Jan. 13, 1959 J. L. PAINTER 2,868,431

BOXES

Filed March 16, 1955 2 Sheets-Sheet 1

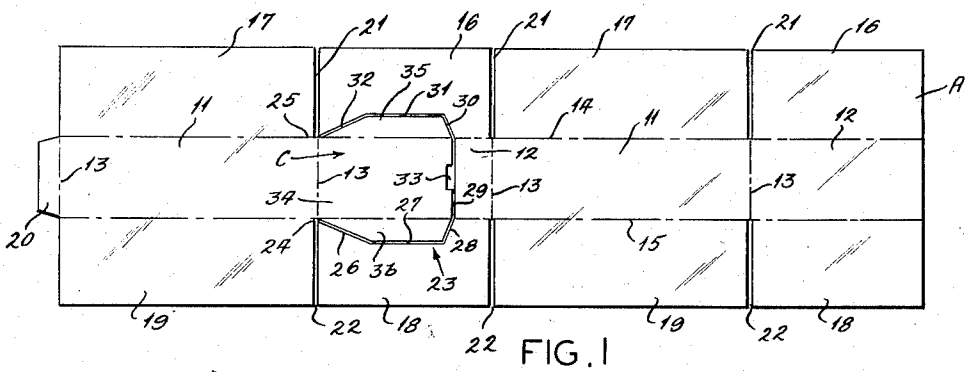

FIG. 1

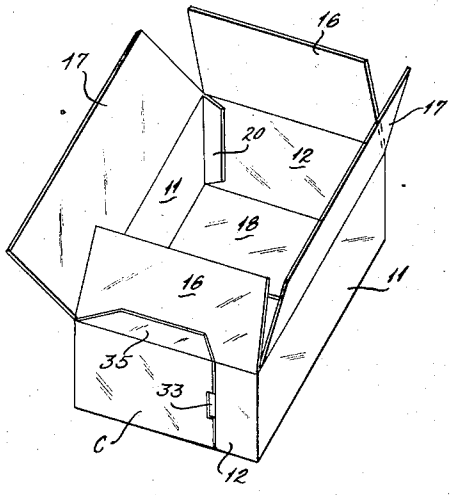

FIG. 2

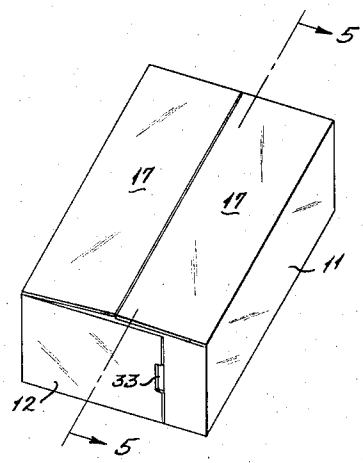

FIG. 3

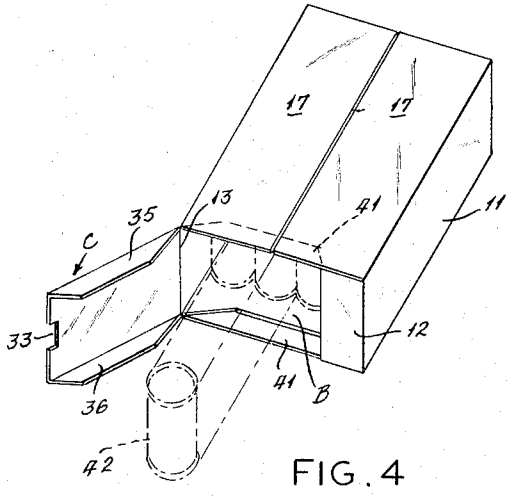

FIG. 4

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BOXES

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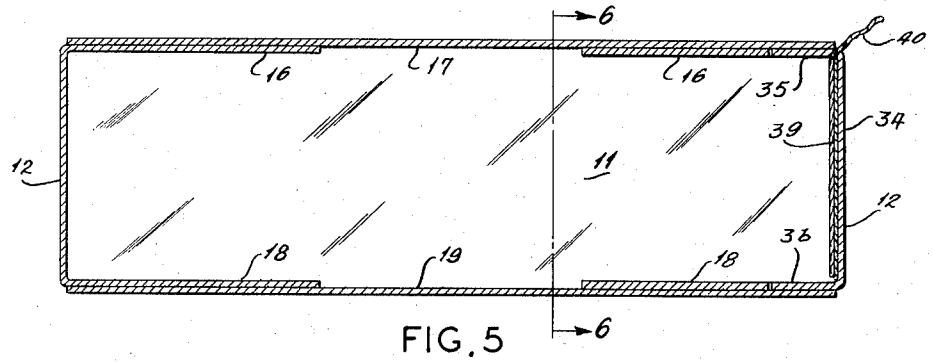

FIG. 5

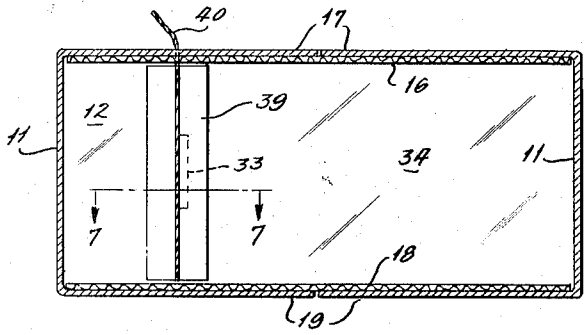

FIG. 6

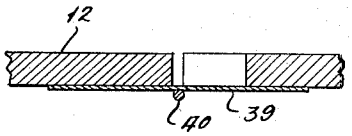

FIG. 7

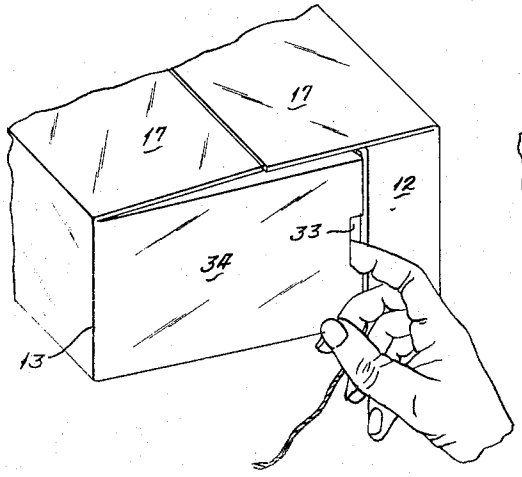

FIG. 8

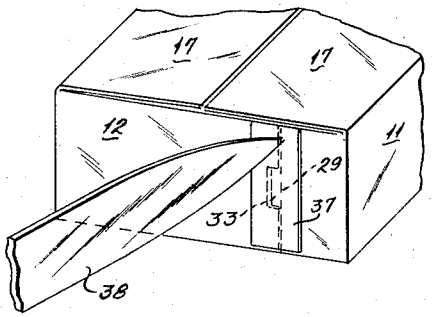

FIG. 9

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United States Patent Office

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BOXES

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Application March 16, 1955, Serial No. 494,602

3 Claims. (Cl. 229—51)

This invention appertains to a carrying container having a dispensing closure means for providing access to the contents. Containers embodying this invention may be constructed of solid fiberboard, corrugated fiberboard or any other suitable bendable material.

Canned beverages and similar items are often packed in relatively large containers carrying from twelve to twenty-four cans of beverage. It is customary to provide a container for canned beverages formed of corrugated fibreboard or similar bendable material which is disposed in the form of a regular slotted carton. A regular slotted carton is a term commonly employed in the container industry and designates a container having top and bottom overlapping closure flaps which are ordinarily glued, stapled or stitched together. The user of the beverages or other contents of the container often finds it quite difficult to open the top or bottom closure to gain access to the contents. In order to open the closure of a regular slotted carton it is necessary to either tear the outermost closure flaps from adjacent secured together portions of the inner closure flaps or to employ a knife or other means to sever the closure parts from the body of the container. It is thus apparent that it is not without considerable inconvenience that the consumer is able to gain access to the content of containers presently being employed to ship canned beverages and the like. It is therefore an object of this invention to provide a container for canned beverages and the like which may be easily opened by swinging a portion of the side wall of the container adjacent the regular closure parts outwardly to provide an access opening.

Another object of this invention is to provide access means which may be readily employed on regular slotted carton designs of solid fibreboard and corrugated fibreboard containers. A still further object of this invention is to provide access means on a corrugated container which may be formed on existing equipment. Another object is to provide an access opening of the type described wherein the containers may be filled and sealed without modification of existing equipment.

Still another object is to provide an access opening of the type described which may be used without severing, tearing or otherwise mutilating the top and bottom closure flaps of the container. A still further object of this invention is to provide an access opening of the type described which may be reclosed to protect the contents.

Another object is to provide an access opening of the type described in which a tear tape, tear string or other similar device may be employed to permit easy use of the access opening.

These and other objects and advantages of the invention will be apparent to those skilled in the art upon a full and complete understanding of the construction and operation of this device.

The invention also consists in the parts, arrangements and combination of parts hereinafter described and

claimed. The accompanying drawings form a part of this specification and like numerals and symbols therein appearing for the like parts wherever they occur.

Fig. 1 is a plan view of a blank embodying a preferred form of the invention;

Fig. 2 is a perspective view of a partially erected container formed from the blank shown in Fig. 1;

Fig. 3 is a perspective view of a completely erected and assembled container formed from the blank shown in Fig. 1;

Fig. 4 is a perspective view of the container shown in Fig. 3, illustrating the access opening in the open position;

Fig. 5 is a vertical sectional view taken along line 5—5 of Fig. 3;

Fig. 6 is a vertical sectional view taken along line 6—6 of Fig. 5;

Fig. 7 is a fragmentary horizontal view taken along line 7—7 of Fig. 6;

Fig. 8 is a fragmentary perspective view of a preferred embodiment of the access opening being opened; and

Fig. 9 is a fragmentary perspective view illustrating the severing of a tape sealing means on a preferred embodiment of the access opening.

Fig. 1 illustrates a blank A embodying a preferred form of the invention and preferably constructed of solid fibreboard, corrugated fibreboard or any other suitable bendable material. The blank A is comprised of side panels **11** and end panels **12** connected together along corner defining score line **13**. A top score line **14** and a bottom score line **15** define the hinged connection for top and bottom closure flaps. More specifically, end wall top flaps **16** are hingedly connected to the end panels **12** along the top score line **14** and side wall top flaps **17** are hingedly connected to the side panels **11** along the top score line **14**. End wall bottom flaps **18** are hingedly connected to the end panels **12** along the bottom score line **15** and side wall bottom flaps **19** are hingedly connected to the side panels **11** along the bottom score line **15**.

In the particular embodiment described a glue lap **20** is hingedly connected to one end of a side panel **11** along a corner defining score **13**, the end wall top flap **16** and the side wall top flaps **17** are separated at their end edges by top slots **21** disposed in alignment with adjacent corner defining scores **13**. The end wall bottom flaps **18** and the side wall bottom flaps **19** are similarly separated along their end edges by means of bottom slots **22**, also disposed in alignment with adjacent corner defining score lines **13**.

One of the end panels **12** is provided with an access opening B as shown in Fig. 4. The access opening B is defined in part by a slit extending from the junction between a bottom slot **22** and the bottom score line **15** to the junction of the adjacent aligned top slot **21** and the top score line **14** as shown in Fig. 1. For purposes of this specification the slit **23** shall be partially defined as extending from a lower junction point **24** to an upper junction point **25**.

More specifically, the slit **23**, in the embodiment illustrated extends angularly, outwardly and downwardly on a lower inclined portion **26** and thence substantially parallel to the adjacent bottom score line **15** along a lower horizontal portion **27** and thence angularly upwardly to the adjacent bottom score line **15** along a lower angular portion **28**. At this point the slit continues vertically upward across the adjacent end panel **12** along a transverse slit portion **29** terminating at the top score line **14**. The slit **23** continues from the junction of the

transverse slit portion 29 and the top score line 14 angularly upwardly and inwardly along an upper angular portion 30, and thence in a parallel direction to the adjacent portions of the top score lines 14 along an upper horizontal portion 31, and thence in a downwardly and inwardly inclined relation along an upper inclined portion 32 to the upper junction point 25. The slit 23 may be provided with a finger grip opening 33 disposed preferably midway the length of the transverse slit portion 29 to permit easy grasping of the opening means.

The effect of the described slit 23 is to provide an access closure device C comprising a center panel 34 defined in part by an adjacent corner defining score line 13, the adjacent top score line 14 and bottom score line 15 together with the transverse slit portion 29. The access closure device also comprises an upper side tab portion 35 defined in part by adjacent portions of the top score line 14, the upper incline slit portion 32, the upper horizontal slit portion 31 and the upper angular slit portion 30. Similarly a lower side tab portion 36 is defined by an adjacent portion of the bottom score line 15, the lower incline slit portion 26, the lower horizontal slit portion 27 and the lower angularly portion 28.

The container blank A illustrated in Fig. 1 may be erected in any suitable manner, however a preferred method is to fold the endmost end panel 12 inwardly about its adjacent corner defining score line 13 into flatwise contacting relation with the adjacent side panel 11. The endmost side panel 11 is then folded inwardly about its adjacent corner defining score line 13 into flatwise contacting relation with its adjacent end panel 12 and adjacent portions of the other side panel 11. In this position the glue lap 20 will be in overlapping, contacting relation with the free side edge of the previously folded end panel 12. The glue lap 20 may then be secured to the adjacent margin of the end panel 12 by adhesive, stitches or staples or any other suitable means.

The container is then erected into rectangular configuration and the end wall bottom flaps 18 are folded inwardly into substantially right angularly relation with their adjacent end panels 12. The side wall bottom flaps 19 are then folded angularly inwardly into flatwise contacting relation with the previously positioned end wall bottom flaps 18. In this position the side wall flaps 19 are secured by adhesive, stitches or other suitable means to adjacent portions of the end wall bottom flaps 18, with one exception; it is preferred that the portions of the end wall bottom flaps 18 defined as the lower side tab portions of the access closure device C are not secured to adjacent overlapping portions of the side wall bottom flap 19. In this stage of erection the container should appear as shown in Fig. 2.

The top closure is effected by folding the end wall top flaps right angularly inwardly with respect to their adjacent end panels 12. The side wall top flaps are then folded angularly inwardly into flatwise contacting relation to the previously positioned end wall top flap 16. In this position the side wall top flaps 17 are secured to the end wall top flap 16, however it is preferred that the portions of the end wall top flap 16 defined as the upper side tab portion 35 be unsecured to the adjacent portions of the side wall top flaps 17. In this completed stage of erection the container should appear as shown in Fig. 3.

To prevent accidental opening of the access closure device C, it may be desired to provide a tape sealing means 37 as shown in Fig. 9 which is placed across the transverse slit portion 29. The tape sealing means 37 may be severed by means of a knife 38 or any other suitable cutting means.

A further modification is to provide a tear tape sealing means 39 as shown in Figs. 5, 6 and 7 which is similarly secured across the transverse slit portion 29. The tear tape means 39 is provided with a tearing device or means 40 which is disposed in substantial alignment with the transverse slit portion 29. The tearing means 40 may be grasped and torn outwardly thereby severing the tear tape means 39 along the transverse slit portion 29 so as to permit opening of the access closure device.

The access closure device may be opened by grasping the free end edge of the center panel 34 adjacent the finger grip opening 33 as shown in Fig. 8. The center panel 34 is swung outwardly about its adjacent corner defining score line 13 so as to expose the contents of the container as shown in Fig. 4. As the center panel is swung outwardly the connected upper side tab portion 35 and lower side tab portion 36 will also swing outwardly exposing correspondingly shaped voids 41 in the adjacent end wall closure flaps 16 and 18. It should be noted that the void 41 in the end wall bottom flap 18 is clearly visible in Fig. 4, however the void 41 in the end wall top flap 16 is indicated by the dotted line portion shown in Fig. 4.

The access opening B permits easy removal of the contents 42 of the container. If desired, the access closure device C may be reclosed to seal the container against dirt and contamination.

It is an advantage of this invention that the corners of the container remain intact and that the top and bottom closure means need not be unsealed to gain access to the contents.

The embodiment of the invention is merely illustrative and the invention is susceptible of many modifications which fall equally within the scope of the invention. For example, it may be desirable to modify the access closure device C to provide a relatively smaller access opening B by disposing the transverse slit portion 29 substantially closer to the corner defining hinge connection 13 which supports the center panel number 34. Also it may desire to hinge the center panel 34 from an auxiliary hinge line (not shown) which is positioned in spaced parallel relation from the corner defining score line 13.

Also this invention is not limited to the precise configuration of the access closing device C shown in the drawings. For example, the configuration of the slit 23 may be modified to provide rounded portions rather than the angular and inclined portions illustrated. However, it is important that the lower angular portion 28 and the upper angular portion 30 be rounded or inclined somewhat in the direction illustrated so as to prevent binding as the access closure device is opened.

All the modifications described hereinbefore and all other modifications which are similar or equivalent hereto come equally within the scope of the claims next appearing.

What I claim is:

1. In a rectangular paperboard container having four walls connected together along corner defining scores, one opposed pair of walls each having integral top and bottom inner closure flaps, and another opposed pair of walls each having integral top and bottom outer closure flaps; an easy opening closure means defined by a continuous line of severance extending substantially transversely across one of said opposed walls having integral top and bottom inner closure flaps, said line of severance being in spaced substantially parallel relation to a first adjacent corner defining score of said one wall and continuing into both top and bottom inner closure flaps, thence across both said integral top and bottom inner closure flaps defining relatively narrow panel portions therein and terminating at the termini of a second corner defining score of said one wall, defining the hinge of said easy opening closure means having a vertical wall panel with connected top and bottom inner closure flap portions, which may be swung freely outwardly at least 90 degrees, to expose the contents for easy removal.

2. The invention as set forth and claimed in claim 1, wherein a cut-out portion adjacent the line of severance extending transversely the said wall, is provided to permit easy grasping of the easy opening closure means.

3. The invention as set forth and claimed in claim 1,

wherein the top and bottom wall inner closure flap portions defined by the continuous line of severance are substantially trapezoidal in shape to facilitate the top and bottom wall inner closure flap portions defined thereby to be freely swung outwardly about the hinge connection of the opening device without engagement against the adjacent unattached portions of the top and bottom inner wall closure flaps.

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