Oct. 22, 1968 R. F. GULLIVER 3,406,814

DISPLAY CARTONS

Filed Oct. 22, 1965

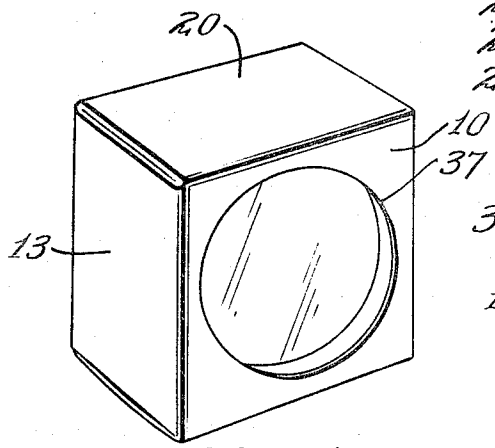


FIG. 1

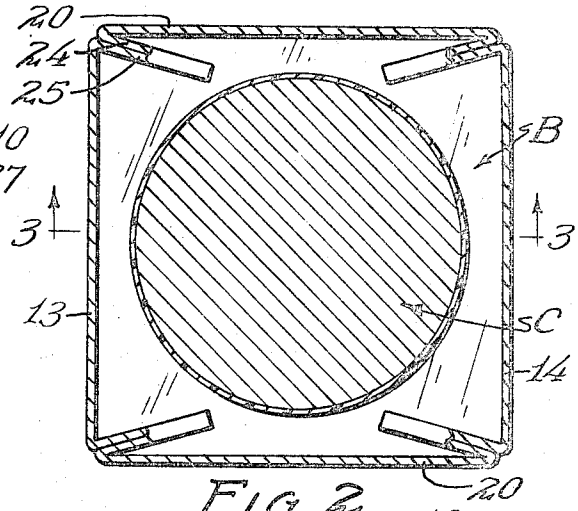


FIG. 2

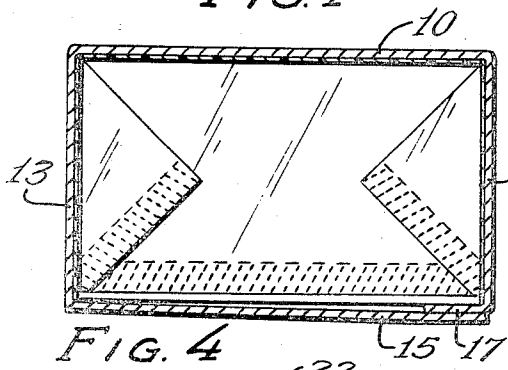


FIG. 4

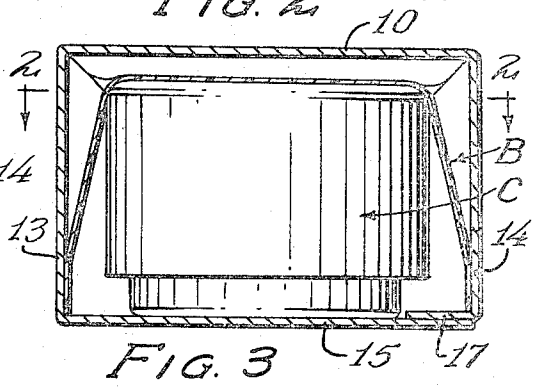


FIG. 3

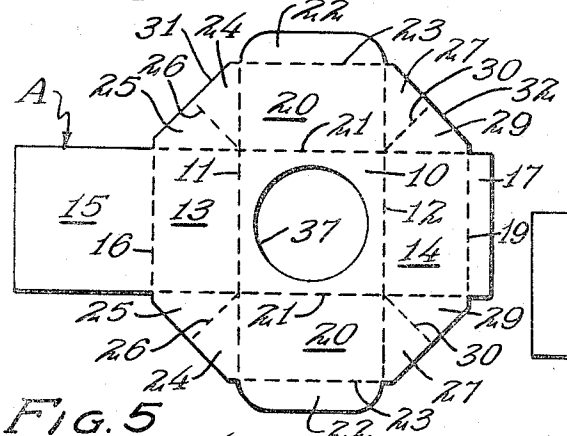


FIG. 5

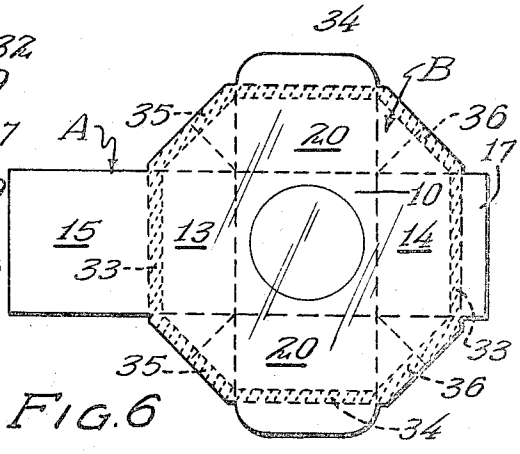


FIG. 6

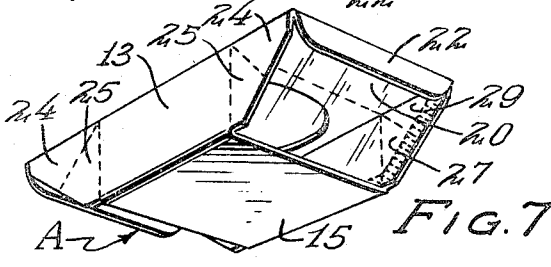


FIG. 7

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DISPLAY CARTONS

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ABSTRACT OF THE DISCLOSURE

This invention is in conjunction with a carton including a rectangular display panel having side and end walls hinged to the edges thereof and pairs of gusset flaps connecting adjoining edges of the side and end walls at the corners of the display panel. A bottom panel is hinged to one side wall and is anchored to the opposite side wall to form a tubular structure. The invention lies in securing a sheet of shrink film to the edges of the side and end walls most remote from the display panel. When the carton is erected into tubular form, the shrink film is held in U-shaped form throughout its length so that the product may be slid into an open end thereof either mechanically or by hand without interference by the film. When the end walls are folded to close the tube ends, all of the edges of the shrink film are closely adjacent to the bottom panel so that shrinking the film will draw the contents against the bottom panel.

This invention relates to an improvement in display cartons and deals particularly with a carton capable of holding an article in fixed relation upon the interior surface of a wall of the carton.

An object of the present invention resides in the provision of a carton having a sheet of shrink film secured thereto which normally is supported in surface contact with the panels which it overlies. As a result, the contents of the carton may be inserted in the usual manner, and the carton closed on conventional equipment. However, when heat is applied to the closed carton, the film will shrink toward a wall of the carton, holding the contents snugly against this wall.

A feature of the present invention resides in the provision of a carton including a tubular wall structure, the top panel of which may be apertured to provide a display panel. The display panel is hingedly connected to side and end walls, and the adjoining edges of the side and end walls are connected by pairs of diagonally folded gusset flaps. A sheet of shrink film is marginally attached to the lower edges of the side and end walls, and also to the lower edges of the gusset flaps. The article is inserted on the bottom panel, or on the panel opposite the display panel. After the carton has been closed, heat is applied and the film is shrunk. As the film is connected only along the lower edges of the walls, the article is held firmly against the lower carton panel.

A further feature of the present invention lies in the provision of a tubular carton having end closures which may be folded into carton closing position. Shrink film is attached to these closures along the edge thereof most remote from the hinged edge. As a result, when the film has been shrunk about the object or contents of the carton, the tension of the film tends to hold the closures in closed position.

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

In the drawings forming a part of the specification:

FIGURE 1 is a perspective view of the finished carton or package.

FIGURE 2 is a sectional view through the carton on a plane parallel to the display panel, the position of the section being indicated by the line 2—2 of FIGURE 3.

FIGURE 3 is a sectional view through the carton on a plane at right angles to that of FIGURE 2, the position of the section being indicated by the line 3—3 of FIGURE 2.

FIGURE 4 is a sectional view similar to FIGURE 3 but showing the carton before it has been filled.

FIGURE 5 is a diagrammatic view of the paperboard blank from which the carton is formed.

FIGURE 6 discloses the blank of FIGURE 5 with the stretch film attached thereto.

FIGURE 7 is a perspective view of the carton in tubular form before it is filled and closed.

In the following description, the panel which usually forms the display panel is usually uppermost during the carton filling operation, and, accordingly, will be indicated as either the display panel or the top panel. Once the carton has been filled, the display panel may form a vertical panel for display purposes, as indicated in FIGURE 1 of the drawings.

With reference first to FIGURE 5 of the drawings, the carton A is shown as including a display panel **10** which is foldably connected along parallel fold lines **11** and **12** to side walls **13** and **14**, respectively. A bottom or base panel **15** is hingedly connected to the side wall **13** along a fold line **16**. A glue flap **17** is hingedly connected to the side wall **14** along a fold line **19**. The walls described may be secured in tubular form by adhering the glue flap **17** to the bottom panel **15** in overlapping relation thereto.

End walls **20** are hingedly connected to opposite ends of the top wall **10** along parallel fold lines **21** which intersect the previously described fold lines at right angles. Tuck flaps **22** are foldably connected to the ends of the end wall panels **20** along parallel fold lines **23**.

In order that the shrink film may be attached to the carton blank about its entire periphery, the side and end walls of the carton are connected by diagonally folded gusset panels. Generally triangular gusset flaps **24** are connected to the end walls **20** along the extensions of the fold line **11**. Substantially triangular gusset flaps **25** are foldably connected to opposite ends of the side wall **13** along extensions of the fold line **21**. Each gusset flap **24** is connected to an adjacent gusset flap **25** along a diagonal fold line **26** which emanates from a juncture between the fold line **11** and a fold line **21**.

In a similar manner, substantially triangular gusset flaps **27** are foldably connected to the end walls **20** along extensions of the fold line **12** and similar gusset flaps **29** are foldably connected to the end edges of the side wall **14** along extensions of the fold lines **21**. Diagonal fold lines **30** connect each gusset flap **27** to an adjoining gusset flap **29**.

If desired, each pair of gusset flaps **24**, **25**, and **27**, **29** may occupy a rectangular area. However, to reduce the space within the carton occupied by the gusset flaps, the combined pairs of gusset flaps may be cut off diagonally as indicated at **31** and **32**, resulting in a generally octagonal body portion in the particular form of construction illustrated.

While the blank A is in its flat form, a sheet or shrink film B is applied to the surface thereof. The shrink film B is attached along areas of adhesive **33** to the edges of the side wall panels **13** and **14** most remote from the display panel **10**. The film is also connected to the end wall panels **20** along areas of adhesive **34** which extend along the edges of the panels **20** most remote from the display panel **10**. The shrink film B is also connected to the edges of the gusset panels **24**, **25** and **27**, **29** which are most remote from the display panel **10**, these areas of adhesive being indicated by the numerals **35** and

36. Thus, the shrink film B is connected about its entire periphery to the paperboard blank A and is otherwise unattached to the blank. The shrink film overlies virtually the entire surface of the blank with the exception of the bottom panel **15** and glue flap **17**.

When the carton is to be used, the blank may be squared up as indicated in FIGURE 7, the shrink film remaining substantially in contact with the surfaces of the blank which it overlies. FIGURE 4 of the drawings shows the blank in tubular form with one of the end enclosures in closed position. The article C is inserted into an open end of the carton and the end closures **20** swung downwardly, the gusset flaps folding substantially into face contact with one another inwardly of the carton. The tuck flaps **22** are inserted into the carton to overlie the bottom panel **15**.

Heat is then applied to the carton to the extent necessary to shrink the film. Due to the fact that the film is adhered to the lower edges of the side and end walls, the shrinking of the film B draws the object C against the bottom wall **15**, holding the article snugly in place.

The display panel **10** is usually provided with one or more apertures such as **37** forming window openings through which the object may be viewed. The shrink film B is usually transparent in form, and the object or articles may be seen through this film.

In accordance with the patent statutes, I have described the principles of construction and operation of my improvement in display cartons; while I have endeavored to set forth the best embodiment thereof, I desired 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 package including a carton in combination with an article, the carton including a display panel, side and end walls hingedly connected to said display panel, and extending in right angular relation thereto, a pair of diagonally folded gusset panels connecting each pair of adjoining edges of said walls and extending inwardly thereof, a bottom panel connecting said side walls in tubular relation and against which said article is engaged, and a shrink film overlying said article and marginally secured to the edges of said side and end walls and of said gusset flaps most remote from said display panel.

2. The structure of claim **1** and in which said display panel includes a display window through which said article may be viewed.

3. A carton including a paperboard sheet cut and creased to provide a display panel, side and end walls hinged to the edges thereof, and diagonally folded gusset flaps connecting adjoining edges of said side and end walls, and a bottom panel hingedly connected to one of said side walls and secured to the opposite side wall to form a tubular structure, a sheet of shrink film, and means securing said shrink film to the marginal edges of the inner surfaces of said side and end walls most remote from said display panel, said film overlying the inner surfaces of said display panel and being free of attachment thereto, and means securing said film to the marginal edges of said gusset flaps most remote from said display panel.

4. The structure of claim **3** and in which said display panel is provided with a display aperture therethrough.

5. A package for supporting an article in fixed relation within a carton, the carton including a display panel, side and end walls hingedly connected thereto about the periphery thereof, diagonally creased gusset flaps connecting adjacent edges of said side and end walls, the outer edges or said gusset flaps extending substantially diagonally between the edges of said side and end walls most remote from said display panel, a bottom panel hingedly connected to one of said side walls and attached to the opposite side wall to form a tubular structure, and a sheet of shrink film secured along the outer periphery only of said side walls, end walls, and gusset flaps most remote from said display panel, whereby when the article is placed in the carton and said end walls are folded into position enclosing the end of said tubular structure with the gusset flaps at each corner thereof substantially in face contact, the application of heat will cause said film to shrink and to hold the article against said bottom panel.

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