

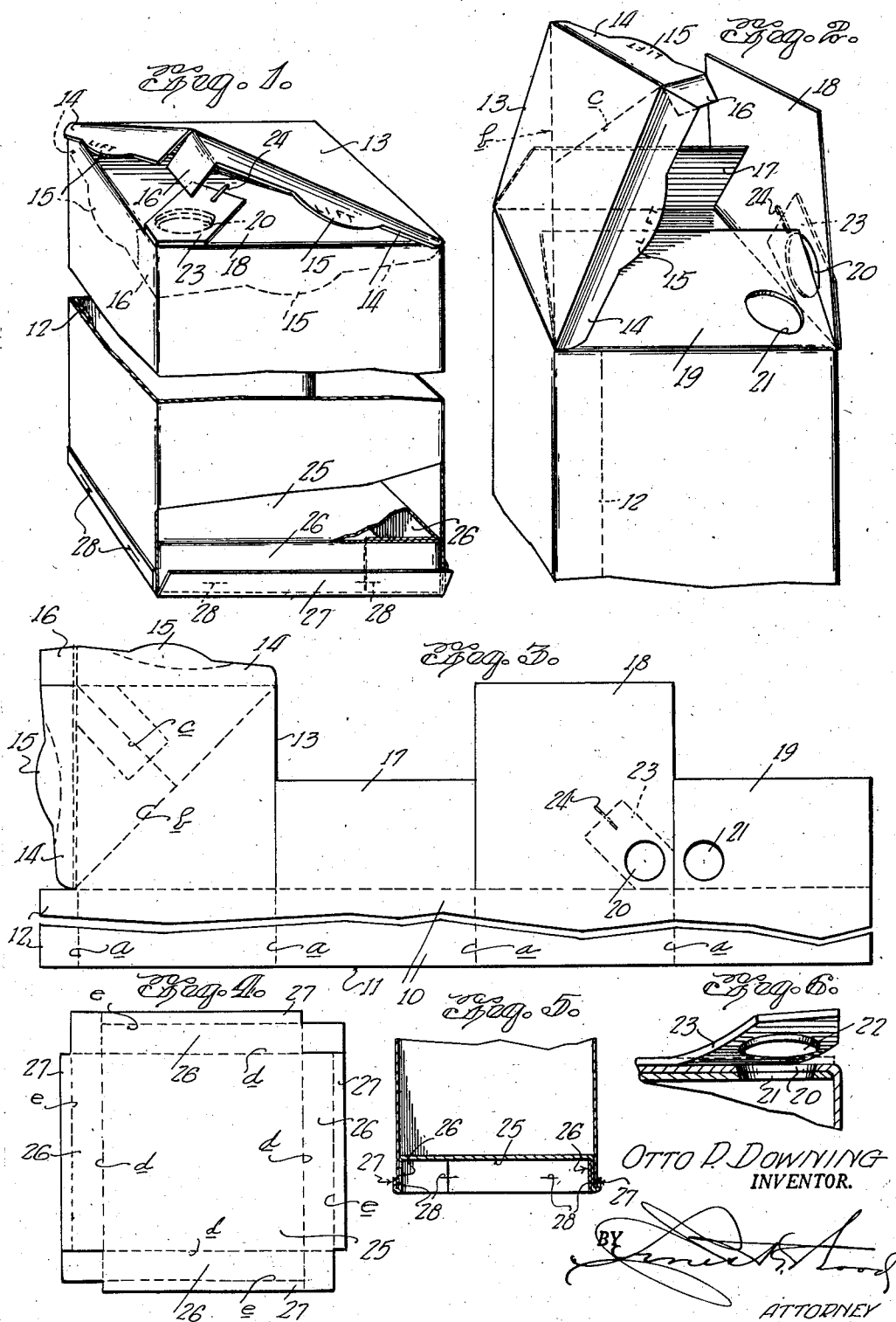
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O. P. DOWNING

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LIQUID CARTON

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LIQUID CARTON

Otto P. Downing, Dallas, Tex.

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6 Claims. (Cl. 229—17)

This invention relates to cartons especially constructed for containing liquids and it refers particularly to milk cartons.

The principal object of the invention is to provide a carton formed of paper, cardboard and of other foldable material whose construction contributes to the strength and durability of the carton, to eliminate rupture resulting in leakage, and further, to provide adequate reinforcement and concealment of the discharge opening of the carton, with a view of sanitation, yet insuring ready access to the said discharge opening, which is equipped with a novel form of displaceable closure substituting for the primary closure or concealing element when the latter has been dispensed with.

Another object of the invention is to provide a liquid carton whose design lends to ease of manufacture and subsequent filling with merchandise, said design rendering it obligatory that the carton be filled in inverted position and further includes a bottom insertable subsequent to filling and so constructed as to afford dual reinforcing about the perimeter thereof where the carton is more likely to receive shocks.

With the foregoing objects as paramount, the invention has further reference to certain features of accomplishment which will become apparent as the description proceeds, taken in connection with the accompanying drawing wherein:

Figure 1 is a perspective view of the top and bottom of a carton constructed according to the present invention, with the midsection broken away.

Figure 2 is a similar perspective view of the top rotated approximately 90°.

Figure 3 is a fragmentary plan view of the carton in flat form as cut from sheet stock.

Figure 4 is a plan view of the bottom, cut from flat stock.

Figure 5 is a fragmentary view of the bottom of the folded carton, in vertical section, and

Figure 6 is a fragmentary view of one corner of the carton, showing the permanent closure for the discharge spout in dotted closed position and solid open position.

Continuing with a more detailed description of the drawing, reference is primarily made to Figure 3 in which numeral 10 denotes generally the blank, designed when folded, to form the carton of the present invention. This blank is cut in a straight line along the lower edge 11 and as scored for folding longitudinally along lines *a*, the line at the extreme left defining a longitudinal extension 12 for reinforcing the contiguous edges of the blank when folded.

Along the top of the blank 10, there is formed first, an overlying flap 13, scored diagonally along line *b* from corner to corner and along a shorter line *c* from the midway point of line *b* to the nearest corner. This flap 13, further has extensions 14 along two edges which, when folded, lie flush against the sides of the carton, as shown in Figure 1 in dotted lines. About midway between the ends of each extension 14, a tab 15 is formed and inscribed with a word of instructions such as "Lift" as shown.

The underside of the flap 14 is coated with a suitable adhesive, except for that area within the dotted lines next adjacent the tabs 15 and the dotted lines outlining a rectangle at one corner of the flap. It is preferred for reasons to be later expressed that these areas be free of adhesive.

One of the extensions 14 of the flap 13 is of greater length than the other to afford a tab 16 which is adapted to be folded over one corner of the carton, to underlie the companion extension 14, as exemplified in dotted lines in Figure 1.

Next adjacent the flap 14 is a shorter flap 17 and following this is a large flap 18, equal in size to the flap 13, except for the extensions 14. Adjacent the flap 18 is a fourth flap 19 which confronts the flap 17 in folded position of the carton as shown in Figure 2.

The flap 18 has in the corner thereof nearest the flap 19, a circular opening 20 which registers with a similar opening 21 in the flap 19. An examination of Figure 6 will reveal that the corresponding openings 20 and 21 are so punched as to possess beveled edges to correspondingly receive the beveled edges of a disc 22 affixed to the underside of a tab 23, the latter being secured, by means of a staple 24 for rotation on the top of the flap 18. When slight pressure is imposed on the tab 23, the disc 22 is thrust into the openings 20 and 21 and may be displaced only by lifting up the pointed end of the tab 23. This arrangement affords an adequate temporary seal for the discharge opening of the carton and cannot be readily displaced, as by accidental means.

It is now clear that the uncemented area defined by the rectangular dotted lines on the flap 13 is adapted to overlie the tab 23 so that when the flap 13 is removed or partly so, the tab 23 will be free of any adhesive material likely to hinder ready operation thereof. Moreover, the tabs 15 on the flap extensions 14 are uncemented so that they may be easily lifted to render the tearing of flap 13 easy, along the lines *b* and *c* to gain access to the closure tab 23.

The carton in forming is first folded along lines *a*, whereupon the flaps 17 and 19 are turned

inwardly and the flap 18 folded downwardly to overlie flaps 17 and 19. The carton is then immersed in hot wax, such as paraffin and upon cooling, the holes 20 and 21 are punched. The top 23 with the closure disc 22 attached, is stapled in position, whereupon the flap 13 is folded onto the flap 18 and sealed.

The carton is inverted for filling and after this operation, the bottom is inserted, secured and waxed.

The bottom is comprised of a blank generally indicated by reference character 25 in Figures 4 and 5 and along each edge there is defined an extension 26, defined by a score *d*, followed by a second and shorter extension 27, defined by a score *e*. The extensions 26 are turned downward, in the upright position shown in Figures 1 and 5, to lie flush against the inner surfaces of the carton walls, and the extensions 27 are turned upwardly to lie flush against the outer wall surfaces of the carton. Thus the skirt of the carton is disposed between the now parallel extensions 26 and 27. Staples 28 are inserted at spaced points along the extensions 26 and 27 to penetrate both the extensions and the skirt of the carton.

After affixing the bottom in the carton, the latter is again immersed in wax and transported to cold storage.

Manifestly, the construction as shown and described is capable of some modification and such modification as may be construed to fall within the scope and meaning of the appended claims is also considered to be within the spirit and intent of the invention.

What is claimed is:

1. A liquid carton comprising a blank in four foldable sections, one having an extension along one edge overlapping the next adjacent section in folded relationship, said section further having an obliquely perforated overlying flap provided with tabbed extensions along two edges thereof, half flaps carried by the second and fourth of said sections, a full flap on the third of said sections adapted to underlie said first flap and having a tapered walled hole in one corner in register with a similar hole in the corner of the flap of said fourth section, a pivoted tab having a disc thereon shaped to be correspondingly receivable in said holes and carton.

2. A liquid carton having walls of waxed paper, an obliquely perforated overlying flap on one of said walls, extensions along two edges of said flap adapted to overlie the ends of corresponding walls, each having tear-away tabs intermediate their ends, half flaps on the second and fourth walls, a full flap on the third wall having a tapered walled hole in one corner thereof in register with a hole in the flap of said fourth wall,

a tab pivoted to said full flap for rotation thereon and having a protuberance conformably receivable in said holes, and means for effecting adherence of preselected areas of said overlying flap and its extensions to companion flaps and walls respectively.

3. A milk carton comprising a four walled body, the first and third wall having full flaps and the second and fourth wall having half flaps, said third and fourth flaps having corresponding discharge openings in their respective corners provided with tapered walls, a conformably tapered closure for said openings hingedly secured to said third flap, tear-away extensions along at least two edges of the overlying first flap, said latter flap also having a row of perforations extending from one corner to the other and from another corner to the midsection of said first perforations, means for securing said extensions and first flap at selected areas to corresponding parts of said carton and a wax coating on the inner and outer surfaces of said carton.

4. A cardboard milk carton having flaps foldable one upon the other to close one end thereof, the two lowermost flaps having corresponding, tapered walled holes in one corner thereof, a pivoted and conformable closure for said holes, the uppermost of said flaps having a row of perforations from one corner to the other and from another corner to a point midway between the ends of said row of perforations, extensions along two sides of said perforated flap having tabs to effect removal of the perforated part of said flap to reveal said pivoted closure, means securing preselected areas of said perforated flap and its extensions to corresponding parts of said carton and a wax coating over the inside and outside of said carton.

5. A carton for milk and other liquids comprising walls having flaps formed on one end and foldable one upon the other, the two lowermost flaps having tapered holes in one corner in register, one with the other, a pivoted closure conformably disposed in said holes, extensions along two edges of the overlying flap adapted to be cemented to the walls of said carton except for an intermediate space, tabs carried by said extensions at said uncemented points for effecting removal of a portion of said overlying flap, and a wax coating on the inner and outer surfaces of said carton.

6. A milk carton as described in claim 5, further defined in that one of the edge extensions of the overlying flap is of greater length than the other to define a tab adapted to embrace a corner of the carton and underlie the companion extension in folded relationship.

OTTO P. DOWNING.