Feb. 20, 1951 J. GARIEPY 2,542,504

CARTON

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Fig. 1

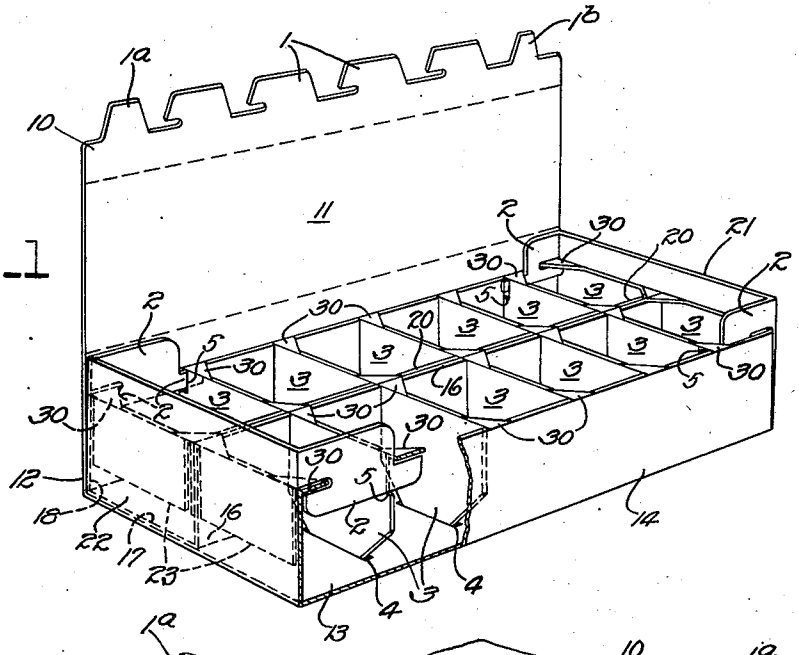


Fig. 9

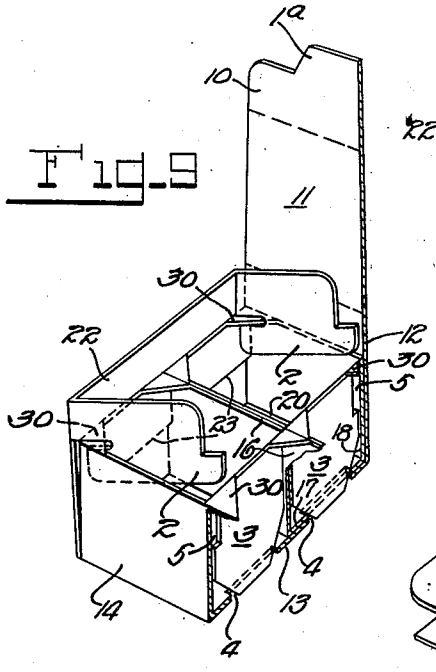


Fig. 10

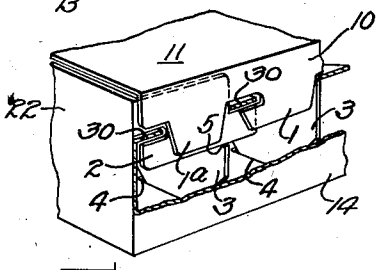


Fig. 8

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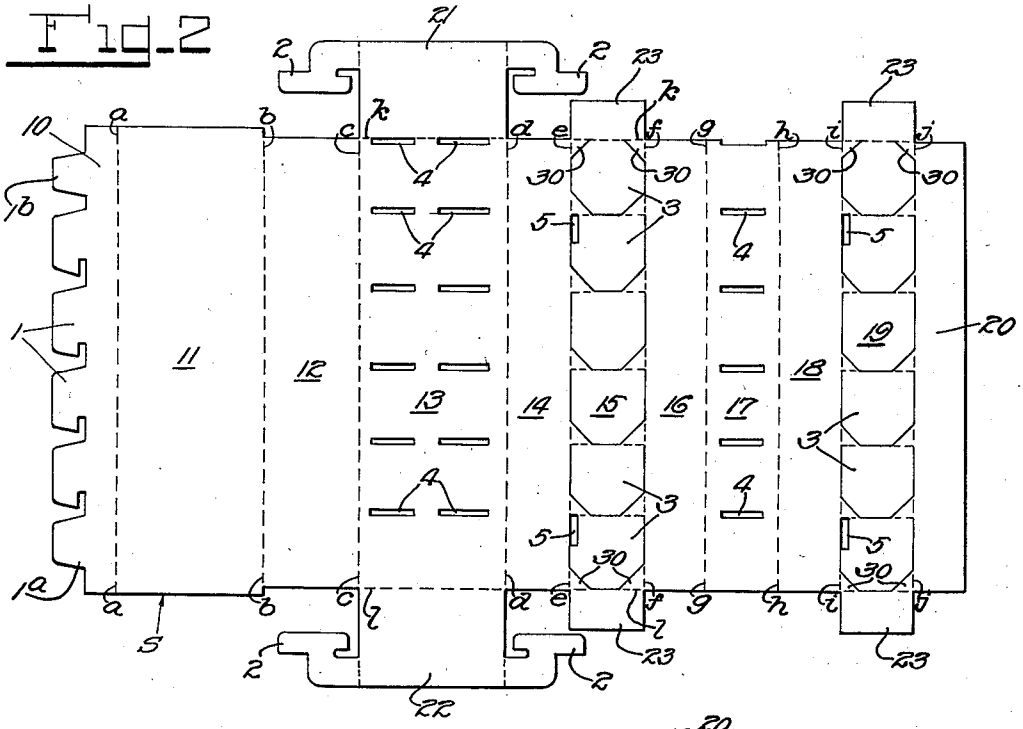
Attorney

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CARTON

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Fig. 2



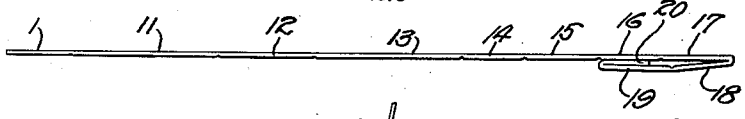


Fig. 3

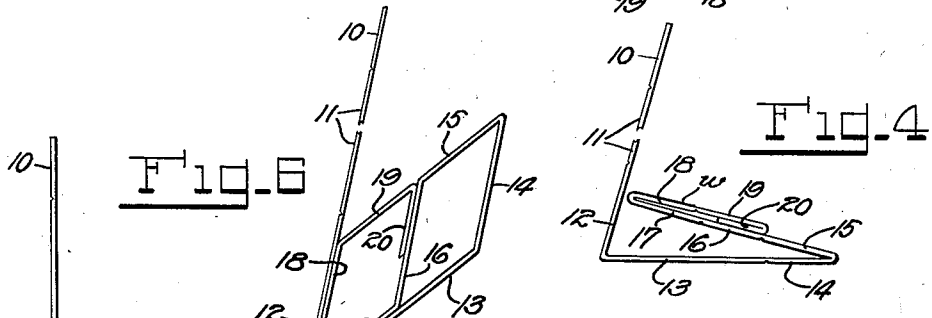


Fig. 6

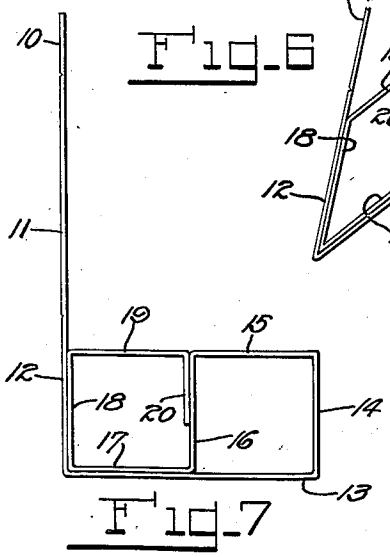


Fig. 7

Fig. 4

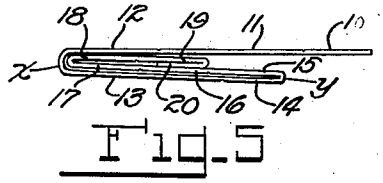


Fig. 5

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UNITED STATES PATENT OFFICE

2,542,504

CARTON

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Application March 1, 1949, Serial No. 79,067

2 Claims. (Cl. 229—28)

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This invention relates to a carton for containing small fragile articles such as eggs, Christmas ornaments and the like, and to a method of making the same.

Objects of the invention are to provide a durable, highly protective, inexpensive, and easily set up carton which can be stored and shipped flat and rapidly utilized by the packer. In accomplishing these objects, I provide a form of construction which uses as much as twenty-five per cent less stock than those commonly used, yet which provides adequate safety for the contents. Hitherto, it has been common to sacrifice one advantage for the other.

The nature and purpose of the invention will best be understood from the following description in conjunction with the accompanying drawings, in which:

Fig. 1 is a view in perspective, partly broken away, of a carton which has been set up ready to receive its contents;

Fig. 2 is a plan view of a carton blank.

Figs. 3, 4, 5, 6 and 7 are edge views of the blank showing progressive steps taken in forming the carton.

Fig. 8 is a perspective view of a portion of a carton before its end panel has been folded up into place.

Fig. 9 is a similar view showing the end panel folded up with its locking tabs partly engaged.

Fig. 10 is a fragmentary perspective view showing the cover locked in place.

In the preferred form of the device shown in the drawings, a sheet of stock S is cut to provide top locking tabs 1, end locking tabs 2, lateral dividers 3, bottom slots 4, and end tab locking slots 5. Subsequent folding of the blank will be facilitated by crimping along predetermined fold lines, which are indicated at *a—a*, *b—b*, *c—c*, *d—d*, *e—e*, *f—f*, *g—g*, *h—h*, *i—i*, *j—j*, *k—k* and *l—l* (Fig. 2). These fold lines divide the blank into a series of panels and dividers. There is a top locking panel 10 which carries the tabs 1, carton top 11, rear wall 12, bottom 13, front wall 14, lateral divider panel 15, interior longitudinal wall 16, additional bottom panel 17, glue panel 18, lateral divider panel 19, and interior longitudinal wall glue strip panel 20. Protruding from each side edge of the blank are end panels 21 and 22. Panels 15 and 19 are cut, as aforesaid, to form a series of tabs or dividers 3 which, on being bent downwardly, form vertical cross partitions.

In forming the box from the cut blank, the uppermost or "gray side" of the glue strip panel 20 is glued to the underneath or "white side" of the

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longitudinal divider panel 16. (It is well understood that ordinary cardboard stock often has a finished or "white" side and a rougher "gray" side. In Fig. 2, the gray side is uppermost; when the blank is folded into a finished carton, the white side is outward.) The side or edge of the folded glued blank after panel 20 is glued to panel 16 appears as shown in Fig. 3. Folding is done on lines *h—h* and *j—j*. Thereafter, the blank is folded on lines *c—c* and *e—e*, as illustrated in Fig. 4. Then the blank is folded to bring the gray side of panel 18 against the gray side of panel 12. Glue indicated at *w* in Fig. 4 is placed on panel 18 prior to folding, and the folded blank is pressed to set the glue. The gluing operations are now complete, and the folded blank as shown in Fig. 5 is ready for shipment to the user.

The user, by pressing on opposite corners of the box (indicated at *x* and *y* in Fig. 5) with the fingers of one hand while raising the cover portion comprising panels 10 and 11 with the other hand, causes the folded panels to separate as shown in Fig. 6 until the full open position is reached as shown in Fig. 7. At this stage, the end flaps are still open. End panels 21 and 22 are folded on lines *k—k* and *l—l*, and the end tabs 2 are fitted into and locked in their respective locking slots 5. This is done by depressing the end-pieces 23—23 of the panels 15 and 19 and the four endmost lateral dividers 3 of panels 15 and 19 so that they are vertical, with their tip ends passing through the bottom slots 4. The end tabs are folded inwardly, both ends of the tabs being placed under the triangular portions 30 remaining in panels 15 and 19 when the dividers are cut, and one end of each tab being locked in a slot 5 when the divider bearing that slot is depressed. All of the remaining dividers will now be depressed to form a plurality of compartments, and the carton is ready for filling. When the carton is full, the cover is bent along fold line *b—b* and the cover brought down so that the tabs 1 are introduced into the container adjacent the forward wall. The cover is slightly displaced to the right in Fig. 1 in so doing, and on returning to its natural position, the tips of the locking tabs are held under the triangular portions 30 (Fig. 10). Two of the tabs 1 are end reenforcing tabs 1*a* and 1*b*. When closing the box they slide straight past the end locking tabs 2 and brace them and the corners of the box as shown in Fig. 10. Each forward corner is thereby braced and reenforced.

The saving in material is believed to be due to the way the blank is folded so that the extreme end panel of the blank (panel 20) is secured to

a mid-portion of the box (panel 16) and the mid-portion of the blank (panel 18) is thereafter secured to the back wall (panel 12). There is thus a very small amount of duplication of either walls or bottom. Protection of the bottoms of fragile articles is afforded inexpensively by the protruding vertical ends of the lateral dividers. The back, ends and front (when the cover is closed) all have double thickness which provide strength and safety, but at small cost because of the small area involved. The triangular corner braces 30 provide strength, as well as locking means.

The one-piece construction simplifies manufacture and handling. The ease with which the glued blank is made up into a box promotes speed in packing. The finished carton is small and compact. The bottom projections, which furnish a safety feature, are an integral part of the box, and so do not tend to slip upwardly out of the slots 4. The form of double-locking used is insurance against spilling of contents.

I claim:

1. A carton formed from a single piece of formed sheet stock in which one end panel of said sheet is cut away to form locking tabs, and the opposite end of said sheet has a panel comprising a gluing strip, the intermediate panels comprising, in sequence, a cover panel, a back panel, a bottom panel the width of the carton, a front panel, a panel of vertical lateral dividers, a longitudinally extending vertical divider wall, a second bottom panel which is approximately half the width of the carton, a second gluing panel adapted to be secured to said back panel, and a second panel of vertical lateral dividers.

2. A carton formed of a single piece of sheet stock having, on one end of said stock, a locking panel, in which some of the stock is cut away to provide locking tabs, and a series of panels secured thereto which comprise, in sequence, a cover panel, a back wall panel, a bottom panel the width of the carton, a front wall panel, a panel of vertical laterally extending dividers, a longitudinally extending vertical divider wall, a second bottom panel which is approximately one-half the width of the carton, a gluing panel secured to said back panel, a second panel of vertical laterally extending dividers, and a second gluing strip secured to said longitudinally extending vertical divider wall.

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