July 9, 1935. E. C. VINCENT 2,007,553

CARTON AND DISCHARGE VENT

Filed Sept. 12, 1934

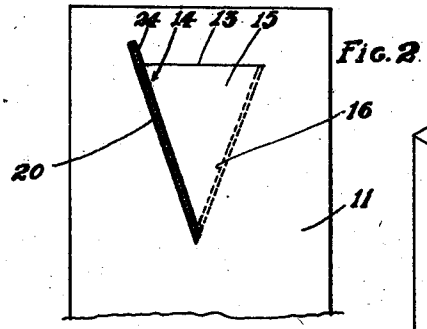


Fig. 2

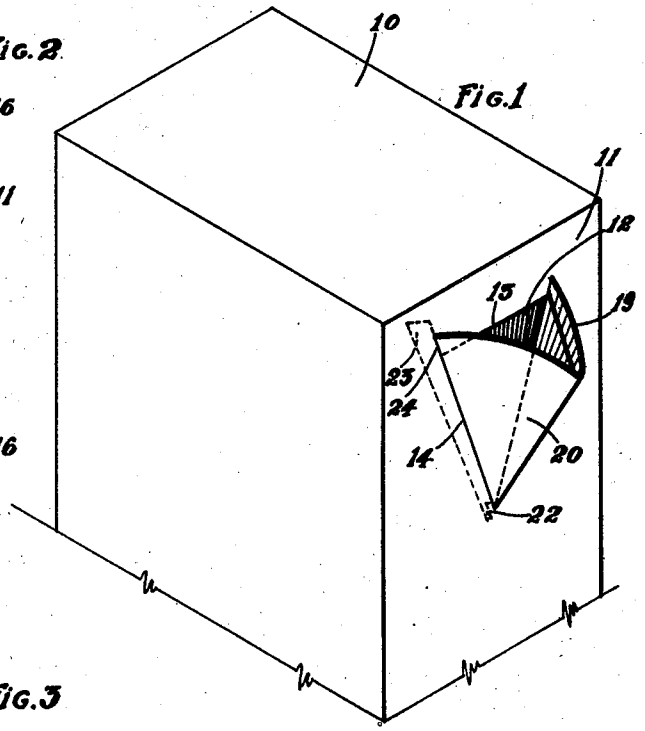


Fig. 1

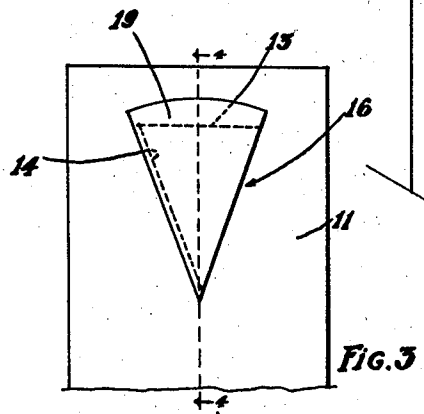


Fig. 3

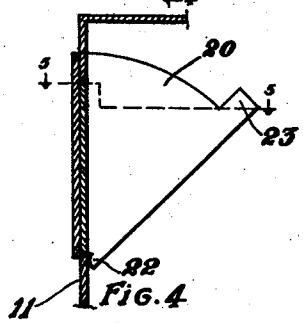


Fig. 4

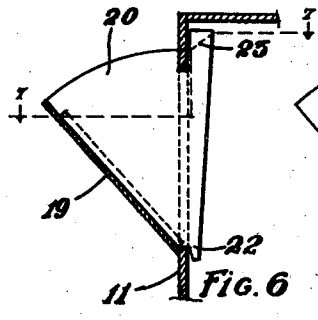


Fig. 6

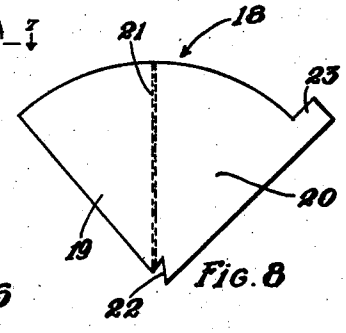


Fig. 8

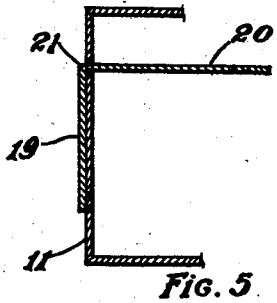


Fig. 5

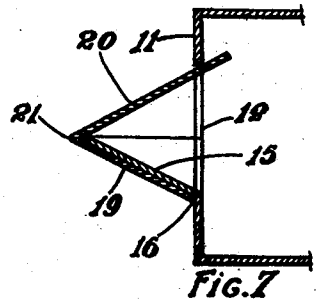


Fig. 7

WITNESSES

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CARTON AND DISCHARGE VENT

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Application September 12, 1934, Serial No. 743,646

10 Claims. (Cl. 221—11)

The present invention relates to receptacles, cartons and the like and, more particularly, to a discharge vent for such containers which in the closed position is adapted to form a closure and in the open position to form a pouring spout.

A general object of the invention is the provision of such a device which can be easily manufactured, readily and efficiently operated, may be used with collapsible or foldable container blanks to allow their shipment in collapsed form when empty and insures a tight seal for the container when the latter is filled with granulated materials.

A more specific object of the invention is the provision of such a container and a discharge vent therefor which together may be folded flat for shipment; the discharge vent when closed constituting a tight seal for granulated materials packaged therein with a sticker or the like secured thereover, is simple in construction avoiding the necessity of double carton walls, and can readily be operated to form an efficient pouring spout.

A further object of the invention is the provision of such a device in which the carton has a wall thereof severed to form an angular opening preferably a generally triangular opening such as an isosceles triangular opening fitted with a spout-forming closure blank hinged to the wall of the carton preferably by a flap formed during the severance and having a closure portion and a wing portion, the latter positioned in the opening in a manner so that in the closed position the closure blank may lie flat against the wall of the carton and may be swung outwardly gradually to form a trough-shaped discharge spout.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises the features of construction, combination of elements, and arrangement of parts, which will be exemplified in the construction hereinafter set forth and the scope of the invention will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention reference should be had to the following detailed description taken in connection with the accompanying drawing, in which:

Fig. 1 is a perspective view of a portion of a carton provided with the discharge vent of the present invention;

Fig. 2 is a portion of a front elevational view of a carton provided with the discharge vent of the present invention and with the spout-forming closure partly in section and in the closed position;

Fig. 3 is a view similar to Fig. 2 showing the cover portion of the spout-forming closure;

Fig. 4 is a vertical sectional view taken on line 4—4 of Fig. 3;

Fig. 5 is a transverse sectional view taken on line 5—5 of Fig. 4;

Fig. 6 is a vertical sectional view of a portion of the carton and the spout-forming closure in open position;

Fig. 7 is a transverse sectional view taken on line 7—7 of Fig. 6; and

Fig. 8 is a rear plan view of the spout-forming closure blank.

Referring to the drawing like numerals refer to like parts throughout. A collapsible receptacle or carton 10 of well known type has one wall 11 thereof provided with an angular opening 12 preferably generally triangular. In the preferred form the angular opening 12 is in the shape of an isosceles triangle. However, the invention contemplates the use of various shapes of openings, such as for example any triangular opening which is provided with an acute lower angle and also a generally triangular opening which may be in the shape of a sector of a circle. The opening 12 is formed by severance of the wall 11 along two intersecting lines 13 and 14, to provide a flap 15 having a fold line 16 constituting one of the sides of the angular opening 12.

A spout-forming closure blank 18 formed of relatively stiff material such as that from which the carton is formed, consists of a cover portion 19 and a wing portion 20. A fold line 21, preferably formed by scoring, defines portions 19 and 20. In the preferred form the portions 19 and 20, particularly the wing portion 20, are generally sector-shaped and the wing portion 20 is provided with projections 22 and 23 for purposes set forth below.

To insure efficient closure both the cover portion 19 and the wing portion 20 are made larger than the opening 12 so that the cover portion 19 will overlap the carton wall 11 at the top of the opening as is indicated in Figs. 3 and 4. A slot 24 in line with the side 14 of the opening 12 is formed in the carton wall 11 to receive the upper edge of the wing portion 20.

The spout-forming closure blank 18 is mounted in position by placing the wing portion 20 in the opening 12 and the cover portion 19 on the outside of the flap 15. The cover portion 19 is secured to the flap 15 in any suitable manner such as by an adhesive or the like. The upper edge

of the wing portion 20 thus at all times remains mounted in the slot 24 with the projections 22 and 23 disposed to the rear of the carton wall 11 as is shown in Figs. 4 and 6. By virtue of this construction with the spout forming closure blank in the closed position, as depicted in Figs. 2, 3, 4 and 5, the carton may be folded up without the wing portion 20 interfering in any manner with the folding of the collapsible carton since the wing portion 20 may be folded along the fold line 21 to lie substantially flat adjacent the rear face of the carton wall 11, either extended or back upon the flap 15.

With the carton 10 set up to receive granular materials such as foods, drugs and the like, the closure blank 18 is moved to the closed position as depicted in Fig. 3 and to insure a tight seal a sticker or the like is pasted thereover. Such cartons filled with granular materials may be shipped without danger of the discharge vent breaking open. When discharge of the contained granular materials is desired, the sticker or seal is readily broken and the closure swung outwardly to uncover the opening. As the closure is swung outwardly it gradually forms a trough-shaped spout as shown in Figs. 1 and 7. By virtue of this structure it is not necessary to use a double wall carton and it will be seen that the structure is simple, easily manufactured and attains the objects set forth above in an efficient manner.

Since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a carton a discharge vent comprising in combination a wall of the carton severed to form therein a generally triangular opening and a flap having a fold line forming one side of an angle of the opening, a flat spout-forming closure larger than the opening secured to said flap and having a fold line substantially aligned with the side of the opening which forms a vertex with the side formed by said flap fold line and a wing portion beyond said closure fold line positioned in the opening adjacent the last mentioned side thereof, and means on said wing portion to limit its outward movement.

2. In a carton a discharge vent comprising in combination a wall of the carton severed to form therein a triangular opening having an acute lower angle and a flap having a fold line forming one side of the acute angle, a flat spout-forming closure larger than the opening secured to said flap and having a fold line substantially aligned with the side of the opening which cooperates with said flap fold line to form the acute angle and a wing portion beyond said closure fold line positioned in the opening adjacent the last mentioned side thereof, and means on said wing portion to limit its outward movement.

3. In a carton a discharge vent comprising in combination a wall of the carton severed to form therein an isosceles triangular opening and a flap having a fold line forming one of the equal sides of the triangular opening, a flat spout-forming closure larger than the opening secured to said flap and having a fold line substantially aligned with the other equal side of the opening opposite said flap fold line and a wing portion beyond said closure fold line positioned in the opening adjacent the last mentioned side thereof, and means on said wing portion to limit its outward movement.

4. In a carton a discharge vent comprising in combination a wall of the carton having therein a triangular opening fomed with an acute lower angle, a flat spout-forming closure larger than the opening and hinged to said wall adjacent one side of the acute angle, said closure having a fold line substantially aligned with the other side of the acute angle of the opening and a wing portion beyond said fold line positioned in the opening adjacent the last mentioned side thereof, and means on said wing portion to limit its outward movement.

5. In a carton a discharge vent comprising in combination a wall of the carton severed to form therein an isosceles triangular opening with the vertex of the equal sides adapted to be located adjacent the bottom of a spout, and a flat spout-forming closure larger than the opening and hinged to said wall adjacent one of the equal sides of the opening, said closure comprising a blank having a cover portion for the opening, a wing portion, a fold line defining said portions and means on said wing portion to constitute a stop, said closure when in the closed position having said fold line substantially aligned with the other equal side of the opening and said wing portion positioned in the opening.

6. In a foldable carton a discharge vent comprising in combination a wall of the carton severed to form therein a generally triangular opening and a flap having a fold line forming one side of an angle of the opening, said wall having a slot communicating with the opening and in line with the side of the opening which forms a vertex with the side formed by said flap fold line, and a flat spout-forming closure comprising a blank having a cover portion for the opening, a wing portion, a fold line defining said portions and a projection on said wing portion to constitute a stop, said cover portion being secured to said flap and said wing portion being positioned in the opening and the slot, said closure fold line being aligned with the slot and the side of the opening opposite said flap fold line when said closure is in the closed position.

7. In a carton a discharge vent comprising in combination a wall of the carton severed to form therein an isosceles triangular opening with the vertex of the equal sides adapted to be located adjacent the bottom of a spout and a flap having a fold line forming one of the equal sides, said wall having a slot communicating with the opening and in line with the other equal side of the opening, and a flat spout-forming closure comprising a blank having a cover portion for the opening, a wing portion, a fold line defining said portions and a projection on said wing portion constituting a stop, said cover portion being secured to said flap and said wing portion being positioned in the opening and the slot, said closure fold line being aligned with the slot and the equal side of the opening opposite said flap fold line when said closure is in the closed position.

8. In a foldable carton a discharge vent comprising in combination a wall of the carton having therein a triangular opening formed with an acute lower angle, said wall having a slot communicating with the opening and in line with one side of the acute angle, and a flat spout-forming

closure comprising a blank having a cover portion for the opening, a generally sector-shaped wing portion, a fold line defining said portions and a projection on said wing portion to constitute a stop, said cover portion being hinged to said wall adjacent the other side of the acute angle and said wing portion being positioned in the opening and the slot, said closure fold line being aligned with the slot and the first mentioned side of the opening when said closure is in the closed position.

9. In a carton the combination of a carton wall severed to have an isosceles triangular opening therein and a flap in the opening having a fold line forming one of the equal sides of the opening, and a spout-forming closure comprising a normally flat blank of relatively stiff material having a cover portion secured to said flap, a generally sector-shaped wing portion, a fold line defining said portions and located to be substantially aligned with the second equal side of the opening and a projection on said wing portion to constitute a stop, said wing portion being positioned in the opening whereby the spout-forming closure can lie substantially flat against the carton wall when closed and be swung outwardly on said flap to draw the wing portion through the opening to form with the cover portion a trough-shaped spout.

10. In a carton the combination of a carton wall severed to have an isosceles triangular opening therein, a flap in the opening having a fold line forming one of the equal sides of the opening and a slot communicating with the opening and in line with the other equal side of the opening, and a spout-forming closure comprising a normally flat blank of relatively stiff material having a cover portion secured to said flap, a generally sector-shaped wing portion, a fold line defining said portions and located to be substantially aligned with said second mentioned equal side of the opening and a projection on said wing portion to constitute a stop, said wing portion being positioned in the opening and the slot whereby the spout-forming closure can lie substantially flat against the carton wall when closed and be swung outwardly on said flap gradually to form a trough-shaped spout as said wing portion is drawn outwardly through the opening.

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