

Oct. 9, 1962

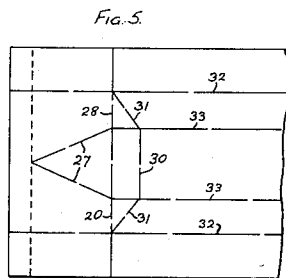
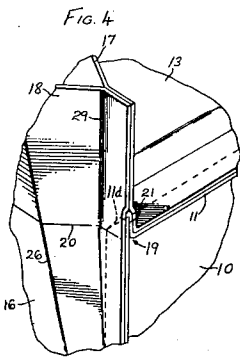
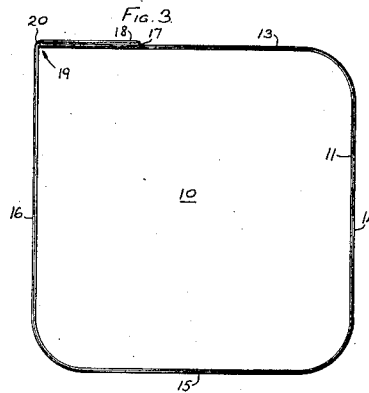
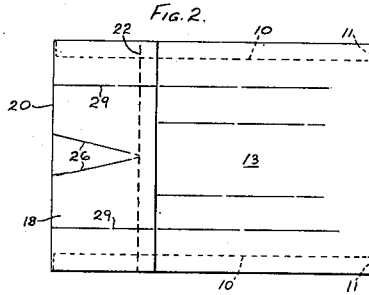
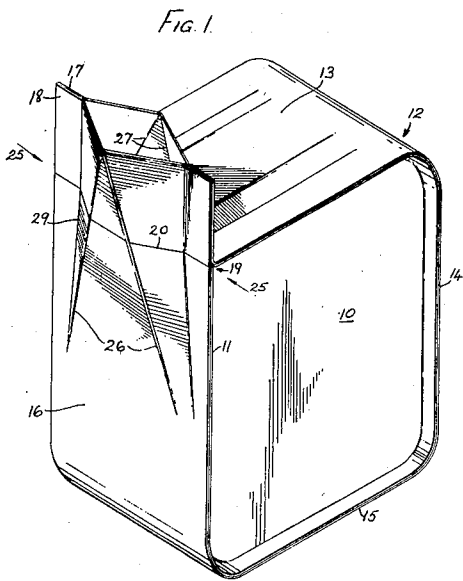
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3,057,531

CARTONS FOR CONTAINING LIQUIDS OR FINELY-DIVIDED MATERIALS

Filed Feb. 29, 1960

2 Sheets-Sheet 1



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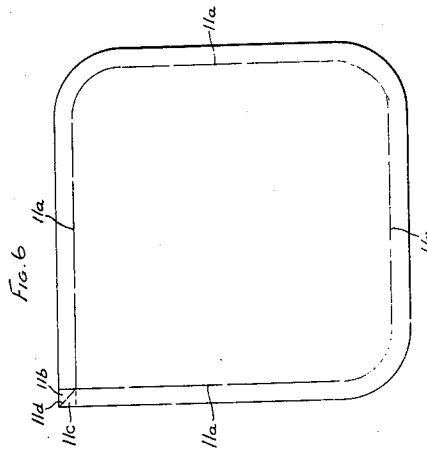
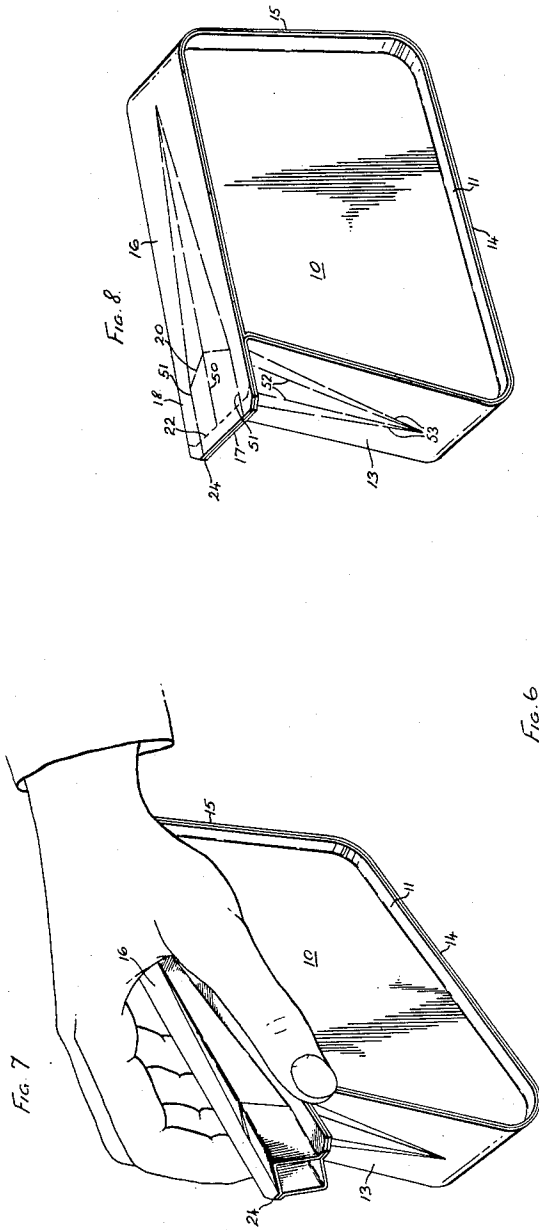
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1

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CARTONS FOR CONTAINING LIQUIDS OR FINELY-DIVIDED MATERIALS

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Claims priority, application Great Britain Mar. 13, 1959
3 Claims. (Cl. 229-7)

This invention relates to cartons for containing liquids or finely-divided materials.

According to the present invention there is provided a carton having two opposed sides in the form of trays with the upstanding edges of each tray extending away from the opposing side, the two opposed sides being bridged around their whole peripheries by the intermediate portion of a strip, the side margins of which overlap the upstanding edges of the opposed sides and are sealed thereto, and the strip further having end portions which extend in the same direction as and overlap each other and are sealed together around their side margins and ends and constitute a pourer for the contents of the carton when their ends are unsealed.

The two opposed sides of the carton may be of any convenient shape but preferably they are similar, substantially straight-sided figures, e.g. rectangular or trapezoidal, and in this case the pourer preferably extends from two adjacent corners of the two opposed sides. Thus, if the opposed sides are trapezoids the pourer may be situated at the end of the shorter of the two parallel sides of the trapezoids and the longer of the parallel sides may form the base of the carton. The other corners of the two opposed sides may be rounded and at these corners, the upstanding edges may be slit and overlapped.

The end portions of the strip and the adjoining parts of the intermediate portion of the strip may be weakened as by the provision of scored lines to facilitate opening of the pourer when its end is unsealed and the carton is squeezed at, or in the region of the pourer.

Unsealing of the pourer may be facilitated by weakening the end of the pourer adjacent the sealed end, e.g. by the provision of an interrupted scored line to allow the sealed end of the pourer to be ripped off.

The junctions of the pourer with the ends of the intermediate portion of the strip may be provided with a fold line or fold lines, e.g. a scored line, and the pourer may be folded along these lines to lie along an end part of the intermediate portion of the strip.

Two cartons made in accordance with the present invention will now be described, by way of example, with reference to the accompanying drawings, of which:

FIGURE 1 is a perspective view of a first carton suitable for containing milk,

FIGURE 2 is a plan of the first carton,

FIGURE 3 is a side elevation of the first carton,

FIGURE 4 shows a detail,

FIGURE 5 shows a detail as viewed in the direction of FIGURE 2,

FIGURE 6 shows a blank from which one of the opposed sides is formed, and

FIGURES 7 and 8 are perspective views of a second carton suitable for containing milk.

The carton shown in FIGURES 1 to 5 comprises two opposed sides 10 in the form of trays with upstanding edges 11. As will be seen, the sides 10 are approximately square in shape except that three of the corners are rounded. These sides 10 may be made, for example, by a pressing operation, and are made from thin cardboard or like fibrous material.

The remainder of the carton is formed from a continuous strip 12 of the same material as the two sides 10

2

but of slightly greater thickness, and may conveniently be considered as having an intermediate portion comprising a length 13 which forms the top of the carton, a length 14 which forms one end of the carton, a length 15 which forms the base of the carton and a length 16 which forms the remaining end of the carton, and two end portions 17, 18. The lengths 13, 14, 15 and 16 of the strip 12 thus extend around the whole peripheries of the sides 10 and the extreme ends of the lengths 13 and 16 meet at the right-angled corners 19 of the sides 10.

The sides 10 are arranged with their upstanding edges 11 facing away from the opposing sides 10 of the carton and the upstanding edges 11 are overlapped and sealed with adhesive to the side margins of the lengths 13, 14, 15 and 16.

The end portions 17 and 18 of the strip 12 extend in the same direction and overlap each other and are sealed together with adhesive along their side margins and at their ends. The carton is filled through these end portions 17 and 18 before their ends are sealed. When thus sealed these end portions are folded about a fold line 20 to lie along the top 13 of the carton. These end portions 17, 18 constitute a pourer 24 as will later be described.

At the square corners 19 the upstanding edges 11 of the sides 10 are folded as shown in FIGURE 4 and the triangular-shaped projections 21 of double thickness extend between the side margins of the end portions 17, 18.

FIGURE 6 shows a blank from which a side 10 is formed. This figure shows the blank viewed from approximately the same direction as the side 10, which is formed from it, is seen in FIGURES 1 and 4. The line 11a constitutes the junction between the upstanding edges 11 and the flat base of the side 10. The two triangular portions 11b and 11c are folded together about line 11d to form the triangular-shaped projection 21 of double thickness which extends between the side margins of the end portions 17, 18 as shown in FIGURE 4.

An interrupted scored line 22 is made across the end portions 17 and 18 just inwards from where the ends are sealed so that the ends of the end portions 17 and 18 may be removed by tearing along the line 22.

The material of which the carton is made may be waterproofed e.g. by the known process of applying a vinyl-coating or a coating of polyethylene. This treatment also renders the material of the carton suitable for heat-sealing of the two sides 10 to the strip 12 and sealing the lateral edges and ends of the end portions 17, 18.

To open the carton the sealed-together ends of the pourer 24 are torn off along the line 22 and the pourer is lifted until it occupies the portion shown in FIGURE 1. The pourer is now opened by lateral pressure at the region of the arrows 25 exerted by the thumb and forefinger. To assist opening of the pourer further scored lines 26, 29 are provided extending from the end portion 18 on to the length 16 (FIGURE 1) and scored lines 27 are provided on the end portion 17, scored lines 32 extending from the end portion 17 on to the length 13 and scored lines 30, 31 and 33 are provided on the length 13 (FIGURE 5, which shows part of the carton as viewed in FIGURE 2 but with the pourer turned through 180° so that end portion 17 is exposed and conceals end portion 18). By now tipping the carton (clockwise in the FIGURE 3 view) the contents may be poured out through the pourer 24.

The carton as described is particularly suitable for containing milk but may be used for containing other suitable liquids or finely-divided materials.

The carton as shown in FIGURES 1 to 5 and suitable for containing 1 quart (U.S. measure) of milk has the following nominal dimensions: length (i.e. distance from

length 16 to length 14 of strip 12)= $4\frac{5}{8}$ " , height (i.e. distance from length 13 to length 15 of strip 12)= $4\frac{5}{8}$ " , width of strip 12= $3\frac{1}{4}$ ". The depth of recess of the sides 10= $\frac{1}{4}$ ". The thickness of the material in this embodiment is 0.017" for the sides 10 and 0.020" for the strip 12. These thicknesses will of course depend on the quality of the material employed.

FIGURES 7 and 8 show a second milk carton which is generally similar in construction to the carton just described and the same numerals will be used for corresponding items.

In this construction the opposed sides 10 are trapezoidal in shape. The length 14 of the strip 12 constitutes the base of the carton and the length 13 of the strip 12 slopes inwardly. The pourer is situated at the end of length 16.

Scored lines 50 and 51 are provided on the end portion 18 and extend into the length 16 and similar scored lines 52, 53 are provided on the end portion 17 and extend into the length 13 to assist opening of the pourer 24.

The junction of the pourer with the lengths 13 and 16 and upstanding edges 11 of sides 10 is arranged in a similar manner to that of the first carton.

What I claim as my invention and desire to secure by Letters Patent is:

1. A carton for containing and dispensing liquid or finely divided material comprising:

- (a) two opposed sides of sheet material in the form of trays with the upstanding edges of each tray extending away from the opposite side, and
- (b) a base, two ends, a top, and a spout formed from a one-piece strip of sheet material comprising an end portion, an intermediate portion, and another end portion,
- (c) the said intermediate portion extending around the whole peripheries of the said opposed sides with the side margins of said intermediate portion overlapping the said upstanding edges and being sealed thereto to form the carton body, and
- (d) the two end portions of said one-piece strip meeting at right angles to each other at a corner of the carton and extending away therefrom in the same direction in overlapping relationship and being sealed together along the side margins to form a spout adapted to be sealed at the end thereof to provide a leakproof carton.

2. A carton for containing and dispensing liquid or finely divided material comprising:

- (a) two opposed sides of fibrous sheet material in the form of trays with the upstanding edges of each tray extending away from the opposite side,
- (b) a base, two ends, a top, and a spout formed from a one-piece strip of fibrous sheet material comprising an end portion, an intermediate portion, and another end portion, and
- (c) a heat-sealable coating on the inner surfaces of the one-piece strip and the opposed sides,
- (d) the said intermediate portion extending around the whole peripheries of the said opposed sides with the

side margins of said intermediate portion overlapping the said upstanding edges and being heat-sealed thereto to form a carton free of any raw edges of fibrous sheet material inside the carton, and

(e) the two end portions of said one-piece strip meeting at right angles to each other at a corner of the carton and extending away therefrom in the same direction in overlapping relationship and being heat-sealed together along the side margins to form a spout adapted to be sealed at the end thereof to provide a leakproof carton.

3. A carton for containing and dispensing liquid of finely divided material comprising:

- (a) two opposed sides of fibrous sheet material in the form of trays with the upstanding edges of each tray extending away from the opposite side,
- (b) a base, two ends, a top, and a spout formed from a one-piece strip of fibrous sheet material comprising an end portion, an intermediate portion and another end portion,
- (c) said intermediate portion comprising in sequence, a length adjacent to said first end portion forming the top of the carton, a length forming an end of the carton, a length forming the base, and a length adjacent to the second said end portion forming the remaining end of the carton,
- (d) a heat-sealable coating on the inner surfaces of the one-piece strip and the opposed sides,
- (e) the said intermediate portion extending around the whole peripheries of the said opposed sides with the side margins of said intermediate portion overlapping the said upstanding edges and being sealed thereto to form the carton body, free of any raw edges of fibrous material inside the carton, and
- (f) the two end portions of said one-piece strip meeting at right angles to each other at the corner of the carton where the said top and the said remaining end meet, and
- (g) the said two end portions extending away from said corner in the same direction in overlapping relationship, being sealed together along the side margins, and having a plurality of score lines to form a spout adapted to be sealed at the end thereof after filling and thereafter unsealed at will and to be opened for pouring by the application of oppositely directed forces applied transversely thereof.

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