Aug. 31, 1965 C. P. BOLTON ETAL 3,203,616

POUR SPOUT CARTON CONSTRUCTION

Filed April 2, 1964

Fig. 1

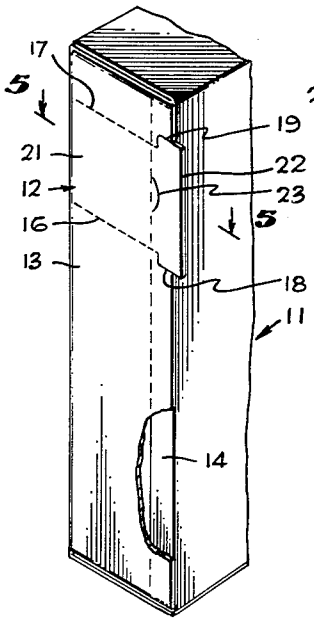


Fig. 2

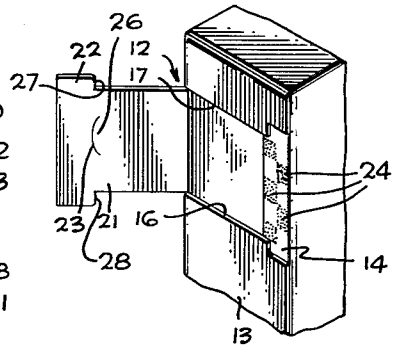


Fig. 3

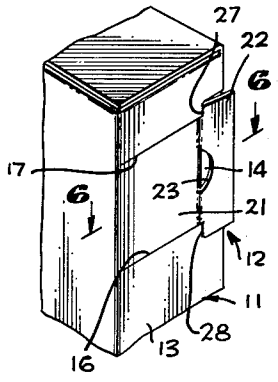


Fig. 7

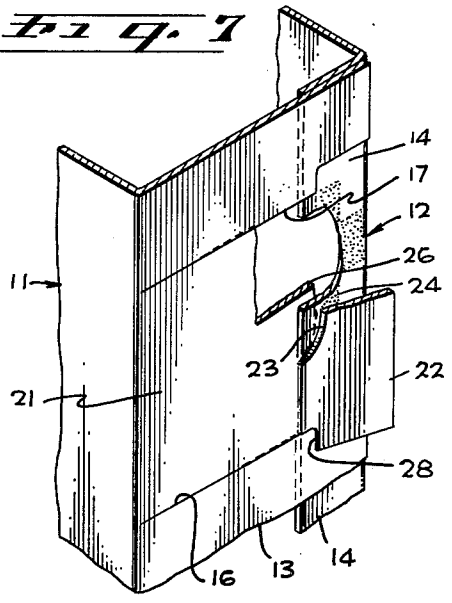


Fig. 4

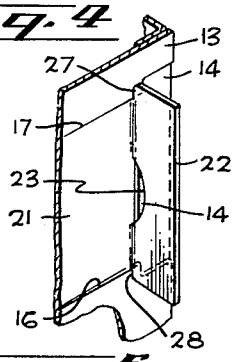


Fig. 5

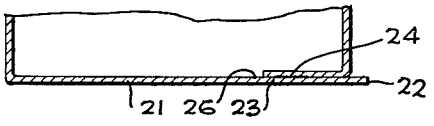
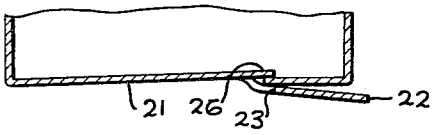


Fig. 6



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POUR SPOUT CARTON CONSTRUCTION

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This invention relates to the construction of an improved self locking pour spout for use on containers, such as cardboard cartons.

It is an object of this invention to provide an improved self locking pour spout for use on containers, such as cardboard cartons. It is a further object of this invention to provide an integral pour spout which may be stamped and perforated when the carton cut out is made at a substantial reduction in cost over conventional metal pour spouts. A further object is an improved pour spout of simple design and operation which may be used to reclose a carton with minimum manipulation.

FIGURE 1 is a fragmentary perspective view of a carton illustrating the self-locking pour spout before opening.

FIGURE 2 shows the pour spout in an open position.

FIGURE 3 shows the pour spout reclosed.

FIGURE 4 is a perspective view showing the tab shoulders of the pour spout.

FIGURE 5 is a section through the pour spout illustrating the construction of the pour spout before the container is opened.

FIGURE 6 is a section through the pour spout illustrating the pour spout in a locked position after reclosing.

FIGURE 7 is a perspective view of the pour spout with a portion of the flap broken away to show the lock tab and tab shoulders in a reclosed position.

FIGURE 1 shows a portion of a carton 11 with the pour spout 12 prior to opening. A portion of side 13 is broken away to expose the flange 14. The carton 11 is a standard cardboard container such as that used for packaging dried food products, soap powder, etc. Except for those features relating to the novel pour spout 12, the remainder of the carton is of conventional construction.

The pour spout 12 may be positioned on the top, bottom or side of the carton 11. In the preferred embodiment the pour spout 12 is positioned on a side 13 of the carton 11. The side 13 and flange 14 overlap to form a double seam. The double seam is joined by an adhesive. The side 13 is perforated along lines 16 and 17 up to about the point where the flange 14 begins. Preferably, the side 13 is cut through along lines 18 and 19, over the area of side 13 which overlaps the flange 14. The flap 21 is formed by the perforations along lines 16 and 17, and the cuts along lines 18 and 19. Cuts 18 and 19 form tab 22 as an integral part of flap 21. If desired, tab 22 may be scored along a line coinciding with the termination of flange 14. The tab 22 extends beyond the side 13 of the carton 11 and can be grasped to open the flap 21. A radius 23 is cut through the flap 21. The radius 23 should intersect the edge of the flange 14; in other words the radius cut 23 is positioned so that the stem 26 formed by the cut will lock under flange 14 or side 13 when depressed.

In FIGURE 2 the flap 21 has been opened by pulling the overlapping tab 22 to separate the tab 22 from the flange 14, and to separate the flap 21 along perforated lines 16 and 17. Preferably that portion of the flange 14 underlying the tab 22 is scored and adhesive is applied to alternating squares 24. The checker board pattern forms a complete seal between the flange 14 and the flap 21, but it does not adhere the flap 21 and flange 14 so firmly as to damage or tear the flap 21 when it opens. Scoring of the flange 14 in pattern assures that the flange 14 and flap 21 will separate cleanly without tearing the flap 21. Preferably, the area under stem 26 is not adhered to flange 14.

FIGURE 3 shows the pour spout 12 in a reclosed position. The flap 21 is pressed into the side 13 and the stem 26 formed by the radius cut 23 is locked under flange 14. The stem 26 locks flap 21 in a reclosed position, and the flap 21 seals the opening in side 13. To further understand the self locking tab 22 and stem 26, references made to FIGURE 4, the tab 22 is cut to form two shoulders 27 and 28. When the flap 21 is pressed into the opening in the side 13 and the stem 26 is depressed under the flange 14, the tab shoulders 27 and 28 abut against the side 13 to prevent the flap 21 from passing through the opening in the side 13. The shoulders 27 and 28 may, of course, be arranged to abut against the flange 14 if desired.

The position of the stem 26 and tab 22 when the carton is reclosed is further illustrated in FIGURE 7. A portion of the tab 22 is cut away to expose the flange 14 and stem 26. The radius cut 23 which forms the stem 26 is desirably posiitoned so that the termination of the radius cut 23 approximately coincides with the termination of the flange 14. Preferably, the radius cut 23 extends slightly beyond the flange 14 so that the stem 26 can be sprung from beneath the flange 14 without tearing the stem 26 or flange 14. The important consideration is that the stem 26 be positioned to lock under the flange 14, or side 13 when the flap 21 is depressed into the opening in side 13.

The carton pour spout 12 may be opened any number of times by pulling on the tab 22 until the stem 26 is released from under the flange 14. After pouring is completed the spout 12 is reclosed by pressing the tab 22 and flap 21 to lock the stem 26 under the flange 14. The tab shoulders 27 and 28 hold the plane of the flap 21 parallel with the plane of the side 13 so as to form an even closure.

FIGURES 5 and 6 are fragmentary cross-sections through the pour spout 12 at the stem 26 along line 5—5. In FIGURE 5 the construction of the pour spout 12 prior to opening is illustrated. The side 13 and flap 21 are joined to the flange 14 to form a sealed carton. The radius cut 23 may go completely through the flap 21, or it may be cut partially through the flap 21 so the stem 26 can be easily punched out. The tab 22 preferably extends slightly beyond the corner of the carton 11 so it may be grasped to open the flap 21. However, it is feasible to cement only a portion of tab 22 to flange 14 and thereby have a tab which does not extend beyond the carton, but can be easily grasped.

FIGURE 6 is a cross-section through the pour spout 12 along line 6—6 after the carton has been opened and reclosed. The stem 26 locks beneath the flange 14 to prevent the flap 21 from opening outwardly. The tab shoulders 27 and 28 (not shown) of the tab 22 prevent the flap 21 from depressing further inwardly. Thus, the counteracting pressure of the stem 26 and tab shoulders 27 and 28 (not shown) hold the flap 21 in position. The flap 21 may be opened easily by pulling on the tab 22 to release the stem 26 from beneath the flange 14.

While the invention has been described with reference to a particular preferred embodiment, it will be appreciated that modifications of the preferred embodiment will occur to those skilled in the art upon reading the foregoing specifications. Accordingly, it is intended that those modifications which fall within the broad scope of the appended claim be included.

Having described the invention, what is claimed is:

A carton comprising:

(a) a first, second, third and fourth adjacent sides, bottom, top and a glue flange projecting from said second adjacent side, said first side being adhered to the flange to form an overlapping seam along the adjacent side;

(b) spaced line perforations across the first side defining weakening traverse lines which form a flap adapted to be partially separated from the side along the weakening line, said flap further provided with a cut adapted to provide a locking stem when partially separated from said flap, said stem positioned so that when the flap is depressed into the carton the stem engages beneath the flange and locks under the flange;

(c) cuts extending outwardly and traversely at each side of the flap at a position overlying the flange, said cuts forming shoulders, said shoulders adapted to abut against portions of said first side to restrain ingress of the flap into the carton.

References Cited by the Examiner

UNITED STATES PATENTS

Re 25,449	9/63	Gill	229—17
1,712,249	5/29	Byrne	229—17
1,985,590	12/34	Weiss	229—51
2,002,485	5/35	Alfred	229—51
2,473,492	6/49	Shina	229—17
2,810,507	10/57	Saunders	229—51
2,864,547	12/58	Guyer	229—17
3,096,921	7/63	Graybill	229—17
3,128,934	4/64	Jacke	229—51
3,133,689	5/64	Rossi	229—17

FOREIGN PATENTS

615,973	3/61	Canada.

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