June 28, 1949. R. GUYER 2,474,523

TRIPLE-EDGE RECLOSING CARTON

Filed June 16, 1945 2 Sheets-Sheet 1

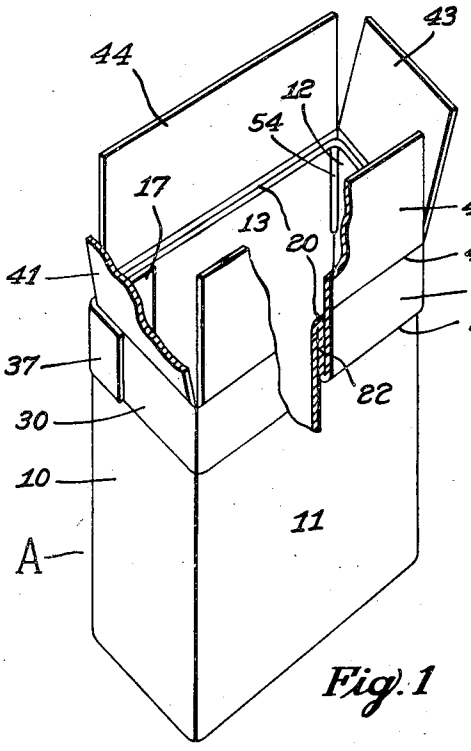

Fig. 1

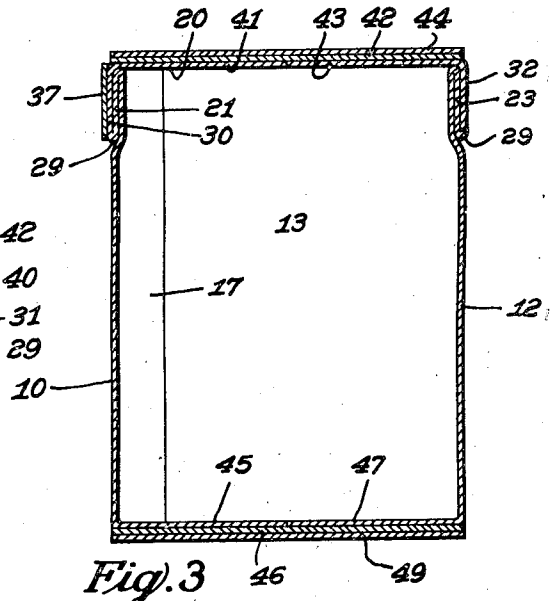

Fig. 3

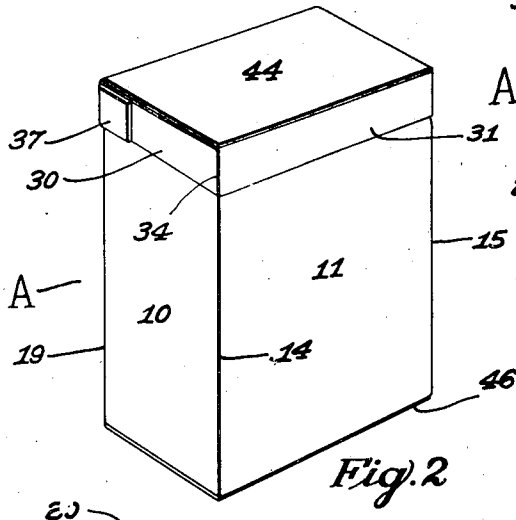

Fig. 2

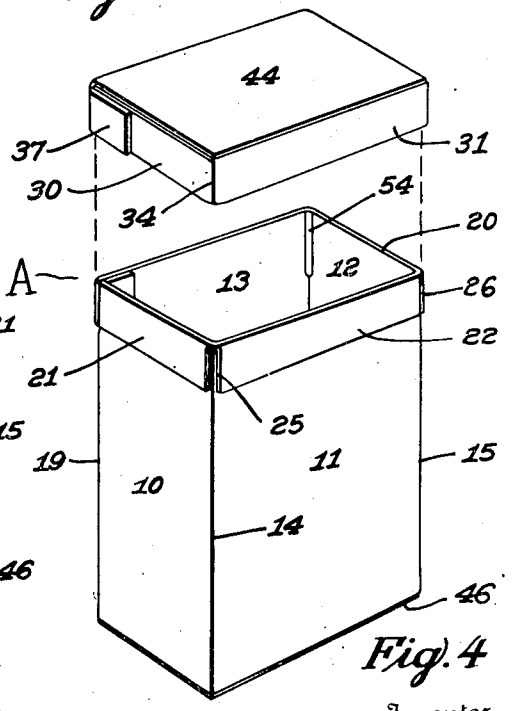

Fig. 4

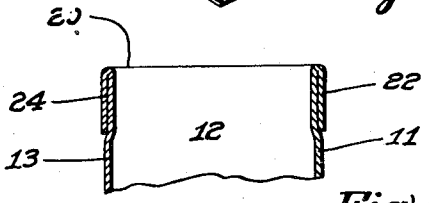

Fig. 5

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TRIPLE-EDGE RECLOSING CARTON

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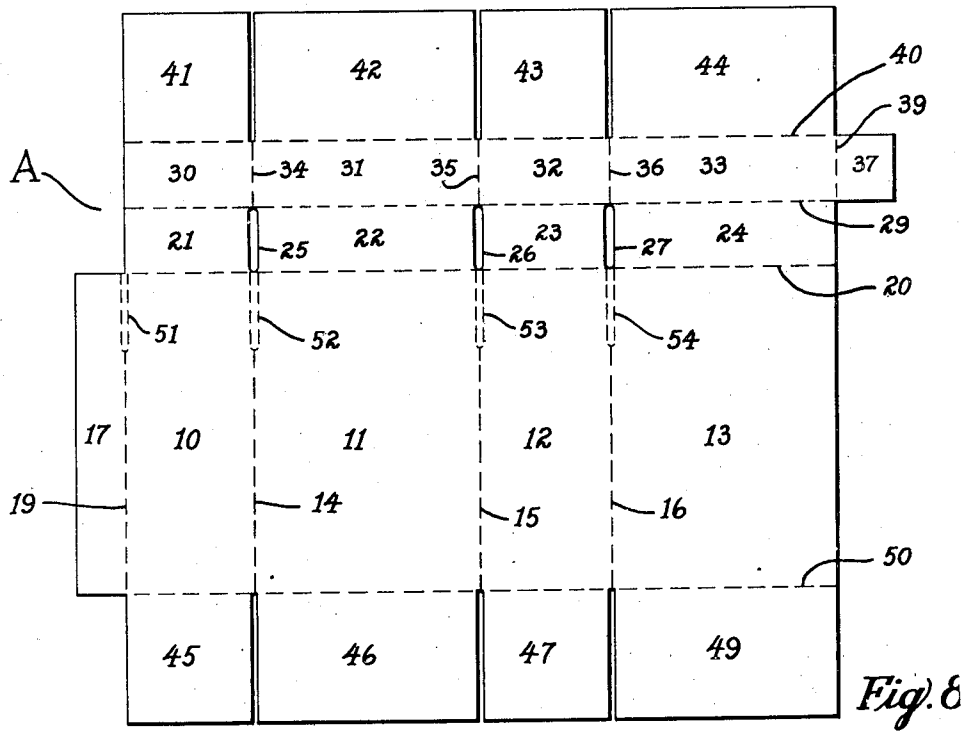

Fig. 8

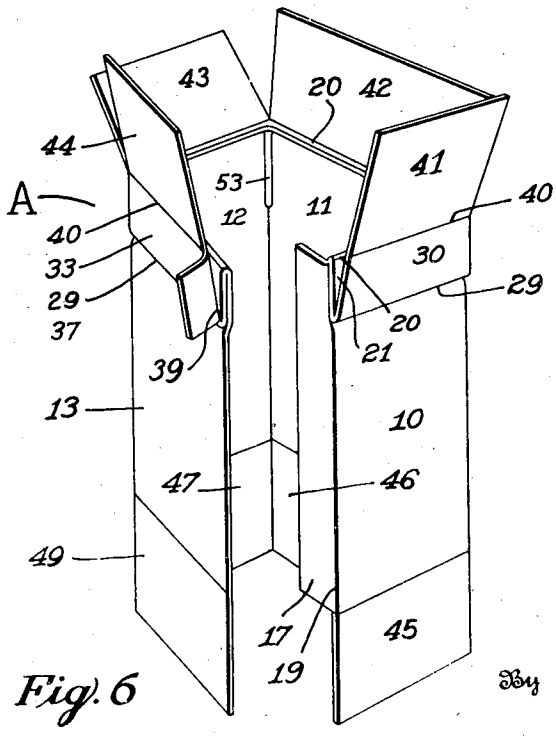

Fig. 6

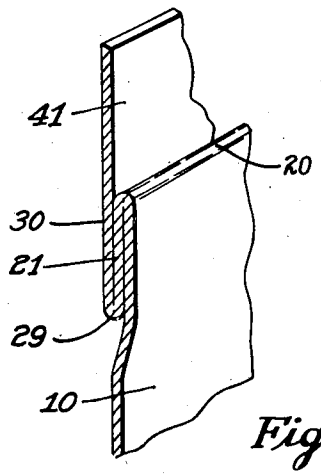

Fig. 7

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TRIPLE-EDGE RECLOSING CARTON

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3 Claims. (Cl. 229—43)

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My invention relates to an improvement in triple edge reclosing carton and deals more particularly with a carton having a top closure telescoping onto the body thereof.

In the packaging of certain products it is desirable to employ a carton having a telescoping top. Such cartons, however, are usually costly to manufacture as the top and carton body must be formed by separate operations. Patents have been issued on cartons constructed to be cut off near one end of the tubular body so that the cut-off end may be used as a telescoping closure. Such cartons have the disadvantage of requiring excessive space since the upper portion thereof can not be filled without danger of spilling the contents when the top is cut off. Telescoping containers of the usual type require special equipment for the closing operation and are therefore less convenient to use than the usual glued end type of tubular carton. Telescoping containers are also often disadvantageous as they must be shipped in set-up form.

It is the object of the present invention to provide a tubular carton having a triple thickness edge at one end of the body. The carton body is glued in tubular form while flat and may be shipped in this collapsed form. When desired for use this carton may be filled and sealed in the usual manner and on the usual apparatus, thus requiring no special equipment and no extra operations.

A further feature of the present invention resides in folding the carton stock back upon itself at one end and folding the closure flap bearing edge outwardly again to form a triple thickness edge of stock. Adhesive may be applied between the carton wall and the folded flange so that this flange remains permanently attached to overlie the outer surface of the carton walls at one end thereof. The stock is preferably perforated between this glued flange and the outwardly turned flap bearing edge so that this flap supporting edge and the flaps supported thereby may serve as a removable closure when the perforations have been broken.

A further feature of the present invention lies in the provision of a double glue flap, one portion of which extends from one end of the blank and the other portion of which extends from the other end of the blank. One glue flap serves to connect

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the walls of the carton in tubular relation. The other glue flap serves to connect the closure flap suporting edge of the blank in tubular relation. Thus both the walls of the carton blank and the rectangular walls of the closure are connected together.

As the carton is formed of a single piece of stock and is folded to provide an edge of triple thickness, provisions must be made to prevent the splitting of the outer thickness of stock when the carton blank is folded. The outer lamination of stock is the same length between creases as the innermost lamination. Therefore as the carton is folded the outer laminator would normally tend to split at the corners. Not only would such splitting of the exposed corners detract from the appearance of the carton, but also as a result the corners of the depending walls of the telescoping closure would be disconnected. In order to obviate this difficulty I increase the width of the score line at the creases in the outermost layer of stock. As a result the paper stock of the innermost lamination is free to crowd together and bulge inwardly at the upper extremity of the wall so that the stock forming the outer lamination will not split when folded.

These and other objects and novel features of my invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of my specification:

Figure 1 is a perspective view of my carton with one end thereof in unsealed condition.

Figure 2 is a perspective view of the carton in closed condition.

Figure 3 is a sectional view through the carton.

Figure 4 is a perspective view of the carton with the telescoping closure removed.

Figure 5 is a transverse section through the upper portion of the carton body after the cover has been removed.

Figure 6 is a perspective view of the carton blank in partially folded condition.

Figure 7 is a sectional view through the triple edge thereof before the carton is closed.

Figure 8 is a diagrammatic view of the blank from which the carton is formed.

The carton A includes wall panels 10, 11, 12, and 13 connected by parallel fold lines 14, 15, and 16. A glue flap 17 is connected to the panel 10

along a fold line 19 parallel to the previously described fold lines. When the glue flap 17 is adhered to the free marginal edge of the panel 13, the carton is sealed in tubular relationship.

A double edge flange is secured to the wall panels along the fold line 20. This flange includes flange panels 21, 22, 23 and 24 connected to the panels 10, 11, 12, and 13 respectively, along the fold line 20. The panel 21 is separated from the panel 22 by the slit or slot 25. A similar slit or slot 26 separates the panels 22 and 23. A slot 27 separates the panels 23 and 24. The slits or slots 25, 26 and 27 are provided at the corners of the finished carton so as to eliminate one thickness of stock at the corners.

The flap bearing edge which forms the depending side walls or skirt on the removable closure is connected to the panels 21, 22, 23, and 24 along the perforated line 29. The perforated line may comprise continuous perforations, may be partially cut and partially perforated, or may be cut scored to provide a weakened line of separation. The flap supporting edge includes panels 30, 31, 32, and 33 which are connected to the panels 21, 22, 23, and 24 respectively. The panels 30 and 31 are connected by a fold line 34 which is in effect a continuation of the fold line 14. A similar fold line 35 forming a continuation of the fold line 15 connects panels 31 and 32. A third fold line 36 which is aligned with the fold line 16 connects panels 32 and 33. A glue flap 37 is connected to the panel 33 along the fold line 33.

Connected to the panels 30, 31, 32, and 33 along the fold line 40, I provide closing flaps 41, 42, 43, and 44, respectively. These closing flaps are designed to fold into overlying relationship with the flaps 41 and 43 lowermost and in opposed coplaner relationship and the flaps 42 and 44 folded thereover and secured thereto.

At the lower end of the carton I provide closing flaps 45, 46, 47 and 49 which are connected to the panels 10, 11, 12, and 13 along the fold line 50. These closing flaps form a closure similar to that described at the top of the carton, the flaps 45 and 47 being folded into coplaner relationship and adhered to the flaps 46 and 49.

In order that the carton stock may compress together at the corners and bulge inwardly of the carton an amount sufficient to prevent splitting of the flap bearing edge I provide wide creases 51, 52, 53, and 54 at the upper extremity of the fold lines 19, 14, 15, and 16, respectively. These enlarged creases lie inwardly of the flap bearing edge of the carton in folded form thereof so that as the carton folds the stock forming the wall panels 10, 11, 12, and 13 may bulge inwardly to prevent splitting of the outer lamination of stock. Even when relatively thin stock is used to form the carton the three thicknesses of material at the upper edge thereof tend to split the corners of the outer lamination without such a provision.

In forming the carton A the sheet is first folded along the fold line 20 and preferably adhesive is supplied between the panels 21, 22, 23, and 24 and the inner surface of the carton walls. This may be accomplished by running a glue roller over the panels 21, 22, 23, and 24 before folding the carton along the fold line 20.

Either at the completion of the folding operation about the line 20, or during this folding operation a reverse fold is made along the perforated line 29. This produces a carton blank having three thicknesses of carton stock at the upper edge of the container as illustrated in Figures 6 and 7 of the drawings. When folded along both lines 20 and 29 the carton is ready for gluing into tubular form.

The carton blank is next folded for gluing the same into tubular form. This is preferably accomplished by folding the blank along the fold line 14 and then along the fold line 16. Figure 6 shows this step of the operation, although in actual practice the glue flap 17 is adhered to the panel 13 when the blank is in flat form with the panels 10 and 13 overlying the panels 11 and 12. Simultaneously with the attachment of the glue flap 17 to the panel 13, the glue flap 37 is adhered to the outer surface of the panel 30. Thus both the walls of the inner container and the depending walls of the removable closure are secured together. The carton blanks remain in flat folded form until desired for use. They are then set up by sealing either the upper or lower end, filling the carton, and folding and closing the end flaps on the other end of the carton. Thus no unusual apparatus is required during the folding and sealing operation and the reverse folding of the carton blank in the formation thereof may be accomplished without special equipment.

After the carton has been sealed it has the appearance of Figures 2 and 3 of the drawings. The upper edge of the carton is double providing a rounded appearance. When it is desired to remove the contents of the carton the cover is detached from the base along the perforated line 29, whereupon the cover may be removed as best illustrated in Figure 4 of the drawings. After removing a part of the contents the cover may be reinserted onto the bottom portion of the carton if desired.

It should be noted that the increase in the size of the fold line inwardly of the flap bearing edge of the carton allows the material to bulge inwardly more than usual at the corners of the carton, thus allowing a restriction in the size of the carton at the top and preventing the corners of the outer lamination of stock from splitting. In finished form the walls depending from the removable closure are of but slightly greater periphery than the remainder of the walls of the carton due to the inward compression of the upper portion of the carton. It is true that the outer lamination of stock will stretch slightly, but any considerable stretching is rendered unnecessary by the inward bulge of the carton corners.

In accordance with the patent statutes, I have described the principles of construction and operation of my triple edge reclosing carton, and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A carton comprising a series of side wall panels connected along fold lines, a series of first panels connected to an edge of said side wall panels along fold lines and folded to overlie edges of said side wall panels, slots between said first panels, a series of second panels integrally connected to said first panels along a weakened line of separation and folded to overlie said first panels, and closure flaps secured to said second panels.

2. A carton blank comprising a series of side wall panels and a glue flap connected along substantially parallel score lines, the glue flap projecting from one end of the blank, a series of

flange panels connected to said side wall panels along a common line of fold at substantially right angles to said parallel score lines, the end of each of said parallel score lines adjacent said common line of fold being of magnified width, a series of cover edge panels foldably connected together and connected to said flange panels along a weakened line of separation, a glue flap foldably connected to one of said cover edge panels and projecting from the end of the blank opposite that from which the first named glue flap projects, and closure flap means foldably connected along a common line of fold to said cover edge panels and foldable to form a carton closure.

3. A carton comprising a series of side wall panels connected along substantially parallel score lines, means connecting said wall panels in tubular relation, the upper ends of said core lines being of magnified width, a series of flange panels connected to the upper edges of said wall panels and folded to overlie, and be secured to, the outer surfaces of said wall panels between said score line ends of magnified width, means securing said flange panels in surface contacting relation to the portions of the side wall panels which they overlie, a series of cover edge panels

foldably connected together and connected to said flange panels along weakened lines of separation, said cover edge panels overlying the flange panels, means connecting said cover edge panels in tubular relation, closure flaps foldably connected to said cover edge panels and secured together to form a top closure, said cover edge panels and closure flaps forming a telescoping removable carton top, said weakened lines of separation forming the sole connection between the removable carton top and the remainder of the body.

REYNOLDS GUYER.

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