Oct. 9, 1951 A. READ 2,570,982

CARTON

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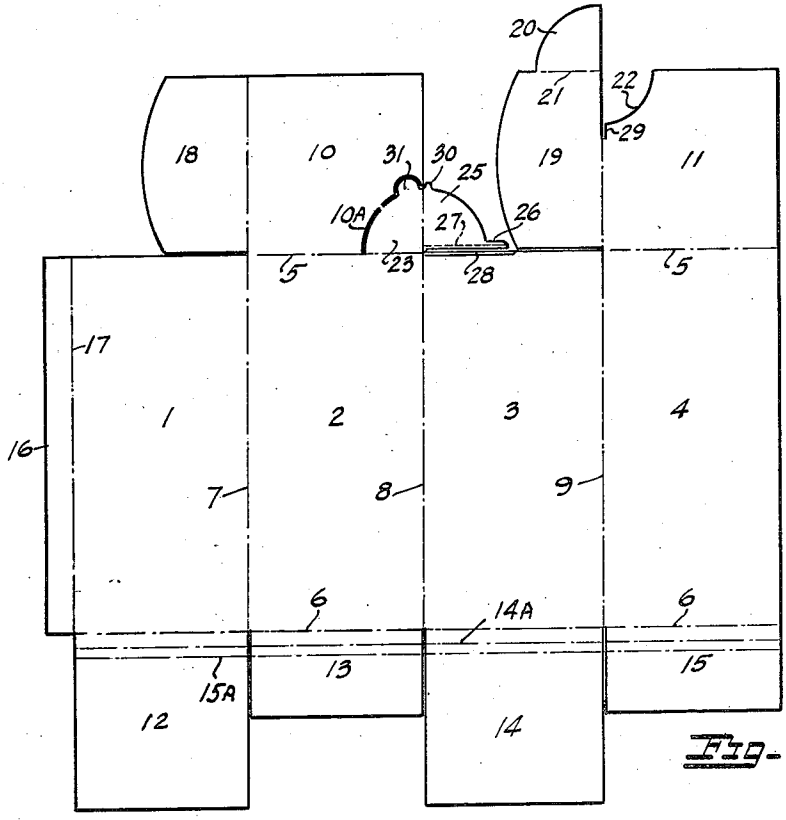


Fig. 1

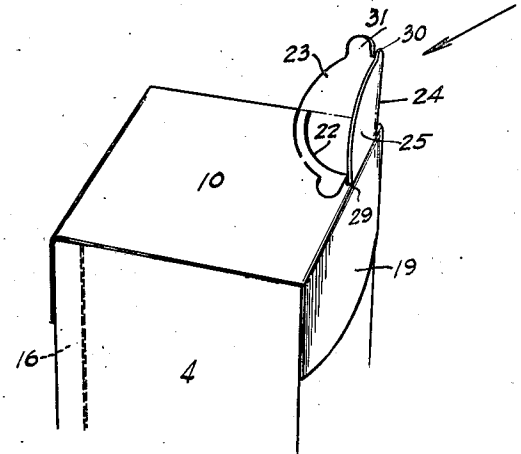


Fig. 2

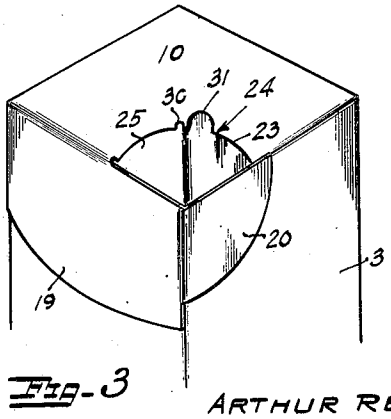


Fig. 3

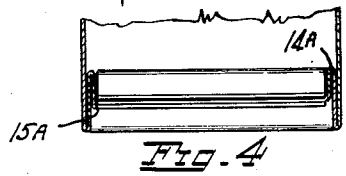


Fig. 4

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CARTON

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3 Claims. (Cl. 229—17)

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This invention relates to improvements in cartons of the type shown and described in my copending application Serial Number 774,145, filed September 15, 1947, now Patent No. 2,523,688.

It is one of the principal objects of the present invention to provide a carton of the type above referred to but which is reinforced by double wall thickness about three of its sides at its upper half where the carton is ordinarily gripped by a user during the opening and pouring operations.

A further object is the provision of means formed in the top wall of the carton for maintaining one wall of the spout in surface to surface wiping contact with one wall of the carton throughout its operative range from open to closed positions to prevent leakage between the wall of the spout and the wall of the carton.

A still further object is the provision of means for locking the pouring spout in a closed position against unintentional opening.

Another object is the provision of a carton of this character which may be cut and scored from a single blank of material and quickly and conveniently folded into final form.

These and other objects will appear as my invention is more fully hereinafter described in the following specification, illustrated in the accompanying drawing and finally pointed out in the appended claims.

In the drawing:

Figure 1 is a plan view of a sheet of blank carton material cut and scored for folding into a combination carton and pouring spout, in accordance with my invention.

Figure 2 is a perspective view of the folded carton showing the pouring spout in an open position.

Figure 3 is a perspective view taken approximately in the direction of the arrow in Figure 2.

Figure 4 is a fragmentary sectional view of the bottom end of the carton illustrating an elevated bottom wall.

Referring now more particularly to the drawing:

In Figure 1, reference numerals 1, 2, 3, and 4 indicate four panels constituting the vertical walls of the carton when folded and are defined by longitudinal fold lines 5 and 6, and transverse fold lines 7, 8, and 9. The top wall of the carton is formed by two end flaps 10 and 11 foldable about the fold line 5. The bottom wall of the carton is formed by inwardly foldable end flaps 12, 13, 14, and 15 preferably of unequal lengths as shown, and scored as at 14A and 15A.

An auxiliary flap 16 is formed integral with the panel 1 and is foldable at right angles thereto about a fold line 17 for engagement with either the inside or outside marginal edge of the panel 4 when the carton is folded into final form.

The end flap 10 of the top wall is formed with an integral projection 18 foldable about a continuation of the fold line 7. The other top end

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flap 11 is likewise formed with an extension 19 foldable about the fold line 9 and this extension is formed with an integral projection 20 foldable about a fold line 21. The projection 20 is formed on a greater radius than that of the wall 23 of the spout. One wall 23 of the pouring spout, generally indicated at 24, is formed integral with the panel 2 and cutout from the corner of the flap 10 by perforations 10A as shown. The opposite wall 25 of the spout is foldable, about a continuation of the fold line 8, at right angles to the wall 23 to form the spout as shown in Figures 2 and 3. The outermost corner of the wall 25 is formed with a projection 26 to serve as a limit stop for the opening movement of the spout when the projection comes up and bears against the underside of the flap 11 when the carton is in completely folded form. The lowermost edge of the wall 25 of the spout is tapered as indicated at 27 to correspond with the tapered edge of the panel 3 to guide the wall 25 of the spout to the inside of the wall 3 of the carton when it is being folded.

In assembling or folding the carton into final form, I bend the panels 1, 2, 3, and 4 about the fold lines 7, 8, and 9 into right angular relation to each other to form the carton in box-formation. The auxiliary flap 16 is then secured by an adhesive to the marginal edge of the wall 4. Following this the bottom end flaps 12, 13, 14, and 15 are folded inwardly about the fold line 6 then folded over on themselves between the fold lines 6, 14A, and 15A to form the elevated bottom wall illustrated in Figure 4. The folded over portions of the flaps, and the overlapping flaps may be secured to each other by the application of an adhesive. The folding thus far moves the panels 19 and 11 into a position directly opposite to the panels 10 and 18. Following this the wall 25 of the spout is moved about the fold line 8 at right angles to the wall 23 of the spout, and the wall 25 is then in position to be moved downwardly on the interior of the carton against the wall 3. The panel 11 is then folded downwardly which places the extension 19 against the outside of the wall 3 and the projection 20 against the outside of the wall 2 with its upper edge along the hinge line 5 of the pouring spout. The flap 10 is moved downwardly to overlie the flap 11 and the extension 18 is folded against and secured to the outside of the wall 1. The flap 11 is formed with a slot 29 adapted to embrace the wall 25 of the spout and to serve as a guide in maintaining the wall in close and leakproof wiping contact with the wall 3 throughout the operative range of movement of the spout. The limit of opening of the spout is determined by the projection 26 on the corner of the wall 25 which, as aforesaid, contacts the underside of the flap 11.

By the foregoing arrangement, I reinforce two opposing walls of the carton, by means of the extensions 18 and 19 secured thereto to provide

double wall thickness, and also that portion of another wall 3 directly beneath the hinge line of the spout and over an area which is normally gripped by a user in the opening and closing operations of the spout. The reinforcements 19 and 20 also prevent any distortion of this corner of the carton which might tend to unseat or disturb the flat surface-to-surface contact of the wall 25 of the spout with the wall 3 of the carton, as aforesaid.

As a means of locking the spout in a closed position against accidental opening, I provide a projection 30 at the central upper corner of the spout for frictional engagement with the inner end of the slot 29.

For manipulating the spout from a closed to an open position, I form a projection or tab 31 on the wall 23 of the spout. The outer edge of the wall 23 of the spout is defined by the perforated line 10A so that when the top end of the carton is folded the spout will remain closed until ready for use.

While I have shown a particular form of embodiment of my invention, I am aware that many minor changes therein will readily suggest themselves to others skilled in the art without departing from the spirit and scope of the invention.

Having thus described the invention what I claim as new and desire to protect by Letters Patent is:

1. A carton formed from a single sheet of material formed with parallel sets of folding creases extending perpendicularly to each other in intersecting relationship defining a central rectangular portion folded along certain of said parallel creases providing four side walls of said carton, end flaps along two opposite edges of said portion folded to overlying relationship providing a top wall and a bottom wall for said carton, a semi-circular tab, a first half of which is formed out of one of the flaps of said top wall adjacent the juncture between two adjacent sides of said carton and in continuation of one of said two adjacent sides and the second half of which is in a plane parallel with the other of said two adjacent sides and is integral with said tab being foldable through its center along a line in continuation of the folding crease defining the juncture between said two adjacent side walls to form a pouring spout in which the two halves of said tab are at right angles to each other with said second half integral with and joined to said first half only, one of the flaps forming said top wall being formed with a lateral extension extending over and secured to one of said two adjacent side walls adjacent said tab and said extension being formed with a projection extending over the other of said two adjacent sides adjacent said tab and secured thereto whereby said two adjacent sides are reinforced adjacent said tab by said extension and said projection.

2. A carton formed from a single sheet of material formed with parallel sets of folding creases extending perpendicularly to each other in intersecting relationship defining a central rectangular portion folded along certain of said parallel creases providing four side walls of said carton, end flaps along two opposite edges of said portion folded to overlying relationship providing a top wall and a bottom wall for said carton, a semi-circular tab, a first half of which is formed out of one of the flaps of said top wall adjacent the juncture between two adjacent sides of said carton and in continuation of one of said two adjacent sides and the second half of which

is in a plane parallel with the other of said two adjacent sides and is integral with said tab being foldable through its center along a line in continuation of the folding crease defining the juncture between said two adjacent side walls to form a pouring spout in which the two halves of said tab are at right angles to each other with said second half integral with and joined to said first half only, one of the flaps forming said top wall being formed with a lateral extension extending over and secured to one of said two adjacent side walls adjacent said tab and said extension being formed with a projection extending over the other of said two adjacent sides adjacent said tab and secured thereto whereby said two adjacent sides are reinforced adjacent said tab by said extension and said projection, another of the flaps forming said top wall being formed with a lateral extension extending over and secured to the side of said carton opposite the side over which said first mentioned extension extends, whereby the two sides of said carton normally gripped by the user in pouring the contents of the carton through said spout are reinforced along said top wall.

3. A carton formed from a sheet of material formed with parallel sets of folding creases extending perpendicularly to each other in intersecting relationship defining a central rectangular portion folded along certain of said parallel creases providing four side walls of said carton, a pair of end flaps along one of the edges of said portion folded to overlying relationship providing a top wall for said carton, a semi-circular tab having a first half and a second half integral therewith folded to a position at right angles to each other along crease line in extension of one of the creases defining the juncture between two adjacent side walls of said carton with said first half and said second half in planes respectively parallel with the walls of said two adjacent side walls to provide a pouring spout, said first half being integral with one of said two adjacent side walls and said second half being free from securement to the other of said two adjacent side walls for swinging of said halves into and out of said carton from and to a pouring position, said first half being cut out from one of said pair of flaps, the flaps of said pair being integral with two of the opposite side walls of said carton, a lateral extension integral with each of said two flaps overlying and secured to the other two side walls of said carton along the said top wall with one of said other two side walls being one of said two adjacent side walls, and said extension having a portion extending to the juncture between said two adjacent side walls.

ARTHUR READ.

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