Oct. 20, 1959 J. A. GOVANG 2,909,310

SHIPPING AND DISPENSING CARTONS

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FIG. 1

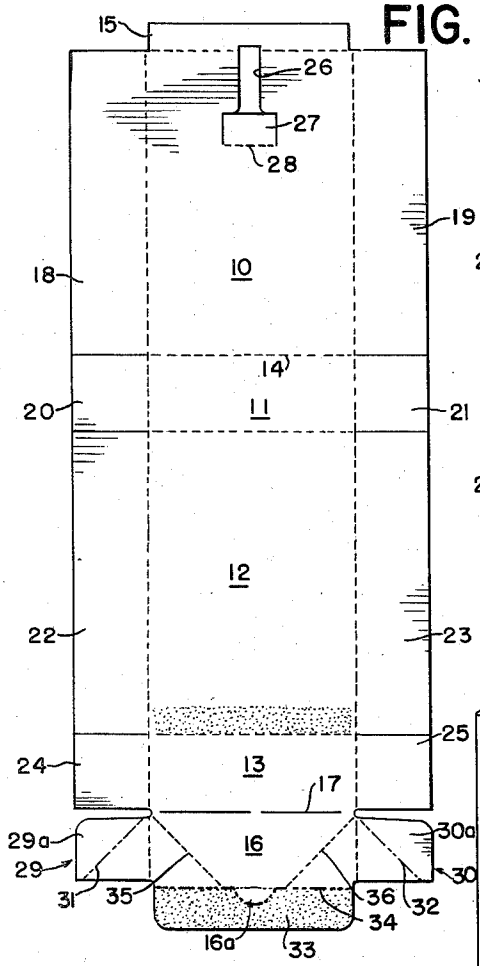


FIG. 2

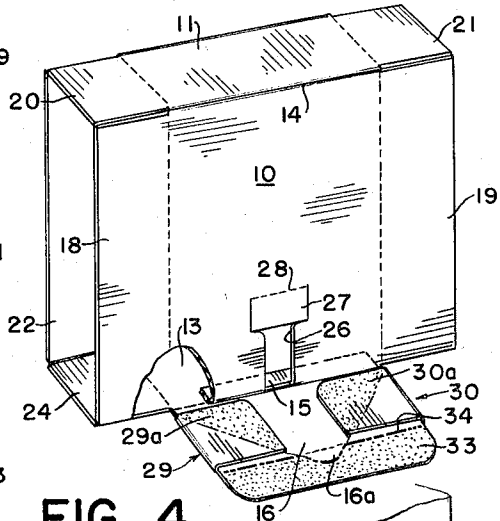


FIG. 4

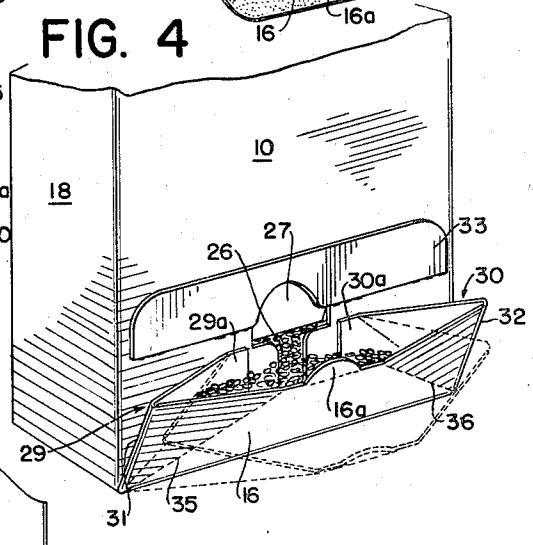
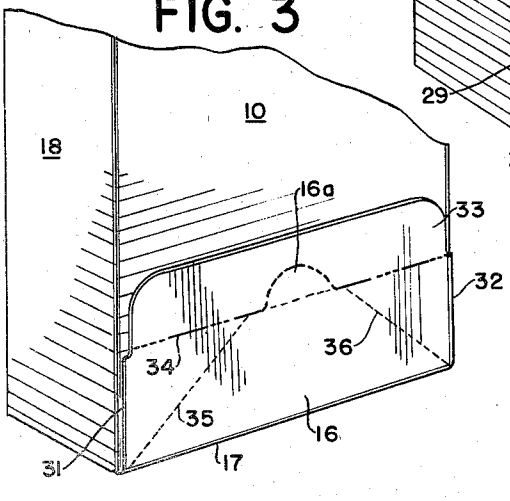


FIG. 3



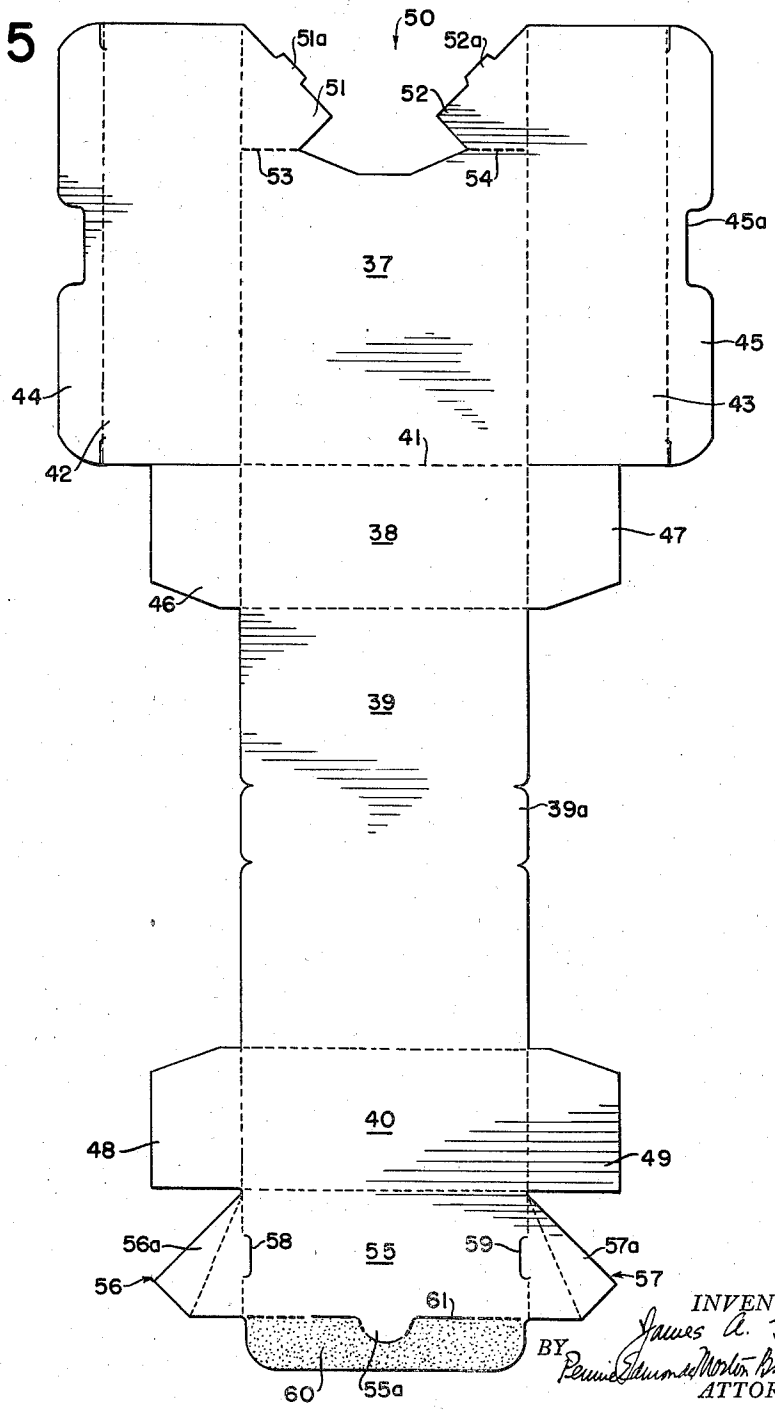
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SHIPPING AND DISPENSING CARTONS

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FIG. 5



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FIG. 6

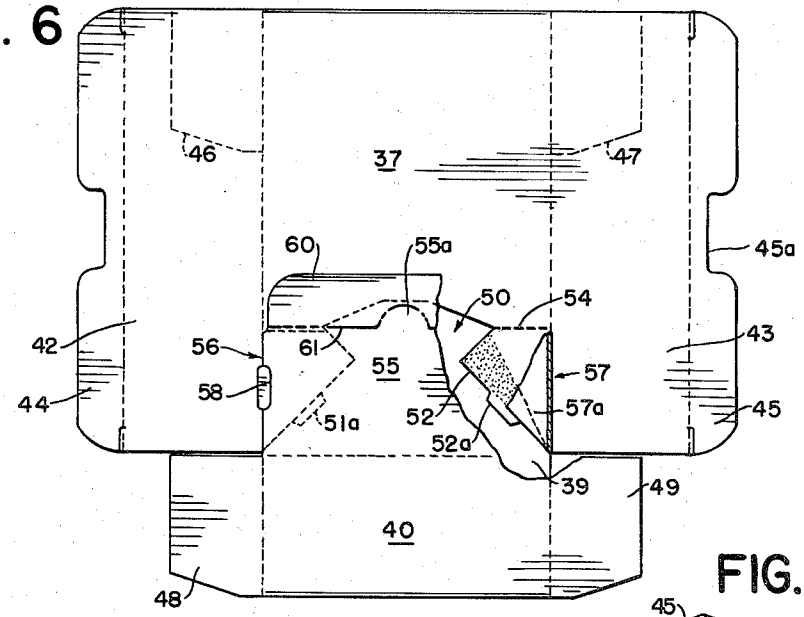


FIG. 8

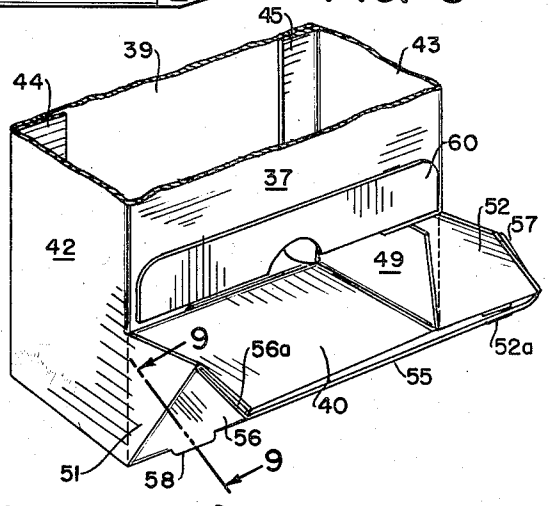


FIG. 7

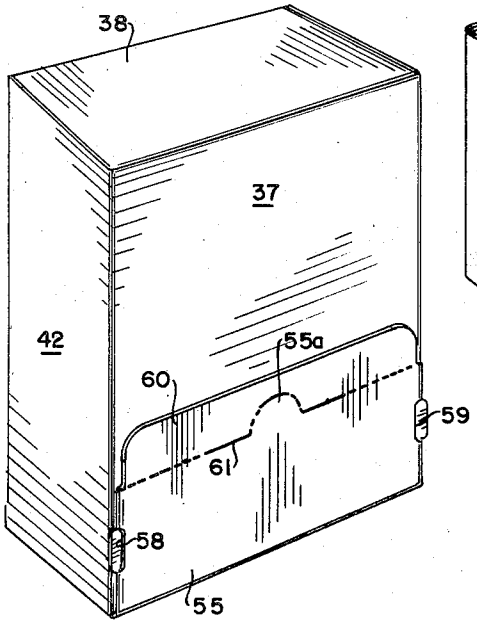
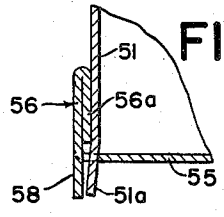


FIG. 9



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United States Patent Office 2,909,310 Patented Oct. 20, 1959

2,909,310

SHIPPING AND DISPENSING CARTONS

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Application September 22, 1958, Serial No. 762,509

7 Claims. (Cl. 229—17)

This invention relates to cartons and resides more particularly in a novel carton, which is suitable for shipping finely divided or granular material, small articles, etc., and may be readily altered at its point of use, so that its contents are accessible for dispensing. Cartons for shipping and dispensing various products are not new but, as made heretofore, such cartons are open to various objections, as, for example, they are frequently made of two separate blanks and are costly to produce. Also, certain of the prior cartons do not form a tight shipping package unless auxiliary sealing means are employed.

The carton of the invention overcomes the disadvantages of prior cartons, in that it is made from a single blank and the blank can be folded and glued, while traveling rectilinearly, so that these operations can be rapidly performed on straight-line equipment. In addition, the new carton can be made in different forms for use for different purposes, as, for example, as a bird feeder, a dispensing carton for individual pieces of candy, etc.

For a better understanding of the invention, reference may be made to the accompanying drawings, in which

Fig. 1 is a plan view of a blank for one form of the new carton suitable for final use as a bird feeder;

Fig. 2 is a perspective view of the blank of Fig. 1 partially folded and glued and with parts broken away;

Fig. 3 is a fragmentary perspective view showing the lower end of the closed carton made from the blank of Fig. 1;

Fig. 4 is a view similar to Fig. 3 but showing the carton with the feeder trough open;

Fig. 5 is a plan view of the blank for a second form of the carton suitable for dispensing small pieces of candy;

Fig. 6 is a plan view, with parts broken away, of a collapsed glued carton made from the blank of Fig. 5;

Fig. 7 is a view in perspective of the closed carton made from the blank of Fig. 5;

Fig. 8 is a fragmentary perspective view of the carton of Fig. 7 with the dispensing trough open; and

Fig. 9 is a sectional view on the line 9—9 of Fig. 8.

The new carton in the form illustrated in Figs. 1–4, inclusive, is made from a blank which includes a front wall **10**, a top wall **11**, a rear wall **12**, and a bottom wall **13** connected together in the order named along crease lines, one of which is indicated at **14**. The front wall **10** is provided with a glue flap **15** along its free edge and a trough panel **16** is connected to the free edge of the bottom wall **13** along a partially severed line **17**. The body is provided with suitable end closures which, in the carton shown, include flaps **18**, **19** secured to the side edges of the front wall, flaps **20**, **21** secured to the side edges of the top wall, flaps **22**, **23** secured to the side edges of the rear wall, and flaps **24**, **25** secured to the side edges of the bottom wall. The flaps at each side of the body are adapted to be turned in one upon the other and secured together in the usual way.

Near its lower end, the front wall is formed with a discharge opening **26**, the opening continuing a short distance into the glue flap **15**. At its upper end, the opening is defined by the lower edge of a tab **27**, which is secured to the front wall at its upper edge along a crease line **28** and is elsewhere severed from the wall.

The trough panel **16** is provided with wings **29**, **30** secured to its side edges along crease lines and the wings are formed with end sections **29***a*, **30***a* defined by crease lines **31**, **32** extending diagonally across the wings from the ends of the trough panel near the ends of line **17**. A glue flap **33** is secured along a partially severed line **34** to the free edge of the trough panel **16** and the panel is formed with a tab **16***a*, which extends into the flap. The panel is provided with crease lines **35**, **36**, which extend approximately from the ends of the line **17** to opposite sides of the tab **16***a*.

In forming the carton from the blank shown in Fig. 1, the blank is folded along the crease lines between the walls and the glue flap **15** is secured to the inner surface of the bottom wall **13** adjacent the line **17**. The wings **29**, **30** are then turned inwardly to lie against the face of the trough panel **16** and glue is applied to the exposed surfaces of the end sections **29***a*, **30***a* and also to the upper surface of the glue flap **33**. With the wings held in folded position, the trough panel is swung so that the glued surfaces of the end sections of the wings are secured to the front face of the front wall **10** on opposite sides of the opening **26** and the glue flap **33** is secured to the front wall so that it partially overlies the tab **27**. When the carton is to be filled, the closure flaps at one side are turned in and secured one upon the other and, after the carton has been turned to rest upon its closed side and filled, the closure flaps at the other side are similarly secured together.

The filled carton holds its contens tightly, since the sides are closed by the overlapped glued flaps and the opening **26** through the front wall is closed by the trough panel **16**. At the point of use, the carton may be converted into a bird feeder by pushing in the tab **16***a* to detach it from the lower edge of the glue flap **33**. The tab **27**, partially severed from the front wall **10**, permits tab **16***a* to be moved inwardly and, when tab **16***a* has been separated from the glue flap, the tab can be grasped and pulled to free the top of the trough panel **16** from the lower edge of the glue flap. As the trough panel is swung forwardly, the wings **29**, **30** swing away from the front wall along the diagonal lines **31**, **32** at the inner edges of the end sections **29***a*, **30***a*, which are glued to the front wall. As the trough formed by the trough panel and wings swings outwardly, the seed within the carton begins to flow out through the discharge opening **26** into the trough until the trough is partially filled. When a bird alights on the upper edge of the trough panel, the panel swings outwardly under the weight of the bird and this tends to enlarge the trough so that additional seed may flow into it. When the bird flies away, the resilience of the paperboard tends to swing the trough panel and wings toward the front wall but the contents of the trough prevent the trough from moving back against the front wall. The continued movement of the trough back and forth toward and away from the front wall discharges substantially all of the contents of the carton and the residue may be discharged into the trough by tilting the carton.

The blank shown in Fig. 5 is for a carton to be used in dispensing small pieces of candy, such as individually wrapped mints, and includes a front wall **37**, a top wall **38**, a rear wall **39**, and a bottom wall **40**, connected together in the order named along crease lines, such as the line **41**. The carton is provided with means for clos-

ing its sides and, in the construction shown, such closure means include flaps **42**, **43** connected to the side edges of the front wall and provided at their free ends with tuck flaps **44**, **45**, respectively. The closure means also include flaps **46**, **47** secured to the side edges of the top wall and similar flaps **48**, **49** secured to the side edges of the bottom wall.

The front wall is cut away at its lower end to form an opening **50**, which is partly defined at its sides by a pair of flap sections **51**, **52** hinged to the flaps **42**, **43** and connected to the remainder of the front wall along partially severed lines **53**, **54**. The flap sections **51**, **52** have diagonal lower edges, from which extend tongues **51***a*, **52***a*, respectively.

The free edge of the bottom wall is connected along a crease line to a trough panel **55**, which is provided with lateral wings **56**, **57**. The wings are connected to the panel along crease lines and U-shaped cuts **58**, **59** formed in the trough panel with their ends lying in such crease lines define openings at the ends of the panel, when the wings are bent out of the plane of the panel. The wings are provided with respective triangular end sections **56***a*, **57***a*, each of which is separated from the remainder of its wing along a diagonal crease line.

A glue flap **60** is connected to the free edge of the trough panel along a partially severed line **61** and the trough panel is provided with a tab **55***a*, which projects into the glue flap beyond the line **61**.

In converting the blank shown in Fig. 5 into a carton, the blank is folded along its transverse crease lines to bring the lower edge of the front wall adjacent the connection between the bottom wall **40** and the trough panel **55**. The wings are then folded inward and the end sections **56***a*, **57***a* are secured by glue to the outer faces of the flap sections **51**, **52** of the front wall. The glue flap **60** is also secured to the front wall so that it overlies the upper end of the opening **50**.

When the carton is to be loaded, the closure flaps at one side of the carton, such as the flaps **43**, **47**, and **49**, are closed by turning in the flaps **47**, **49** and folding the flap **43** upon them. The tuck flap **45** is then inserted to lie against the front face of the rear wall and, if desired, the tuck flap **45** may be formed with a notch **45***a* and the rear wall **39** may be formed with a tongue **39***a* defined by slots, so that the bottom wall of the notch may enter the slots and interlock the tuck flap and rear wall. The carton is then set to rest on its closed side and the articles to be dispensed are inserted into the carton and the other side is closed by the inward folding of flaps **42**, **46**, and **48**.

At the point of use, the trough panel is detached from the glue flap **60** and swung outwardly. For this purpose, the tab **55***a* is pushed inwardly until the top edge of the trough panel may be grasped and pulled forward to free the panel from the glue flap. As the trough panel is moved forward, the wings swing away from the front wall and, as the movement of the panel and wings continues, the flap sections **51**, **52** are torn from the front wall along the lines **53**, **54**. The detachment of the flap sections permits the trough panel to be swung outwardly to lie at a considerable angle, such as an angle of 45°, to the vertical and the swinging of the flap sections continues until they lie at right angles to the plane of the front wall. In this position, the tongues **51***a*, **52***a* on the flap sections can be inserted in the openings formed at the ends of the trough panel **55** by the cuts **58**, **59** and the flap sections are thus locked in place and hold the trough in fully extended position. With the detachment of the flap sections **51**, **52** from the front wall and their movement into contact with the trough wings, the opening **50** at the bottom of the front wall is enlarged so that it extends entirely across the wall. The contents of the carton then flow into the trough and access to the interior of the carton for removal of the last of its contents is easy.

In the cartons shown, the body is formed of a tube extending horizontally and closed by flaps at the sides of the carton and this construction is preferred, since it facilitates gluing and straight-line machines may be used. However, if desired, the carton tube may be vertical, in which case, the sides are closed by walls and the top and bottom by flaps.

I claim:

1. A carton for shipping and dispensing purposes, which comprises a hollow body including a front wall with an opening near its lower end, a rear wall, a top, a bottom closure formed by a flap attached to the lower edge of the rear wall, means closing the sides of the body, and means for connecting the lower end of the front wall to the flap, a trough panel hinged to the flap adjacent the lower edge of the front wall and extending upward from that edge in overlapping relation to the lower edge of the front wall and closing the opening therein, and a pair of wings connected along hinge lines to the side edges of the trough panel and infolded against the front wall, the wings having end sections secured to the front wall at opposite sides of the opening and defined in part by hinge lines extending across the wings at an angle.

2. The carton of claim 1, in which the top is hinged to the upper edges of the front and rear walls and the means for closing the sides of the body are a plurality of flaps hinged to the body walls.

3. The carton of claim 1, in which the end sections of the wings are substantially triangular.

4. The carton of claim 1, in which the upper edge of the trough panel is detachably connected to the lower edge of a glue flap secured to the front wall above the opening.

5. The carton of claim 1, in which the upper edge of the trough panel has a projecting tab movable inwardly through the opening.

6. The carton of claim 5, in which the front wall has a tab in the upper part of the opening lying beneath the tab on the trough panel and movable inwardly therewith as the trough panel flap is moved inwardly through the opening.

7. The carton of claim 1, in which the front wall includes flap sections hinged to the side closures and connected to the end sections of the wings, the flap sections having tongues at their free ends receivable in openings in the hinge lines between the adjacent wings and the side edges of the trough panel.

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