

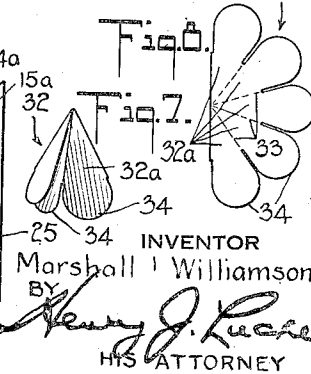
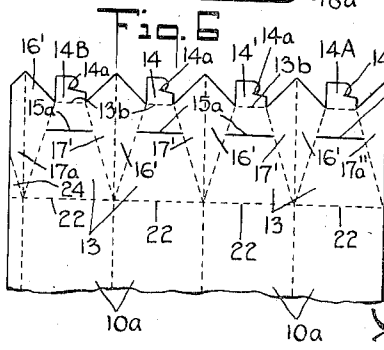
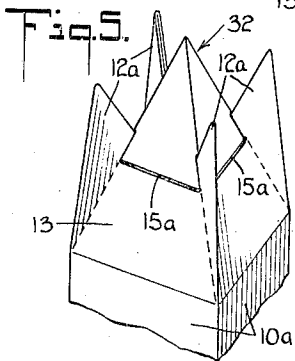
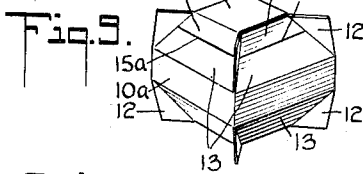
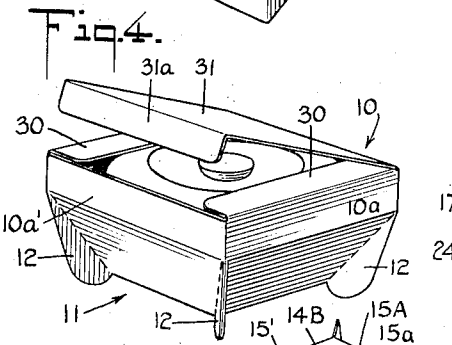
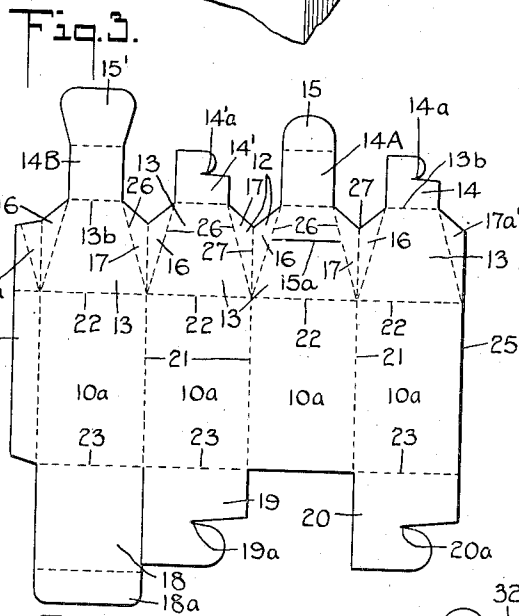
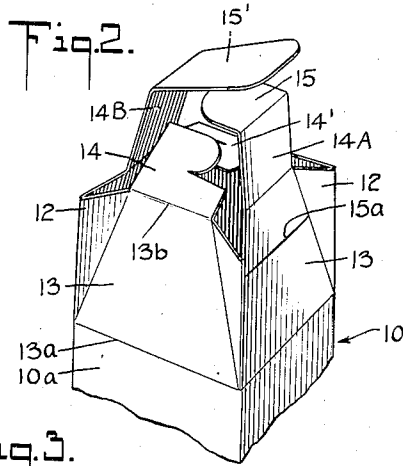
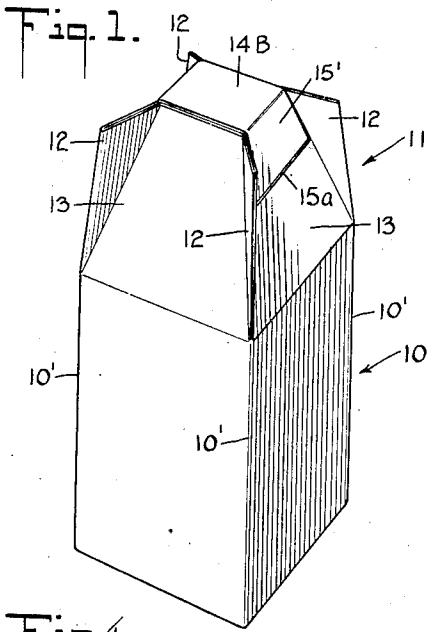
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2,345,646

BOX, CARTON, OR SIMILAR DEVICE

Filed July 13, 1940



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BOX, CARTON, OR SIMILAR DEVICE

Marshall I. Williamson, New York, N. Y.

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8 Claims. (Cl. 229—38)

My present invention relates to improved boxes, cartons or similar devices.

More specifically, the invention is directed to a box, carton or similar device embodying at either of its ends, i. e., at its top or at its bottom, or both, fins or vanes projecting exteriorly of such end or ends of the device. The panels forming such fins or vanes I term the fin-forming panels. Such provision of fins or vanes for a box, carton or similar device formed from a flat blank gives rise generally to panels—which I term end-forming panels—which latter panels when the box, carton or similar device is in set-up status attain position at an angle to the vertical and converge toward one another.

The closing of the box, carton or similar device at the fin provided end or ends is had by flaps respectively attached to the termini of such end-forming panels.

In preferred forms of the invention, the fins or vanes have their outermost edges extending vertically and at an angle to the vertical, converging toward one another.

The fins or vanes are variable in area and vertical height as desired, such variation being afforded by suitably cutting and scoring proper portions of the blank. Usually, the blank for forming a collapsible container embodying the invention comprises sets of pairs of fin-forming panels, the fin-forming panels of each set being hingedly connected to one another by suitable scoring to provide for projecting the resulting fin or vane in outward direction; the fin-forming panels of each set are respectively hingedly connected by a score line with adjacent end-forming panels.

The invention is highly adapted to the production of collapsible boxes, cartons or other containers, the blank of which is formed of flat stock, such as paper stock, paper board, or other suitable material. Such blank is readily folded and glued at opposing edge portions of the blank by means of a conventional collapsible box-forming machine. The printing, scoring, etc., as desired, may be carried out upon one face of the flat blank.

Further features and objects of the invention will be more fully understood from the following detail description and the accompanying drawing, in which

Fig. 1 is a perspective view of a preferred type of set-up box, carton or other container embodying the invention at its upper end or top;

Fig. 2 is a detail perspective view of the upper

portion of Fig. 1, showing the panels thereat opened up;

Fig. 3 is a plan view of a flat blank adapted to form the set-up box, carton or other container shown in Figs. 1 and 2;

Fig. 4 is a perspective view of a box, carton or other container embodying the invention at its lower end or bottom;

Fig. 5 is a perspective view of another preferred type of the invention embodied at its upper end or top and adding an ornamental closure part;

Fig. 6 is a detail plan view of a blank for forming the embodiment shown in Fig. 5;

Fig. 7 is a perspective view of a supplemental closure part of Fig. 5;

Fig. 8 is a plan view of the blank thereof;

Fig. 9 is a perspective view of another preferred type of the invention embodying the same at both ends, i. e., at the top and bottom of the device.

Figs. 1 and 2 in perspective and Fig. 3 in plan view of the blank illustrate a type of preferred embodiment of the invention wherein the characteristics of the invention are applied at the upper end of a box, carton or similar device. In this embodiment, the body proper of the box, carton, or similar device may be as preferred; the body proper of the illustrated container is shown of conventional square configuration in cross-section, adaptable for containing a bottle or the like. Associated with such conventional or other approved body proper of such box, carton or similar device as embodied in the type exemplified by Figs. 1 and 2, my invention provides a substantially truncated extension of such box body, which converges, preferably symmetrically, when the box is closed, and forms closure means, designated generally 11, which usually is at the top of the box. Such truncated extension 11 comprises, in the illustrated instance, four end-forming panels 13 suitably arranged when in set-up status to converge toward one another, and, further, providing externally projecting fins or vanes 12. The closing of the box, carton or similar device shown in Figs. 1, 2 and 3, is afforded by closure panels which I term end-closing panels which are hingedly attached at the respective termini of the end-forming panels 13. One of these end-closing panels in the illustrated embodiment, is the closure-supporting flap on panel 14 having a notch 14a formed at one side thereof adapted for cooperation with another similar flap or panel 14' which is correspondingly notched at 14'a for partial overlapping and interengaging; for completing the closure, another end-closing

panel or closure flap 14A is provided with a tab 15, and the fourth end-closing panel or closure flap 14B is provided with a tuck-in tongue 15', which is adapted to be inserted in the slit 15a formed in the above named third end-forming panel 13 to which the end-closing panel 14A is connected.

The fins or vanes 12 are shown formed by fin-forming panels 16, 17, which hingedly interconnect adjacent end-forming panels 13, 13. In the instance of Figs. 1 and 2, the upwardly extending edges of the fins or vanes 12 are disposed in substantially vertical alignment with the edges 10' of the body panels 10a.

By reason of the relationship and mutual arrangement of the component panels, as appears from the illustrated embodiment shown in Figs. 1 and 2 when in set-up status, the fins or vanes converge toward one another and are disposed and contained within the zone bounded by the extension of the planes defining the contour of the body proper 10.

The bottom of the box body 10 may be closed as preferred; as is indicated generally in Fig. 1 and specifically in Fig. 3, the bottom closing parts, i. e., the bottom panels being of conventional construction, viz. a panel 18 and a panel 19, respectively hingedly connected to adjacent body panels 10a and associated with a panel 20 hingedly connected with another body panel 10a, the panels 19, 20, being blanked to form interengaging notches indicated as at 19a and 20a, and the panel 18 being provided with a closing tab 18a.

As shown in Fig. 3, the blank of the carton, container or the like illustrated in Figs. 1 and 2, may be formed of flat stock and may comprise the four panels 10a of the box body proper, hingedly connected in seriatim with one another at the score lines 21, 21, 21. Each panel 10a is hingedly connected to its end-forming panel 13 at the score lines 22, 22, 22. The score lines 23, 23, 23 serve as hinge connections of three of the body panels 10a with the bottom closing panels 18, 19 and 20. The panel 24, including its sub-panel 17a, serves as an overlap with the application of glue or other suitable adhesive for securement with corresponding areas adjacent the opposite edge 25 of the blank, in which operation the sub-panel 17a and the edge panel 17a' overlie one another. The lines 26, 26, etc., hingedly connecting each fin-forming panel 16 or 17 with its adjacent end-forming panel 13, are desirably but not necessarily perforated or formed by serrated die elements; the lines 27, 27, etc., hingedly connecting the fin-forming sets of panels 16, 17 with one another are desirably but not necessarily cut-scores or scores formed by sharp edged die elements, in any event so scored as to facilitate the respective outward and inward folding of the material on the stated scores whereby the fin-forming panels and the end-forming panels are moved into their respective positions indicated in Figs. 2 and 1, upon completing the closure of the container.

The embodiment illustrated in Fig. 4 employs my invention as a component of the lower end or bottom of a box, carton or the like, and like parts are designated by like reference characters. In this type of embodiment, the lower part 11 is closed in a manner corresponding to the closing of the upper part of the embodiment shown in Figures 1 and 2. The upper part, i. e., top, is shown closed by conventional assembly of oppositely lying panels, to wit, side panels 30 hingedly attached to opposing body panels 10a, 10a,

and a cover panel 31 having a terminal flap 31a adapted to be received between the inner face of the front body panel 10a' and the front end edges of the side panels 30, 30. The blank from which the box, carton, or similar device of the type illustrated in Fig. 4 is formed corresponds generally to that shown in Fig. 3, as will be readily understood by those skilled in the art.

The embodiment shown in Figs. 5 and 6, follows generally the embodiment shown in Figs. 1, 2 and 3, and like parts are designated by like reference characters. As appears from Figs. 5 and 6, the embodiment therein illustrated comprises fins 12' which by comparison of Fig. 6 with Fig. 3 have an enlarged area giving rise to apexes 12a which extend above the superposed closure panels 14', 14, 14A, 14B when the carton is set-up and closed. It will be noted from Fig. 6 that each of the panels 14', 14, 14A, 14B are provided with cut-away, i. e., notched, flaps as indicated at 14a respectively as a variant compared with the corresponding panels shown in the blank illustrated in Fig. 3; however, the carton exemplified by Fig. 6 may have the formations shown in Fig. 3, if desired.

The closure part 32 shown in Figs. 7 and 8 serves to conceal the overlapping closing panels, or may serve as a supplemental closure part. This part is physically separate from the carton, and is shown in assembled formation in Fig. 7 and in the blank in Fig. 8. Referring to the blank shown in Fig. 8, it comprises a set of five panels 32a suitably blanked and scored at lines 33 in quasi-fan formation, which when folded successively results in the closure part 32, shown in Fig. 7. It will be noted that the end panels overlie one another, so that the effective total number of panels is four, in this instance, the tip portions 34 of which are received and held within slots 15a formed in the respective end-forming panels 13.

If preferred, the box, carton or similar device illustrated in Fig. 5, may be formed without end-closing panels such as 14, 14', 14A, and 14B, namely, by reference to the blank shown in Fig. 6, by severing at the respective lines 13b. In such arrangement the closure part 32 serves per se as the closure of the end-opening of the box, carton or similar device, the retention of the tongue portions 34 of the respective panels of the closure part 32 with the receiving slits 15a, and the engagement of the panels of the closure part 32 with the underlying upper portions of the end-forming panels 13, functioning to hold the end-forming panels 13 in their respective positions as indicated in Fig. 5.

Fig. 9 illustrates a type in which the invention is embodied at both the top and the bottom of the box, carton or similar device and like parts are designated by like reference characters.

It will be noted from Fig. 9, that the end-closing panel 14B, in addition to its terminal closing tab 15' is provided with a closing tab 15a hingedly connected to one of its lateral sides, such lateral closing tab 15a being inserted in a receiving and retaining slit 15a of its associated end-forming panel 13. Likewise, another lateral closing tab, corresponding to 15a, may be hingedly connected to the opposite lateral side of the end-closing panel 14B and similarly inserted in a retaining slot, similar to the shown slots 15a, in its associated end-forming panel 13.

Such one or more additional or lateral closing tabs 15a for the panel 14B, retained in such slits 15a in the associated end-forming panels 13,

may be employed in the embodiment shown in Figs. 1 and 2 and similarly in the embodiment shown in Fig. 4.

Each tuck-in tongue preferably has the contour shown in Fig. 3, see 15', and is dimensioned to effect positive locking when inserted in its retaining slit 15a.

It will be observed from the several types of embodiments illustrated in the drawing that when the end-forming panels 13 and the fin-forming panels 16, 17 are in fully opened position, the extent, i. e., cross-sectional area, of the opening of the device is equal to the cross-sectional area of the body proper of the device, thus affording full facility for filling purposes, an advantage which is of high importance when filling by the use of standard filling machines.

A characteristic of the invention, as appears from the above described various types, resides in the fact that the end-forming panels, when moved from fully opened position toward and into closed position, the end-forming panels are individually moved to mutually approach one another but are limited in such movement by the constructional relationship between the end-forming panels and the fin-forming panels, and give rise at the stage of limitation to an opening, which opening is closed by the end-closing panels, superposed upon the other, retained as hereinabove set forth, the end-closing panels when in closed status forming a flatwise formation at the thus closed end of the device.

From the above, it appears that the invention in its various types of embodiment affords a marked improvement in boxes, cartons or similar devices. Embodiments of the invention when utilized as a box or carton for containing an article such as a bottle or the like, may be configured to simulate the configuration of such contained article and to add features of ornamentation, thus enhancing the attractiveness of the goods for display and sales appeal. Such and further advantages are attained pursuant to the invention by structures of the box, carton or similar device which are adapted to be economically manufactured in quantity, readily filled with the desired merchandise, and simply closed.

When packed side by side and/or one upon another in shipping containers, devices embodying the invention of like or duplicate formation, as appears from Figs. 1 and 9, fulfill the requirement of protection of the contained articles during severest handling in shipment or other disposition, without danger of breakage or rupture of the vanes or fin-like formations which by their construction as aforesaid are precluded from contact with any part of any adjacent device.

Whereas I have described my invention by reference to specific forms thereof, it will be understood that many changes and modifications may be made without departing from the spirit of the invention.

I claim:

1. A folding box comprising lateral wall panels forming a box body; panel extensions from the ends of said lateral wall panels at one end of said box body, said panel extensions being joined laterally to form an extension of said box body; fold lines extending longitudinally of said panel extensions and arranged angularly relative to one another, said fold lines rendering said extension of the box body capable of being converged to a substantially truncated formation which has outwardly extending fins disposed at corners thereof between mutually adjacent extension wall

panels and which defines an end opening; closure means adapted to cover said end opening, and including panel means adapted to extend between mutually adjacent fins in substantially face-to-face relationship with a limited portion of at least one of said extension wall panels, and tuck-in tongue means extending from said panel means; and receiving slit means disposed in the said at least one of said extension wall panels and adapted to engage said tongue means for securing said closure means in its closed position and for retaining said extension of the box body in truncated form.

2. A folding box comprising lateral wall panels forming a box body; panel extensions from the ends of said lateral wall panels at one end of said box body, said panel extensions being joined laterally to form an extension of said box body; fold lines extending longitudinally of said panel extensions and arranged angularly relative to one another, said fold lines rendering said extension of the box body capable of being converged to a substantially truncated formation which has outwardly extending fins disposed at corners thereof between mutually adjacent extension wall panels and which defines an end opening; closure means adapted to cover said end opening, and including oppositely disposed closure-supporting flaps adapted for mutual interlocking to aid in maintaining said extension of said box body in converging formation, panel means adapted to extend between mutually adjacent fins in substantially face-to-face relationship with a limited portion of at least one of said extension wall panels, and tuck-in tongue means extending from said panel means; and receiving slit means disposed in the said at least one of said extension wall panels and adapted to engage said tongue means for securing said closure means in its closed position and for retaining said extension of the box body in truncated form.

3. A folding box comprising lateral wall panels forming a box body; panel extensions from the ends of said lateral wall panels at one end of said box body, said panel extensions being joined laterally to form an extension of said box body; fold lines extending longitudinally of said panel extensions and arranged angularly relative to one another, said fold lines rendering said extension of the box body capable of being converged to a substantially truncated formation which has outwardly extending fins disposed at the corners thereof between mutually adjacent extension wall panels and which defines a substantially centrally located end opening; a removable closure cap adapted to seat over and cover said opening and having wall panels adapted to extend between mutually adjacent fins in substantially face-to-face relationship with limited portions of said extension wall panels; tuck-in tongues extending from the said walls of said closure cap; and receiving slits disposed in the said extension wall panels and adapted to engage said tongues for securing said closure cap in its closed position and for retaining said extension of the box body in truncated form.

4. A folding box comprising lateral wall panels forming a box body; panel extensions from the ends of said lateral wall panels at one end of said box body, said panel extensions being joined laterally to form an extension of said box body; fold lines extending longitudinally of said panel extensions and arranged angularly relative to one

another, said fold lines rendering said extension of the box body capable of being converged to a substantially truncated formation which has outwardly extending fins disposed at the corners thereof between mutually adjacent extension wall panels and which defines a substantially centrally located opening; oppositely disposed closure-supporting flaps adapted for interlocking to aid in maintaining said extension of said box body in converging formation; a removable closure cap adapted to seat over and cover said opening and having wall panels adapted to extend between mutually adjacent fins in substantially face-to-face relationship with limited portions of said extension wall panels; tuck-in tongues extending from the said wall panels of said closure cap; and receiving slits disposed in the said extension wall panels and adapted to engage said tongues for securing said closure cap in its closed position and for retaining said extension of the box body in truncated form.

5. A folding box comprising lateral wall panels forming a box body; panel extensions from the ends of said lateral wall panels at one end of said box body, said panel extensions being joined laterally to form an extension of said box body; fold lines extending longitudinally of said panel extensions and arranged angularly relative to one another, said fold lines rendering said extension of the box body capable of being converged to a substantially truncated formation which has outwardly extending fins disposed at corners thereof between mutually adjacent extension wall panels and which defines an end opening; closure means adapted to cover said end opening, and including panel means adapted to extend between two mutually adjacent fins in substantially face-to-face relationship with a limited length of the extension wall panel which lies between said two mutually adjacent fins, and a tuck-in tongue extending from said panel means; and a receiving slit disposed in the said extension wall panel and adapted to engage said tuck-in tongue for securing said closure means in its closed position and for retaining said extension of the box body in truncated form.

6. A folding box comprising lateral wall panels forming a box body; panel extensions from the ends of said lateral wall panels at one end of said box body, said panel extensions being joined laterally to form an extension of said box body; fold lines extending longitudinally of said panel

extensions and arranged angularly relative to one another, said fold lines rendering said extension of the box body capable of being converged to a substantially truncated formation which has outwardly extending fins disposed at corners thereof between mutually adjacent extension wall panels and which defines an end opening; closure means adapted to cover said end opening, and including oppositely disposed closure-supporting flaps adapted for mutual interlocking to aid in maintaining said extension of said box body in converging formation, panel means adapted to extend between two mutually adjacent fins in substantially face-to-face relationship with a limited length of the extension wall panel which lies between said two mutually adjacent fins, and a tuck-in tongue extending from said panel means; and a receiving slit disposed in the said extension wall panel and adapted to engage said tuck-in tongue for securing said closure means in its closed position and for retaining said extension of the box body in truncated form.

7. A folding box as recited in claim 5 wherein the stated receiving slit extends transversely across the width of its extension wall panel, the stated tuck-in tongue of the closure means is of substantially the same width as the said receiving slit, and the said panel means converges backwardly therefrom in substantially the same manner as the said extension wall panel converges.

8. A folding box comprising lateral wall panels forming a box body; panel extensions from the ends of said lateral wall panels at one end of said box body, said panel extensions being serially joined laterally relatively to one another to form an extension of said box body; fold lines extending longitudinally of said panel extensions and arranged angularly relative to one another, said fold lines rendering said extension of the box body capable of being converged to a substantially truncated formation having outwardly extending fins disposed at corners thereof between mutually adjacent extension panels, the extremities of said panel extensions defining an end opening; closure means extending from the extremities of certain of said panel extensions and tuck-in flap means extending from other of said panel extensions arranged to cooperate with said closure means for closing said opening and for interlocking said panel extensions to maintain said panel extensions in converging position.

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