Jan. 9, 1968 W. J. VAN DYCK 3,362,616

CARTON

Filed Dec. 28, 1965

Fig. 1

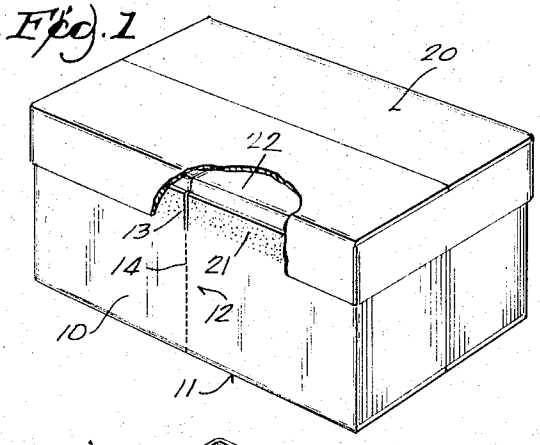


Fig. 4

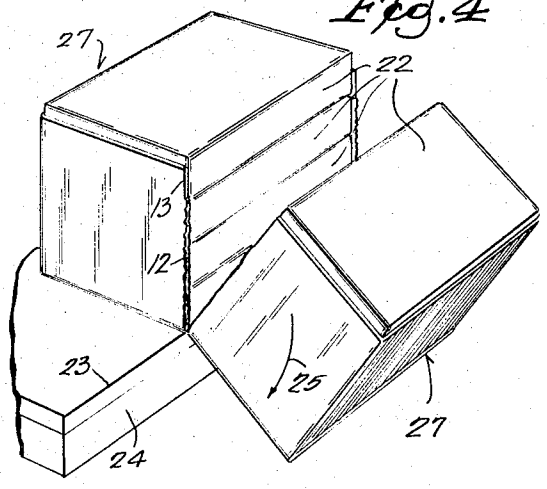


Fig. 2

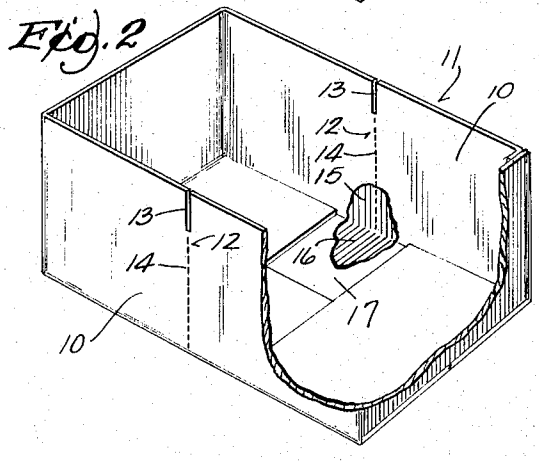


Fig. 5

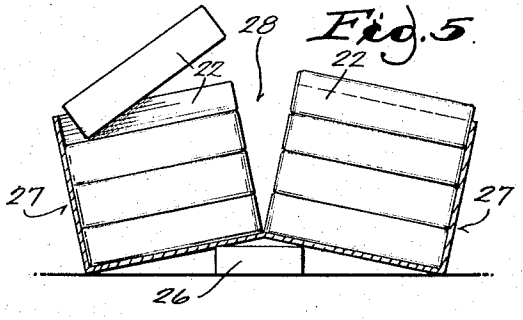


Fig. 3

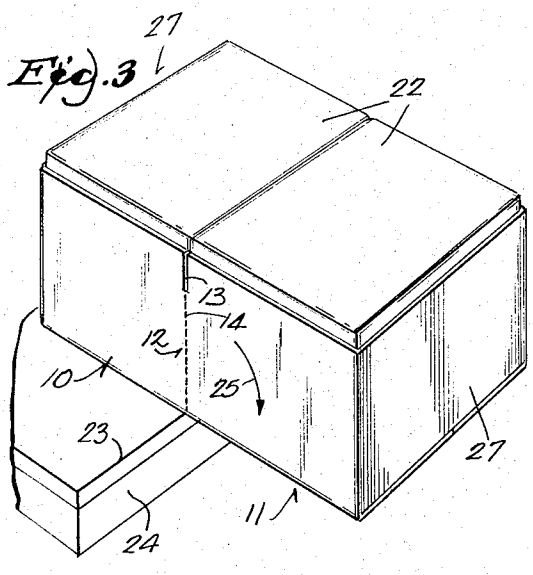
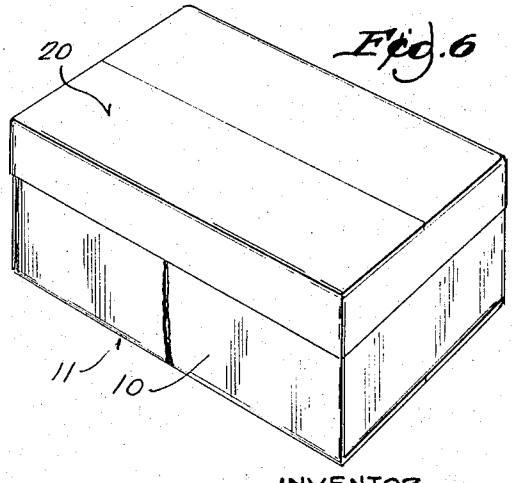


Fig. 6



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CARTON

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6 Claims. (Cl. 229—51)

This invention relates to a carton having improved access to carton contents.

The carton of the present invention is generally similar in appearance to the carton shown in my prior United States Patent 2,880,866. It has telescopically related top and base trays. The carton of the present invention, however, has provision for opening it at a point intermediate its ends and for exposing its contents for easy access and removal. For this purpose, I provide score lines in the side walls of the carton tray base on which the base may be partially ruptured. Portions of the carton at opposite sides of the plane of rupture may then be pivoted to an open position in which carton contents may easily be grasped by the fingers and removed.

To hold the carton tray base in its open position, the partially ruptured carton tray base is desirably propped upwardly along its plane of rupture to fold back the end portions, and thus separate and expose carton contents for easy removal.

Before the carton tray base is thus ruptured, the carton tray top is removed and remains intact. Accordingly, if it is desired to reclose the carton, the end portions of the carton tray base are repivoted to closed position, and the unbroken tray top is telescoped over the partially ruptured carton tray base. This will reintegrate the carton for protected storage of its contents.

The carton is desirably made of corrugated cardboard. Certain corrugations in the bottom and side walls of the tray base are aligned in the plane of rupture and hence align with the score lines aforesaid. One of the corrugations along the bottom wall of the carton will be generally aligned with the lower ends of the score lines in the carton side walls, and aligns with a line of bend on which the partially ruptured carton tray base will hinge in the course of pivoting the end portions of the carton to expose its contents.

Other objects, features, and advantages of the invention will appear from the following disclosure in which:

FIG. 1 is a perspective view of a carton embodying the present invention, a part of the top tray being broken away to expose details of construction of the carton tray base.

FIG. 2 is a perspective view of the carton tray base, wall portions being broken away to expose details of construction.

FIG. 3 is a perspective view illustrating the first step in opening the loaded carton, which is to remove its top tray and to drop the carton at its plane of rupture against a corner to impose breaking impact on the scored carton side walls.

FIG. 4 is a similar perspective view showing how the weight of the carton will rupture the score lines in the side walls of the carton tray base.

FIG. 5 illustrates the use of a prop to hold open the end portions of the carton tray base to expose its contents for easy removal.

FIG. 6 is a perspective view of a partially ruptured carton which has been reintegrated in replacing the unbroken carton tray top.

Although the disclosure hereof is detailed and exact to enable those skilled in the art to practice the invention, the physical embodiments herein disclosed merely exemplify the invention which may be embodied in other

specific structure. The scope of the invention is defined in the claims appended hereto.

In accordance with the present invention, a carton generally similar to the one shown in my prior United States Patent 2,880,866 has the side walls **10** of the carton tray base **11** provided with score lines **12** which are transverse to the carton length. The score lines **12** desirably are made in two parts, namely, an upper part **13** which is slit and a lower part **14** which is perforated. The term "score line" as used herein is generic to both a perforated line and a slit line.

The carton tray base **11** is typically made of corrugated cardboard. In FIG. 2, the face paper is partially removed to expose the corrugations **15** in the side wall and **16** in the bottom wall **17**. These corrugations are aligned in the side wall with the score line **12** and are also aligned in the bottom wall **17** on the plane of rupture connecting score lines **12**.

The carton also has a carton tray top **20** with unbroken side walls. Top **20** telescopes over the carton tray base **10** and is releasably connected thereto by break-away means such as bands of break-away adhesive **21**.

Carton contents may typically consist of stacks of paper sheets or a series of paper packets **22**, as illustrated. As shown in my prior patent aforesaid, the tray top **20** is applied under pressure so that the overall height of the completed carton will depend on the quantity of its contents.

When it is desired to open the carton of the present invention and dispense its contents, the glued bond at **21** is easily broken and the top tray **20** removed in one unbroken piece. While the paper packets **22** may now be removed in the conventional fashion, it is an important feature of the present invention that the carton may be opened to a greater extent by rupturing the carton tray base along the score lines **12**, as illustrated in FIGS. 3 and 4. For this purpose, the user will drop or otherwise force the loaded carton tray base against the corner **23** of a table **24** or the like. The impact of the loaded tray against the table corner **23** in a plane of rupture including a line connecting the lower ends of score lines **12**, and the score lines **12**, will rupture the carton tray side walls **10** along the score lines **12**. This is because the momentum of the loaded carton half which overhangs the table will impose rupturing forces on the score lines **12** to sever the score line **12**, as indicated in FIG. 4. The carton end portion **27** which overhangs the table will accordingly rotate in the direction of the arrow **25**, about a hinge line through the bottom and connecting the bottom ends of the score lines **12**.

Score line **12** could be perforated throughout its length, but it has been found that by slitting it at **13** near the top edge of the side wall **10** and for about two or three inches inwardly from the upper edge of the wall **10**, the rupture will start easier. By confining the slit **13** to the area near the top edge of the wall **10**, which is the area ordinarily telescopically covered by the unbroken sides of the carton tray top **20**, the carton will not be impaired in strength or content protective quality during its shipping stage.

The carton end portions **27** may now be spread, as illustrated in FIG. 5, in which a wooden or like prop **26** is placed beneath the midportion of the carton tray bottom, thus to bend or pivot the two end portions **27** to a spread apart position in which there is a substantial gap **28** between the two stacks of packets **22**. This will admit the user's fingers into the gap **28** to facilitate lifting out the respective packets **22**. In lieu of the wooden prop **26**, the unbroken carton tray top **20** can be used as a prop.

If it is desired to reclose the carton for further storage of its contents before all contents have been re-

moved, the unbroken tray top **20** may be retelescoped over the partially ruptured carton tray base **11**, as illustrated in FIG. 6. The walls of the top **20** will embrace the ruptured side walls of the tray base so that the reintegrated carton can be handled as a unit and will protect the unused contents, pending further need for dispensing the packets **22** or other contents thereof.

In the illustrated embodiment the plane of rupture is midway between the ends of the carton base tray. This location is appropriate where there are two equal size stacks of packets **22**, and it is desired to expose only the packet edges to finger access. If it is desired to also expose portions of the packet sides to finger access, the plane of rupture can be offset from the center. Moreover, more than one set of score lines **12** can be provided, if it is desired to provide several planes of rupture, as where more than two stacks of packets **22** are stored in the same carton.

I claim:

1. A carton comprising an open top carton tray base with relatively high side walls and a carton tray top having relatively low side walls telescopically receivable over the high side walls of the tray base, break-away means for releasably attaching the top side walls to the base side walls during shipping and storage of said carton, the side walls of the base having score lines transverse to the length of the base and on which the said base may be partially ruptured for exposure of and easy access to carton contents after the said break-away means has been broken and the top removed from the carton, the side walls of the carton top being unbroken and by which the partially ruptured tray base may be reintegrated by replacing the unbroken top over the tray.

2. The carton of claim **1** in which the carton tray base is made of corrugated cardboard, the tray base having a bottom in which the corrugations run laterally across the bottom, one of said corrugations being aligned on a line of bend on which the partially ruptured carton

tray base is hinged in the course of exposing carton contents.

3. The carton of claim **1** in combination with a prop on which an intermediate portion of the partially ruptured carton tray base is supported to spread the end portions of the carton tray base in content exposing position.

4. The carton of claim **1** in which said score lines comprise lines of perforations near the bottom of the said side walls and lines of severance near the top of said side walls and beneath the unbroken side walls of the top.

5. An easy access carton comprising an open top carton base tray having side walls with rupturable score lines transverse to the length of the base tray,

said carton base tray being made of corrugated cardboard, with the corrugations being transverse to the length of the base tray,

one of said corrugations being aligned with the rupturable score lines in the side walls,

whereby on rupture of said score lines the base tray will be hinged on said one of said corrugations.

6. An easy access carton according to claim **5** including a prop positioned under said tray in alignment with said hinged corrugation to allow for finger access to edges of the carton contents and removal thereof through the said open top.

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