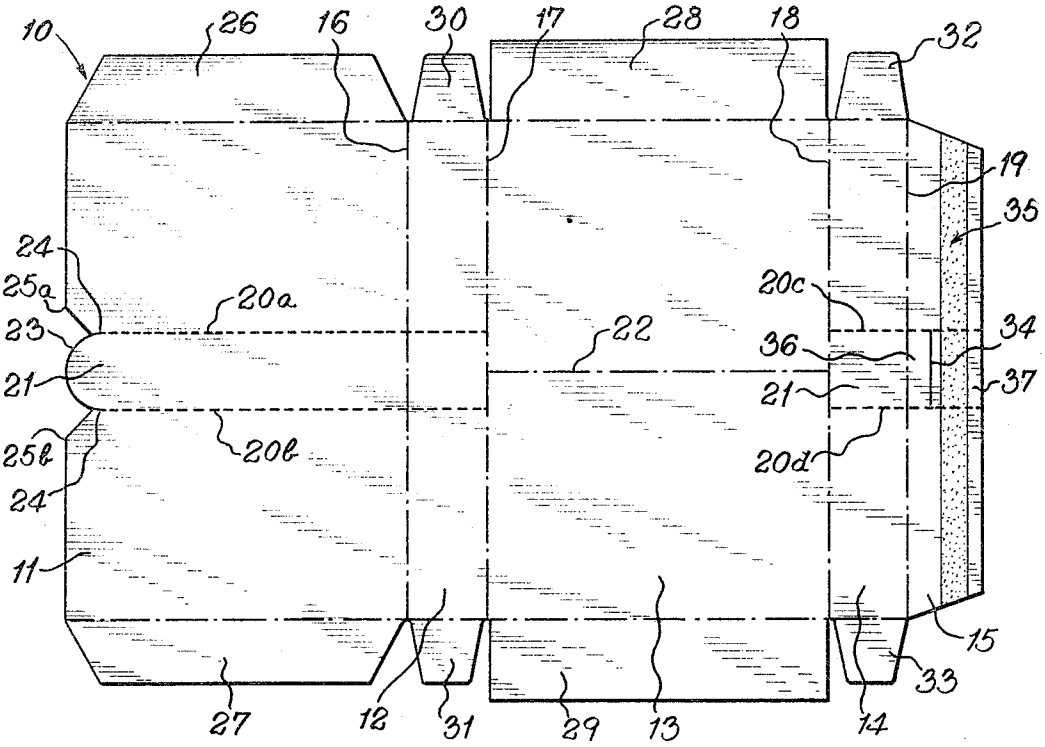


Fig. 1.

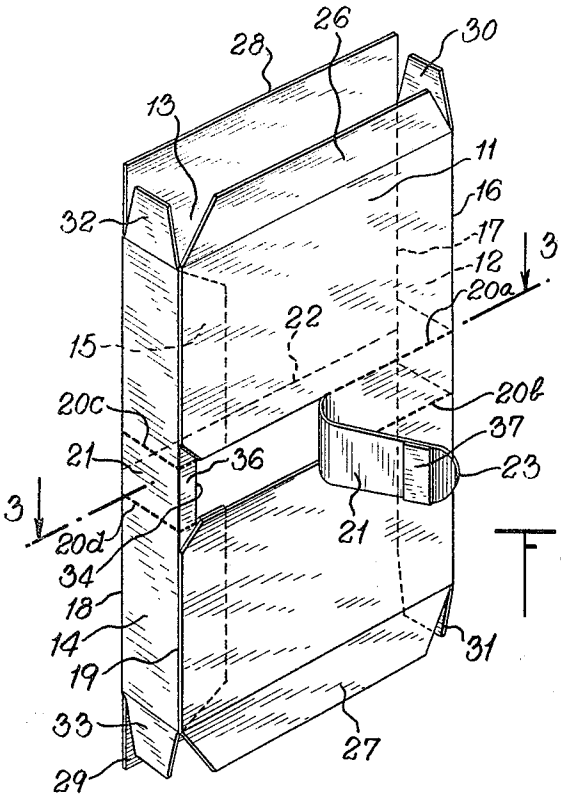
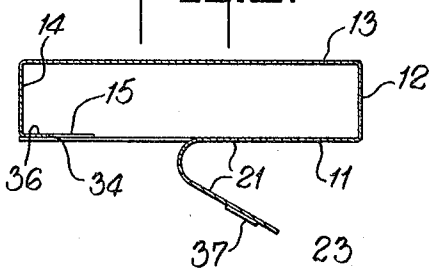


Fig. 2.

Fig. 3.



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TEAR STRIP CARTON

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This invention relates to a generally flat, folded, rectangular, glued paperboard mailing or shipping carton, which is provided with a novel transverse tear strip construction running over three adjoining panels, the tear lines of the strip being aligned generally parallel to and approximately equidistant from a fold line extending the entire width of the panel which constitutes the back or bottom of the carton. The novel construction of the tear strip adapts it especially well for quick opening and dispensing by the addressee of unit cartons contained in the mailing carton. The special quick-opening tear strip mailing carton is easy to make and set up, and low in cost, yet very satisfactory in use because it resists accidental opening despite rough handling during storage, shipping and mailing. The unit cartons constituting the special contents of the new mailing carton are generally provided in a size large enough to prevent practical handling if inserted into an ordinary mailing envelope, and the new mailing carton fulfills a real need in handling small items at low cost for mass distribution in a very short time.

An object of the invention is to provide a paperboard mailing carton with a 3-panel tear strip having a novel end structure adapted for quick, convenient opening to instantly reveal the contents and facilitate removal of the product, yet being able to withstand rough handling or accidental opening.

Heretofore, special dispensing cartons have been provided in which a bisecting tear strip is furnished at the middle of the front panel to permit the dispensing of the contents. Examples of a dispensing package used as storage for flat sheets of wrapping paper are found in the prior U.S. patents to Spaldo, No. 1,657,942, and Gluck, No. 2,085,649.

The tear strip carton of the present invention differs essentially from the cartons in Gluck and Spaldo in providing a novel folded flat blank having folded closure flaps on each of the first, second, third and fourth panels, representing the top, side, bottom and side respectively. Projecting from the fourth panel is the specially modified, glue-band bearing fifth panel. This panel bears a narrow glue band running generally in the middle and along the entire length of the panel. This fifth panel is transversely perforated in alignment with perforation or tear lines of the first, second and fourth panels and is additionally cut longitudinally within the tear lines adjacent the innermost boundary of the glue band. This narrow glue band traverses the entire fifth panel including the middle portion of the transverse tear lines along the longitudinal cut so that the longitudinal cut detaches the free side edge strip from the inner edge flap of the cut band in the fifth panel. Because this glue band is offset inwardly from the fold line between the fourth and fifth panels, the longitudinal cut within the tear lines effectively provides a break-away portion of the fifth panel which is glued to the inner side of the tear strip of the first panel, e.g., the top panel, and the portion of the fifth panel thus adhered is located a substantial distance back from the tab end of the tear strip of the first panel.

Since the end closures or flaps are conventional and require no special equipment or manual operation for assembly and since only a single narrow glue band is critically located within the fifth panel projecting from the

fourth side panel, there is a simple folding and gluing step required for embracing the unit package contents within the carton with the tear perforations in proper alignment despite any lack of registry which may be caused by variations in the thickness of the paperboard or slight differences in the internal pressure from the contents. Furthermore, the particular construction of the carton of the present invention avoids the necessity of any skip gluing on the fifth panel to create a break-away for the tear strip.

The tear strip cartons of the present invention have been manufactured in great numbers and have been found to be very well suited for mailing to doctors pre-packaged drug samples which are generally put up in small unit packages. The tear strip of the present novel mailing carton is admirably suited to pack two or more inner unit packages of approximately equal size or of unequal size, as long as the strip in the top and side panels is located opposite the inner junction of adjoining unit packages. Although such cartons are well adapted for mailing, it will be evident that they can also be used for shipping a variety of products which are to be displayed in supermarkets and other outlets.

It is obvious that any number of tear strips may be provided in direct relation to the total number of unit packages to be dispensed at the opening of said tear strip.

Based upon the unique inner tear-away tab structure provided in the fifth panel, the sealing area underlying the tear strip of the first or top panel is set back from the end by an amount which will withstand any accidental jostling without causing unintended opening of the carton. This advantage would not be possible if the glue band extended the entire width of the fifth panel. Once the perforation line transverse of the glue band has been broken into, there is no holding function provided in the glue line. Since the first cuts on each side of the end of the tear strip tab at the top panel are set back about ¼" to ½" from the side edge of the assembled carton, there is no tear-opening pressure brought to bear against the inner glue band nor is there any entering tearing action into either of the perforated lines defining the lateral edges of the tear strip.

The foregoing and other objects, features and advantages of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises an article of manufacture possessing the features, properties, and the relation of elements which will be exemplified in the article hereinafter described and the scope of the invention which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawing, in which:

FIGURE 1 shows the single paperboard blank from which the folded, glued mailing carton of the invention is assembled;

FIGURE 2 is a perspective view of the partially folded carton showing the novel tear strip partly torn to expose its construction and operation, and

FIGURE 3 is a section taken along line 3—3 of FIGURE 2 illustrating the overlying relationship of the tear strip end.

As shown in FIGURE 1, the blank **10**, made from a sheet of paperboard, coated paperboard, impregnated paperboard or the like, comprises a first panel **11** (top panel), a second panel **12**, a third panel **13** (bottom panel), a fourth panel **14**, and a fifth panel **15** which projects from the fourth panel. Such panels can be folded into a tube along score lines **16**, **17**, **18** and **19**. The fifth panel serves as the tucked-in flap to adhere the underside of the first top panel in squared relation to

the fourth panel e.g., the side panel when the blank is formed into the carton.

Transverse parallel, spaced lines **20***a*, **20***b*, **20***c* and **20***d* in the first, second, fourth and fifth panels are perforated or cut to provide a tear strip **21** on two sides and the top of the assembled carton, the third (bottom) panel being provided with a transverse fold line **22** which is in general alignment with and substantially midway between the tear lines in the other panels.

The tab **23** for starting the tear in tear strip **21** is formed by additional cuts **24**. Such cuts, slightly inward from the longitudinal free edge of the first panel, are aligned as extensions of tear lines **20***a* and **20***b* but the length of the cut is equivalent to two or three interrupted perforations of the tear line. Thus, one each side of the tear strip **21**, the short cuts **24** permit lifting the tab end **23** upwardly and, indeed, forming a transverse crease adjacent the free end without tearing into tear lines **20***a* and **20***b*. The form of blank shown in FIGURE 1 illustrates the free tab end **23** in arcuate form, which free end is more accessible if the corners between the end and the side edge of the first panel are divergently rounded off in both directions. These divergent rounded off corners are shown by reference numerals **25***a* and **25***b* respectively.

The fifth panel **15** has a longitudinal cut **34** running between the tear lines **20***c* and **20***d* and parallel to and adjacent to the score line **19**. In forming the blank into a tube for shipment to a packer a narrow glue band **35** is applied along the entire length of the panel **15** and the panel is glued to the inner side of the first panel **11**.

If there is a slight difference in the thickness of the first panel in relation to the fourth and fifth panels or if the parallelism between score lines **20***a* and **20***b* in the first panel and **20***c* and **20***d* in the fourth panel (as well as in the fifth panel) is not precisely maintained, the divergent corners **25***a* and **25***b* permit easy alignment when the blank is put into the form of a package, e.g. when the flat sheet of FIGURE 1 is folded and glued as in FIGURE 2.

The foregoing illustrates the adaptability of the simple blank construction which utilizes only the simple minimum necessary closure elements, e.g., end flaps **26** and **27** of the first panel, which have generally the same shape and dimensions as end flaps **28** and **29** of the third panel, side flaps **30** and **31** of the second panel having generally the same shape and dimension as side flaps **32** and **33** of the fourth panel. In the simple form of blank shown in FIGURE 1, the side and end flaps may be closed and secured in place in conventional manner as by gluing. It is obvious that these end closure flaps can be of the tuck-in type.

In the carton shown in FIGURE 2, there is illustrated the coaction of the tear strip, after the blank has been formed into a carton, with the fold line **22** present in the third panel. This fold line in the bottom of the box is effective as a hinge. After the tear strip **21** is torn away, the remaining flap portion **36** bends out of the plane of the top panel **11** as soon as both halves are depressed against the hinge line **22**. When the strip is torn away the break-away portion **37**, bounded by the cut **34**, the tear lines **20***c* and **20***d*, and the edge of the panel **15**, is completely detached from the panel and remains affixed to the tear strip **21**. Effectively, the contents of the carton can be extracted from the middle cut-away portion in the form of carton shown in FIGURE 2. This form is ideally suited for packaging two identical unit packages, one under each half of the panel. Furthermore, the carton is well suited for including with the packages any explanatory literature so that when the tear strip is torn away such literature will appear directly under the opening and be readily available to the user of the contents of the packages.

When the tear strip is torn away and the two halves of the carton are bent along the hinge line **22**, either tear line **20***c* or **20***d* of the fourth panel **14** is usually separated. Accordingly it will be understood that one of such tear lines **20***c* or **20***d* may be omitted without changing the effectiveness of the carton. Furthermore, although the fold line **22** serves as a hinge and facilitates the folding of panel **13**, it will be understood that the carton material may be flexible enough that such panel will bend sufficiently to allow removal of the packages from the carton even though the fold line **22** is omitted. In no instance is it necessary to break into the end closure flaps. As heretofore pointed out, one or more of the tear strips can be positioned in the middle, at the end, or any other desirable location on the carton depending on where the packages or articles contained in the carton are to be removed. The carton material may be of stock of suitable weight and strength to adapt it for a mailing package and to protect the inner contents. If desirable, printing and carton costs can be kept down for the outer mailer structure. The protective structure of the present carton prevents damage of the contents in transit or storage.

Since cerain changes may be made in the above article, and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description (or shown in the accompanying drawing) shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

Having described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A blank for a tear strip carton comprising first, second, third and fourth substantially rectangular panels, connected along fold lines, representing the top, side, bottom and side of said carton respectively; and a fifth panel connected along a fold line to the fourth panel; said first, second, fourth and fifth panels having transverse, aligned, parallel tear lines; said fifth panel being longitudinally cut along a line between the tear lines and spaced from the free longitudinal edge of the panel to provide area between such edge and the cut for a glue line along the length of the panel to secure the fifth panel to the first panel and form a tube; a transverse fold line in said third panel in general parallel alignment with and between the tear lines of the second panel; said tear lines in the first panel ending near the free longitudinal edge of the panel and having cuts to form a tab which can be lifted.

2. A tear strip carton adapted to enclose unit packages comprising first, second, third and fourth substantially rectangular panels, connected along fold lines, representing the top, side, bottom and side of said carton respectively; and a fifth panel connected along a fold line to the fourth panel; said first, second and fifth panels having transverse, aligned, parallel tear lines; said first panel being superimposed over and secured to the fifth panel by a line of glue along the length of the panels, said line of glue in the area between the tear lines of the fifth panel being spaced from the fold line between the fourth and fifth panels; said fifth panel being longitudinally cut along a line between the tear lines and positioned between the line of glue and the fold line between the fourth and fifth panels; said fourth panel having a transverse tear line aligned with one of the tear lines of the fifth panel; a transverse fold line in said third panel in general alignment with one of the tear lines of the second panel; said tear lines in the first panel ending near the free longitudinal edge of the panel and having cuts to form a tab which can be lifted.

3. The carton of claim **2** in which the fourth panel has a pair of transverse parallel tear lines aligned with the tear lines of the fifth panel.

4. The carton of claim 2 in which the fold line in the third panel is parallel with and between the tear lines in the second panel.

References Cited by the Examiner

UNITED STATES PATENTS

1,657,942	1/1928	Spaldo	206—57
2,085,649	6/1937	Gluck	229—51 X
2,363,861	11/1944	Goodyear	229—51
2,679,349	5/1954	Mullinix	229—51 X
3,085,735	4/1963	Wysocki	229—51
3,215,332	11/1965	Bess	229—51 X
3,219,253	11/1965	Davis	229—51 X

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