

March 5, 1929.

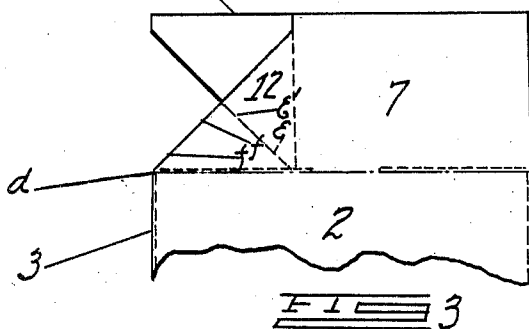
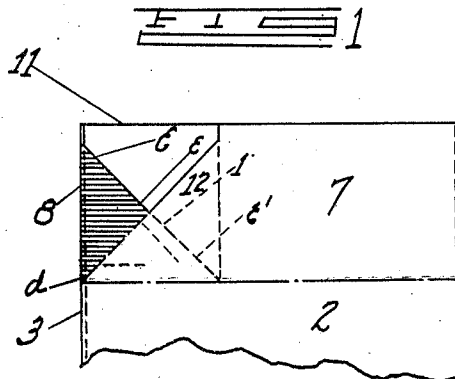
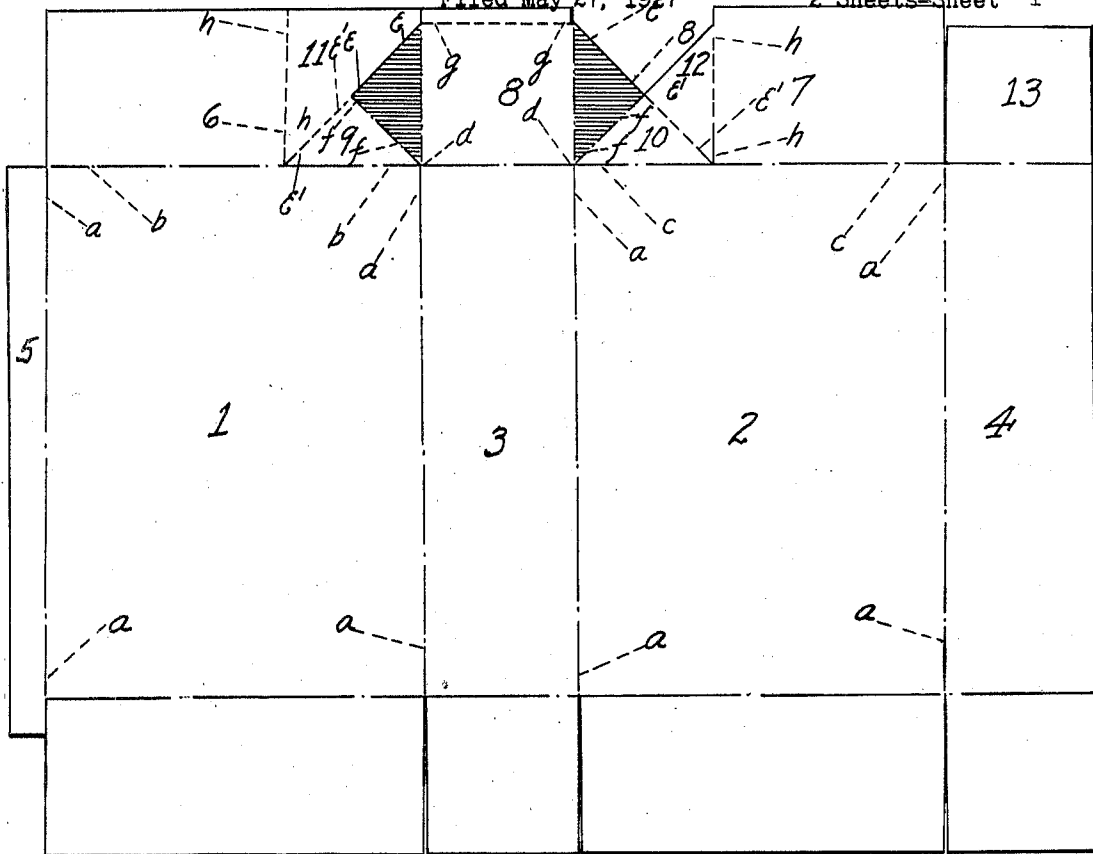
W. A. MORRIS

1,704,055

CARTON

Filed May 27, 1927

2 Sheets-Sheet 1



INVENTOR.

Warren A Morris

BY

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March 5, 1929.

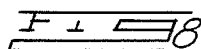
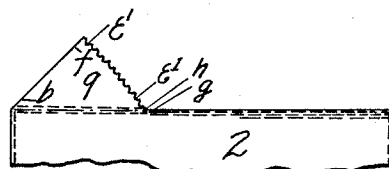
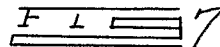
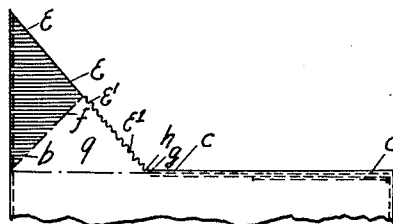
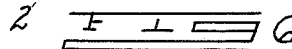
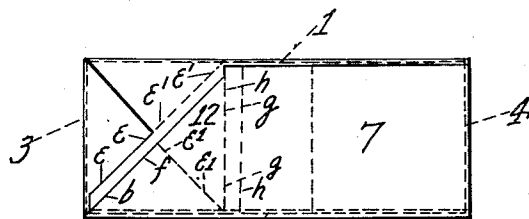
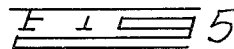
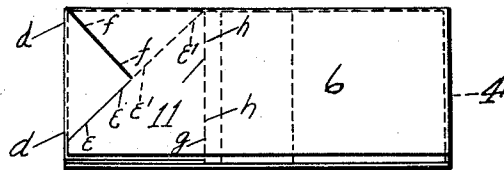
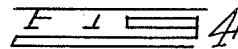
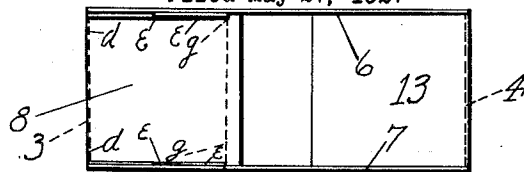
W. A. MORRIS

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CARTON

Filed May 27, 1927

2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

WARREN A. MORRIS, OF WYOMING, OHIO, ASSIGNOR TO THE RICHARDSON COMPANY,
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CARTON.

Application filed May 27, 1927. Serial No. 194,303.

My invention relates to cartons provided with dispensing spouts, and particularly to such cartons as have dispensing spouts formed from parts of the carton structures.

5 It is the object of my invention to provide a carton in which overlapping closure flaps are so cut, scored, articulated and perforated, that after sealing, certain portions may be broken or torn away, thereby allowing a dispensing spout to be withdrawn, through
10 which spout the contents of the carton may be dispensed, and the dispensing portion subsequently refolded so as to form a closure for the end of the carton. It is further my object to so arrange bellows folding side portions
15 of the spout formation that there will be a tendency for the base of the dispensing spout to spring back into closed position. A further object is the provision and arrangement of the several portions from which the dispensing spout is composed so that they will be sealed in place during the normal operation
20 of a sealing machine without additional equipment, and with the sealing equipment with which the closing flaps for an end of a carton are normally sealed.

The above and other objects to which reference will be made during the ensuing disclosure I accomplish by that certain arrangement and combination of parts of which I
30 have shown a preferred embodiment.

In the drawings:—

Figure 1 is a plan view from the outer side of the cut and scored blank in a preferred arrangement in which the dispensing spout is in the closing flaps at an end of a carton.

Figure 2 is a side elevation of the carton after the overlapping strip extending from one of the walls has been sealed, and with the end closing flaps all extended in alignment with the side walls of the carton.

Figure 3 is a side elevation similar to that shown in Figure 2 after the end closing flaps have been folded in.

Figure 4 is a plan view of the carton after the end flaps have been folded in.

Figure 5 is a plan view of the carton after one of the side closing flaps has been folded in.

Figure 6 is a plan view of the carton after both flaps have been folded in.

Figure 7 is a side elevation of the top part of the carton showing the dispensing spout
55 open for use.

Figure 8 is a side elevation similar to that shown in Figure 7 with the dispensing spout reclosed.

The blank indicated in Figure 1 has side walls 1 and 2, end walls 3 and 4, and an extension side sealing flap 5 which is used to hold the walls of the carton together. The bottom closing flaps are not numbered, as it is my purpose to show my dispensing arrangement as applied to the top end of the carton. It may, however, be formed in any of the overlapping portions of a carton, and I do not wish to limit myself to the arrangement shown merely because I have shown the application to the top end closing flaps.

The side and end walls are articulated together as indicated by the dotted lines *a—*a**. I have shown the side closure flaps 6 and 7, the flap 6 being an extension of the wall 1 with a line of articulation *b—*b**, and the flap 7 being an extension of the wall 2 with a line of articulation indicated at *c—*c**. The end closing flap which forms the base of the dispensing spout is indicated at 8, and it forms an extension from the end wall 3 being articulated thereto as indicated at *d—*d**. To the sides of the end flap 8 are articulated the flaps 9 and 10. These flaps 9 and 10 are also articulated to the side walls 1 and 2 respectively of the carton. These flaps are usually of right angle shape and triangular with the bases of the triangles formed in part with cut lines *e—*e**, extending sufficiently far to reach the triangle bisecting bellows folding score lines *f—*f**. The remaining portions of the flaps 9 and 10 are preferably perforated along lines *e'—*e'** extending in alignment with the cut lines *e—*e**, so that they may be readily freed. The end flap 8 also has a perforated line *g—*g** which effectively seals the carton.

The portions of the bellows folding side flaps 9 and 10 outlined by the cut lines *e—*e** and the bellows folding score lines *f—*f** are treated so that these portions will not take up the glue when the closing flaps 6 and 7 of the carton are glued down. I find a suitable manner of treating these portions so that they will be non-glue adherent is to print the portions with a neutral printing ink prior to the sealing operation. Usually the printing is done before the carton is cut and scored, but the treatment may be applied at a later stage if desired.

I further outline in perforated lines *h—*h**,

which will permit their ready detachment, the triangular portions 11 and 12, the triangular portion 11 being formed in the side closing flap 6, and the triangular portion 12 being formed in the side closing flap 7. The triangular portion 12 is preferably slightly smaller than the portion 11, so that the parts of the spout may be more readily broken away.

Having described the carton structure, I will now describe its operation. In sealing the closing flaps in a typical operation, the carton may be carried through a sealing device in which the carton is first fitted over a block. A finger then moves lengthwise of the end of the carton which bends inwardly the end flap 13 to the position shown in Figure 4. Next, the glue roll is moved across the end of the carton bending flap 8 and depositing a layer of glue on the outer sides of the end flaps. The side flap is next folded down into the position shown in Figure 5. Glue is then applied to the outer surface of the flap 6, and then the side flap 7 is folded over on the flap 6 and the carton is sealed under pressure. It should be noted that the triangular portions which are covered with neutral ink will not pick up the glue so that after freeing parts 9 and 10, when the dispensing spout is fractured along the combined lines *h-h* and *g-g* the spout may be pulled out to the position indicated in Figure 7. After opening up the dispensing spout the triangular portions 11, 12 may be detached and thrown away, as they are not required further. The spout will operate, however, without the detachment of the pieces 11, 12. Figure 8 shows how the spout may be refolded to form a closure after being opened up to the position shown in Figure 7. It is a particular feature of my invention that with such an arrangement as I have described, the bellows folding flaps will tend to remain extended in alignment with the side walls of the carton being held in this position by the resistance against bending of the score lines *b-b* and *c-c*. This tension makes the base of the spout spring to open and closed position with a slight starting impulse.

Various modifications in the structure disclosed such as the provision of a dispensing spout having only a two sided spout formed by the base flap 8 and one side bellows folding flap such as either 9 or 10, will readily occur to those skilled in the art without departing from the principle involved. It should further be reiterated that my novel closure with a dispensing spout formed therein requires no added equipment other than the usual sealing machines which are in quite general use.

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

1. In a carton having closure flaps, a dis-

persing spout having a base formed from an underlying flap, and a bellows folding side for the spout formed in an overlying flap, said overlying flap having a space thereon, which engages the base, treated so as to be non-glue retentive.

2. In a carton having closure flaps, a dispensing spout having a base formed from an underlying flap, and a bellows folding side for the spout articulated to the base, formed in an overlying flap, and means for treating one of the engaging surfaces between the base and the bellows folding flap to prevent adhesion thereof during the sealing operation.

3. In a carton having a closure flap, a dispensing spout having a base formed from an underlying flap, a bellows folding side for the spout articulated to the base, formed in an overlying flap, said bellows folding flap being of triangular shape with a line of fold bisecting the triangle, and means for preventing adhesion during gluing and sealing of that half of the next adjacent bisected triangular shaped portion to said spout base.

4. A carton having closure flaps with a spout base formed in an end closing flap, and at least one bellows folding side for said spout formed in a closure flap lying at an angle adjacent to said aforementioned closing flap, said bellows folding side of triangular shape having a base formed half in a cut and half in a perforated line with a bellows fold line extending from the center of the base to the apex of the triangle, and means for preventing the adhesion of the base to the nearest adjacent portion of the triangular shaped bellows folding side.

5. In a carton having end and side closure flaps, a dispensing spout having a base formed in an end closure flap, and bellows folding sides for the spout formed in the side closure flaps and of less area than the side flaps, the end closure flap being an underlying flap, and the side closure flaps being in sequence one on another overlying flaps, and portions of the bellows folding sides adapted to engage the base when said carton is glued and sealed.

6. In a carton having end and side walls and end and side closure flaps, a dispensing spout formed in an end closure flap, and bellows folding sides for the spout formed in the side closure flaps, the end closure flap being an underlying flap, and the side closure flaps being progressively in sequence overlying flaps, and the sides of the spout being bellows folding and articulated to the base of the spout and to the side walls, with perforations in the side closure flaps for the detachment of said spout sides from said side flaps.

7. In a carton having end and side walls and end and side closure flaps, a dispensing spout formed in an end closure flap, and bellows folding sides for the spout formed in

the side closure flaps, the end flap being an underlying flap, and the side closure flaps being progressively in sequence overlying flaps, and the sides of the spout being bellows folding and articulated to the base of the spout and to the side walls, with perforations in the side closure flaps for the freeing of said spout sides from said side flaps, and said spout sides being provided with score lines bisecting the same.

8. A carton having a body portion and closure flaps, a dispensing spout formed in said closure flaps, said spout having a base formed in a closing flap, and a side bellows folding portion formed in an adjacent flap and occupying less than the full area thereof, and means for detachably connecting said base-forming flap to said adjacent flap whereby outward bending of said adjacent flap will cause the bellows folding portion to overlie the base of the spout during the sealing of said flaps to form a closure.

9. A carton having a body portion and closure flaps, a dispensing spout formed in said closure flaps, said spout having a base formed in a closing flap, and a side bellows folding portion formed in an adjacent flap and occupying less than the full area thereof, and means for detachably connecting said base-forming flap to said adjacent flap whereby outward bending of said adjacent flap will cause the bellows folding portion to overlie the base of the spout during the sealing of said flaps to form a closure, and said overlying bellows folding portion inhibitive to the reception of adhesive during the sealing of the flaps to form said closure.

10. A carton having a body and end and side closing flaps with a dispensing spout having a base and bellows folding sides formed in said end and side closing flaps, means for detachably connecting said bellows folding flaps to said side closing flaps, and means for articulating said bellows folding flaps to said carton body, whereby with the freeing of said bellows folding flaps said spout will tend to spring from open to closed position.

11. In combination with a carton having side and end walls, a series of at least three end and side overlapping flaps forming a closure for the carton, said flaps adapted to overlap in the following sequence,—first the end flap, then one side flap, and then the other side flap, a spout formed in portions of the end and side flaps, the spout having a base formed in the end flap with bellows folding portions formed in the side flaps and detachable therefrom.

12. In combination with a carton having side and end walls, a series of at least three end and side overlapping flaps forming a closure for the carton, said flaps adapted to overlap in the following sequence,—first the end flap, then one side flap, and then the other side flap, a spout formed in portions of the end and side flaps, the spout having a base formed in the end flap with bellows folding portions formed in the side flaps and detachable therefrom, and the surface of portions of said flaps treated so as to be non-receptive to glue adhesion.

WARREN A. MORRIS.