Nov. 28, 1967 R. B. INGLE 3,355,086

CARTON

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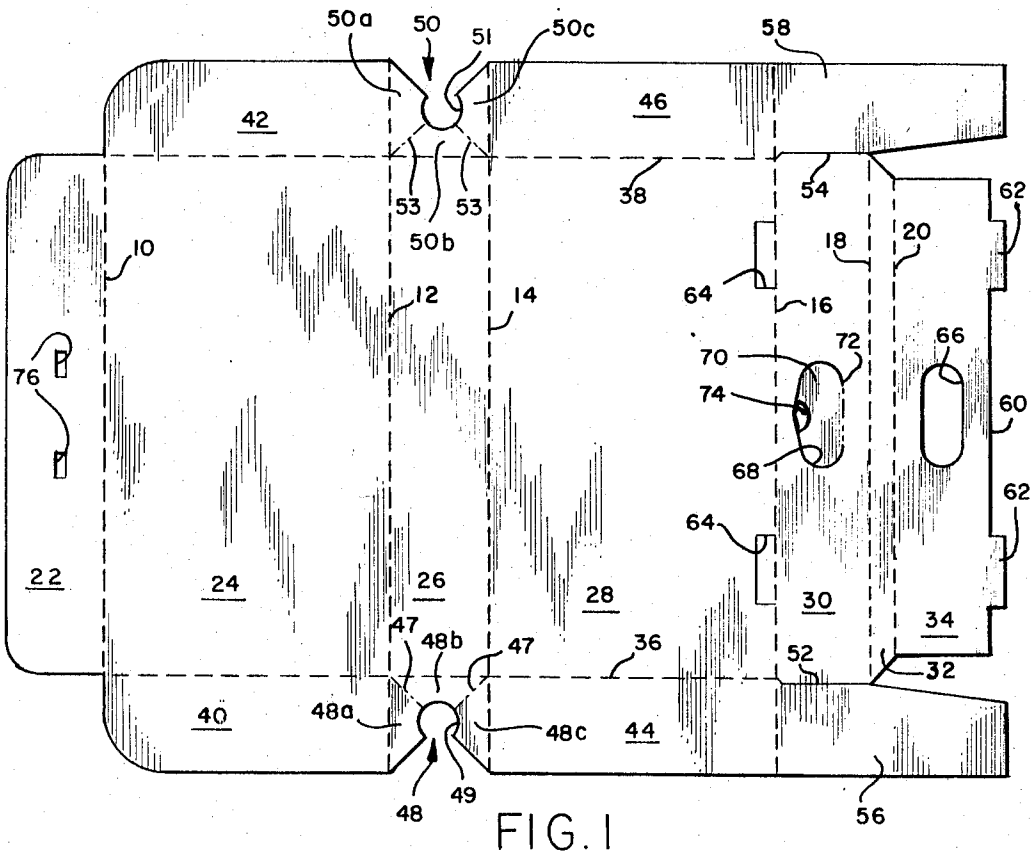


FIG. 1

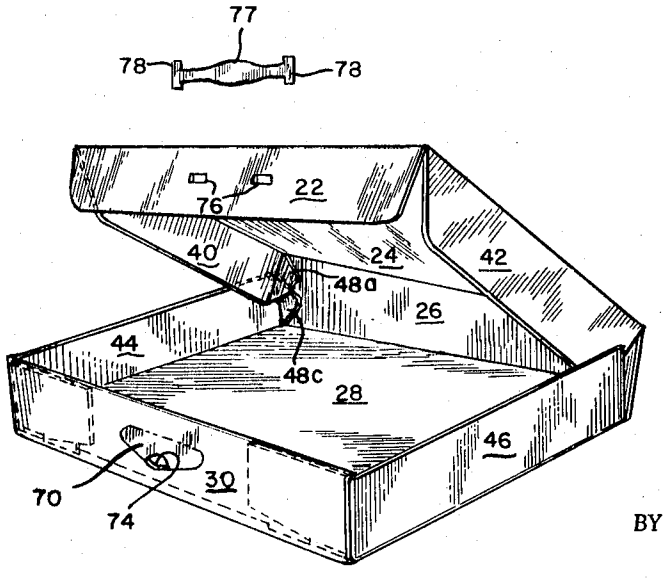


FIG. 2

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CARTON

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This invention relates to an improved construction for a carton or container which can be formed from a single, precut blank of carton forming material.

The cartons contemplated herein are used by retail stores to wrap suits or dresses and are assembled by the clerk and given to the purchaser. Cartons of this type generally include advertising material printed on one side and are made of a light weight carton forming material in order to provide a printable surface. These cartons are not designed to carry any substantial weight but must be strong enough to maintain their shape under ordinary loads in order to protect the suit or dress which is to be carried within the carton.

One of the principal objects of the present invention is to provide an improved type carton which is made from a single blank of light weight carton forming material and has sufficient rigidity to withstand normal loads.

Another object of the present invention is to provide a carton which will retain its shape under normal loads.

Still another object of the present invention is to provide a carton that can be formed from a single blank of carton forming material in a minimum of time and little effort.

A further object of the present invention is to provide an improved carton for carrying dresses or the like which is substantially sealed at all corners to prevent foreign matter, such as dust, from entering the carton.

A still further object of the present invention is to provide an improved carton which can be formed from a single blank of carton forming material with the bottom and top side walls automatically locked in their upright positions.

A still further object of the present invention is to provide a carton blank which can be formed into a carton for carrying dresses or the like that has the top wall locked to the bottom wall.

These objects are accomplished by cutting and scoring a carton blank of light weight carton forming material with the top and bottom side walls interconnected by an end wall flap that is integral with the carton blank. The end wall flap is divided by diagonal score lines into equal quadrants that fold to an overlapping relationship to hold the top and bottom side walls in an upright position. The overlapping action is automatically accomplished as the carton is folded and will hold the side walls in the upright position under considerable loads. The other end of the bottom side walls are also held in position by folding the front wall into overlapping relation with dust flaps which are connected to the bottom side wall flaps.

A carrying handle is also provided in the front flap on the top wall which also acts to lock the top wall to the front wall on the bottom wall when the carton is closed. The handle is so located on the top wall that it will project through an opening in the front wall. This arrangement for closing the top wall provides a distinct advantage in that no special attaching means is required to hold the carton closed.

Other objects and advantages will become more readily apparent from the following detailed description when read in connection with the accompanying drawings, in which:

FIG. 1 is a plan view of a carton blank cut and scored to form the carton of the present invention.

FIG. 2 is an isometric view of the carton blank folded to form the carton.

Referring to the drawing in detail, the carton is shown formed from a unitary, rectangular cardboard blank which is provided with transverse score lines **10**, **12**, **14**, **16**, **18** and **20** to form front flap **22**, top wall **24**, end wall **26**, bottom wall **28**, front wall **30**, connecting wall **32** and lock flap **34**.

Longitudinal score lines **36** and **38** are provided a spaced distance inward from the longitudinal edges of the carton blank to form side walls **40** and **42**, bottom side walls **44** and **46** and end wall flaps **48** and **50**. These score lines are extended by cuts **52** and **54**, respectively, to form dust flaps **56** and **58** which are hingedly connected to the bottom side walls by score line **16**.

The end wall flaps are each divided into quadrants **48***a*, **48***b* and **48***c* and **50***a*, **50***b* and **50***c* with a hole **49** and **51** cut out of the center of each end wall flap. The quadrants are separated by diagonal score lines **47** and **53**, respectively, which are angled outward at a forty-five degree angle from the intersection of score lines **12** and **14** with score line **36**, so that the fold line will lie on score line **12** or **14** when the carton is erected.

The lock flap is provided with tabs **62** on its outer edge **60** which are inserted into slots **64** in the bottom wall when the front wall is erected. The connecting panel **32** separates the lock flap from the front wall, forming a space for the dust flaps **56**. A handhole **66** is provided in the lock flap which is aligned with an opening **68** in the front wall. A closure flap **70** is hingedly connected to the front wall at score line **72** with a finger notch **74** provided in the flap to open it.

A pair of slots **76** are cut in the front flap which will also be aligned with holes **66** and **68** when the carton is erected. Flexible plastic handle **76** having flanges **78** at each end is mounted in the flap by inserting the flanges into the slots. Since the handle is flexible it can be easily attached to the front flap by merely twisting the ends and inserting them through slots **76**.

In erecting the carton, the bottom side walls and top side walls are folded upward on score lines **36** and **38**. Dust flaps **56** and **58** are then turned inward until aligned with score line **16**. The front wall **30** is folded upward on score line **16** against the dust flaps and connecting panel **32** is folded on score line **18** over the dust flaps. The lock flap is folded on score line **20** until tabs **62** can be inserted into slots **64** with the dust flaps enclosed in the space between the front wall and lock flap. The bottom side walls will be held in their upright position by the dust flap.

The end wall is folded upward on score line **14** with quadrants **48***b* and **50***b* folded inward on score line **36** against the inside surface of the end wall. Quadrants **48***c* and **50***c* will fold on score lines **47** and **53**, respectively, into engagement with the surfaces of quadrants **48***b* and **50***b*, respectively. The top wall is then folded on score line **12** with the top side wall folded inside of the bottom side wall and quadrants **48***a* and **50***a* folded on score lines **47** and **53** into engagement with quadrants **48***c* and **50***c*. The action of the quadrants on the end wall flap in folding the top wall into position tends to draw the top side wall and bottom side wall tightly against each other to close the carton.

The flexible plastic handle is inserted in the slots in the front flap and the front flap folded downward on score line **10** so that the front flap will fit inside of the front wall. When the top wall has been fully closed, the handle will be aligned in holes **66** and **68** and on opening of flap **78** the carton can be carried by the handle.

Mounting the handle on the front flap so that it projects outward through the holes **66** and **68** also serves to lock the carton closed. The top wall cannot be opened until the

handle has been pushed back through holes 66 and 68 in the front wall and lock flap of the carton.

Although only one embodiment of the present invention has been shown and described, it should be apparent that various changes and modifications of the present invention can be made without departing from the scope of the appended claims.

What is claimed is:

1. A carton formed from a single blank sheet of material which is cut and scored to be folded into a complete box, comprising:

a bottom wall, top wall and an end wall hingedly interconnecting the bottom wall and top wall,

a front wall hingedly connected along one edge to the bottom wall,

bottom side walls hingedly connected to the side edge of said bottom wall,

top side walls hingedly connected to the side edges of the top wall,

end wall flaps hingedly connected to the ends of the end wall and to the edges of said top and bottom side walls, said end wall flaps being divided into quadrants foldable into overlapping relation when the carton is fully erected,

dust flaps hingedly connected to the bottom side walls, said dust flaps being foldable into alignment with the hinged interconnection of said bottom wall and front wall,

a locking flap substantially corresponding in length to the height of said front wall but of reduced width hingedly connected to the opposite edge of the front wall foldable into overlying relation to said dust flaps,

said locking flap having a tab extending along its opposed free edge,

a recess in said bottom wall corresponding to said locking flap tab and registerable therewith when said locking flap is folded into overlying relation to said dust flaps, and

registered handle means including relatively elongated apertures in said front wall and locking flap.

2. The structure of claim 1 and in which said top wall includes a front flap hingedly secured to an edge of said top wall and foldable into face relation to one face of said locking flap when said carton is erected, said front flap having an aperture registered with said registered apertures of said front wall and locking flap.

3. The structure of claim 2 and in which said front flap includes a pair of apertures in spaced side by side relation, an elongated flexible handle having its ends detachably secured in said pair of apertures adapted to extend through said registered apertures of said front wall and locking flap.

4. The structure of claim 1 and in which said front wall includes a tab substantially corresponding in size and shape to said aperture disposed in said aperture, said tab being hingedly connected to said front wall along one edge so as to be foldable out of the plane of said front wall when said registered handle means is utilized for carrying said carton.

5. A carton formed from a single blank sheet of material which is cut and scored to be folded into a complete box comprising:

a bottom wall, top wall and an end wall hingedly interconnecting the bottom wall and top wall along generally parallel edges,

a front wall hingedly connected along one edge to the bottom wall,

said front wall having side edges extending outwardly of said bottom wall,

bottom side walls hingedly connected to the side edges of said bottom wall,

said top wall having a front flap hingedly secured to an edge of said top wall,

a locking flap of a length substantially corresponding to the height of said front wall but of reduced width hingedly connected to the opposite edge of said front wall,

top side walls hingedly connected to the side edge of the top wall,

end wall flaps hingedly connected to the ends of the end wall and to the edges of said top and bottom side walls, said end wall flaps being divided into quadrants foldable into overlapping relation when the carton is fully erected,

dust flaps hingedly connected to the bottom side walls,

said dust flaps being foldable into alignment with the hinged interconnection of said bottom wall and front wall,

said locking flap foldable into overlying relation to said dust flaps,

said locking flap having a tab extending along its opposed free edge,

a recess in said bottom wall corresponding to said locking flap tab and registrable therewith when said locking flap is folded into overlying relation to said dust flaps to lock said carton in erected condition,

said front flap on said top wall being foldable into face relation to said locking flap when said carton is erected,

said front wall and said locking flap each having an elongated aperture in registered relation,

said front flap having a pair of spaced apertures in register with said apertures in said front wall and said locking flap,

an elongated handle having its ends detachably secured in said spaced apertures of said front flap adapted to extend through said registered apertures of said front wall and said locking flap.

6. The structure of claim 5 and in which said front wall includes a tab corresponding generally in size and shape to said elongated aperture hingedly disposed in said aperture and foldable out of the plane of said front wall when said handle extends through said registered apertures of said front wall and said locking flap.

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