

Dec. 22, 1931.

R. K. BECKER

1,837,749

CARTON

Filed Aug. 22, 1929

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FIG. 1.

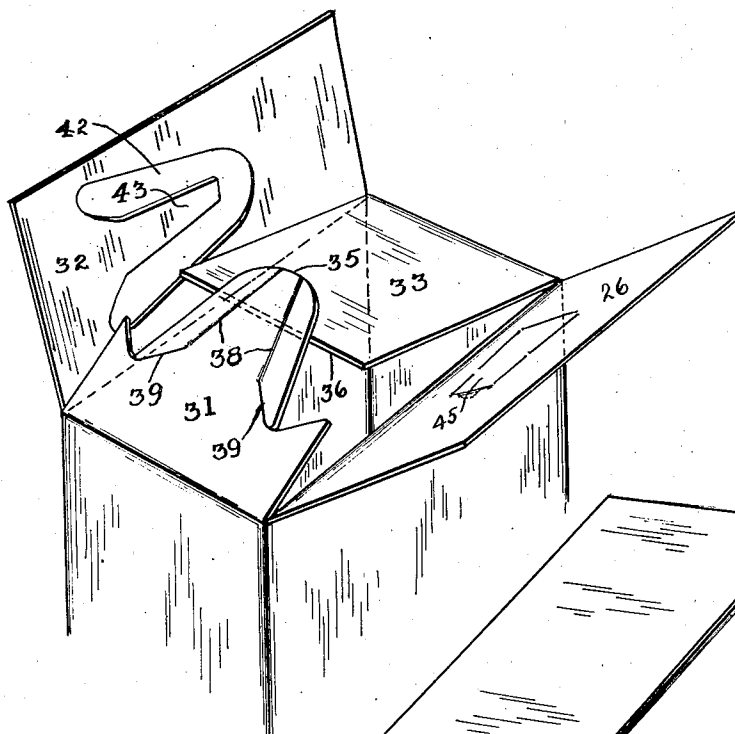


FIG. 3.

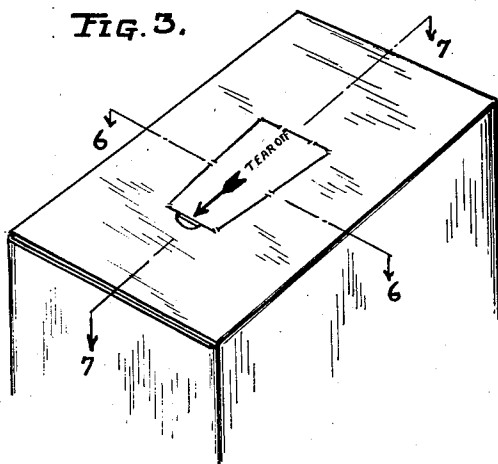
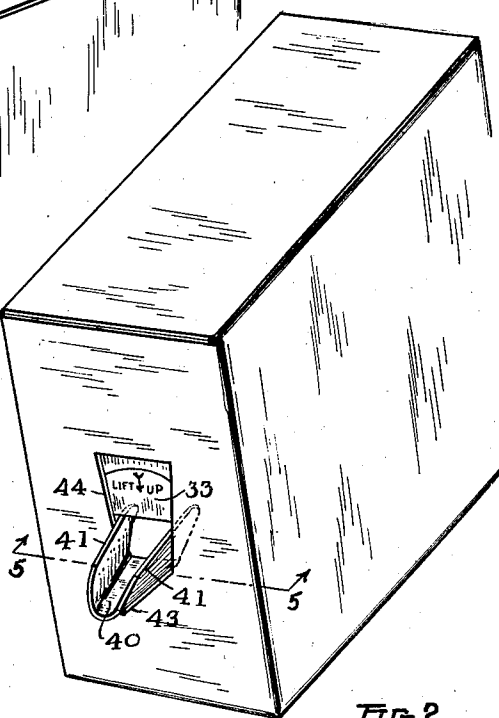


FIG. 2.



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[illegible]

FIG. 8 is a cross-sectional view of a device. It shows a lens (38) mounted on a base (26). The lens is held in place by a frame (41) and a support (43). A component (45) is shown at the top of the lens. A component (31) is shown on the left side of the lens. A component (32) is shown on the right side of the lens. A component (33) is shown at the bottom of the lens. A component (44) is shown on the right side of the lens. A component (46) is shown on the right side of the lens. A component (47) is shown on the right side of the lens. A component (48) is shown on the right side of the lens. A component (49) is shown on the right side of the lens. A component (50) is shown on the right side of the lens. A component (51) is shown on the right side of the lens. A component (52) is shown on the right side of the lens. A component (53) is shown on the right side of the lens. A component (54) is shown on the right side of the lens. A component (55) is shown on the right side of the lens. A component (56) is shown on the right side of the lens. A component (57) is shown on the right side of the lens. A component (58) is shown on the right side of the lens. A component (59) is shown on the right side of the lens. A component (60) is shown on the right side of the lens. A component (61) is shown on the right side of the lens. A component (62) is shown on the right side of the lens. A component (63) is shown on the right side of the lens. A component (64) is shown on the right side of the lens. A component (65) is shown on the right side of the lens. A component (66) is shown on the right side of the lens. A component (67) is shown on the right side of the lens. A component (68) is shown on the right side of the lens. A component (69) is shown on the right side of the lens. A component (70) is shown on the right side of the lens. A component (71) is shown on the right side of the lens. A component (72) is shown on the right side of the lens. A component (73) is shown on the right side of the lens. A component (74) is shown on the right side of the lens. A component (75) is shown on the right side of the lens. A component (76) is shown on the right side of the lens. A component (77) is shown on the right side of the lens. A component (78) is shown on the right side of the lens. A component (79) is shown on the right side of the lens. A component (80) is shown on the right side of the lens. A component (81) is shown on the right side of the lens. A component (82) is shown on the right side of the lens. A component (83) is shown on the right side of the lens. A component (84) is shown on the right side of the lens. A component (85) is shown on the right side of the lens. A component (86) is shown on the right side of the lens. A component (87) is shown on the right side of the lens. A component (88) is shown on the right side of the lens. A component (89) is shown on the right side of the lens. A component (90) is shown on the right side of the lens. A component (91) is shown on the right side of the lens. A component (92) is shown on the right side of the lens. A component (93) is shown on the right side of the lens. A component (94) is shown on the right side of the lens. A component (95) is shown on the right side of the lens. A component (96) is shown on the right side of the lens. A component (97) is shown on the right side of the lens. A component (98) is shown on the right side of the lens. A component (99) is shown on the right side of the lens. A component (100) is shown on the right side of the lens.

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UNITED STATES PATENT OFFICE

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CARTON

Application filed August 22, 1929. Serial No. 387,612.

This invention relates to cartons and more particularly to the provision of pouring spouts therein.

It is one of the objects of the invention to provide a carton of the usual rectangular shape that is commonly used for packing granular materials in which the pouring spout is formed within the limits of the ordinary blank that is now used to make a carton without a pouring spout, so that the provision of the pouring spout will not require the use of any additional stock.

It is a further object of the invention to provide a carton with a pouring spout which may be formed therein in connection with the operation of cutting out the blank for the carton so that no additional blanking operations are required.

It is a further object of the invention to provide a carton with a pouring spout device that is so formed that the carton may be manufactured on the equipment that is now used for the manufacture of cartons without pouring spouts and which may be sealed by the usual sealing machines and not require any special equipment.

It is a further object of the invention to provide a carton having a pouring spout that will be devoid of externally projecting parts, that may be conveniently and quickly opened and that may be readily closed and positively retained in the closed position.

Other objects of the invention and the features of novelty will be apparent from the following description taken in connection with the accompanying drawings, of which—

Fig. 1 is a perspective view of a portion of an ordinary rectangular carton, embodying my invention, the flaps forming one of the end walls, with the pouring spout therein, being formed in open position and before sealing;

Fig. 2 is a perspective view of a carton embodying my invention, with the pouring spout device projecting therefrom and indi-

cating the manner in which it is used to dispense the contents of the carton;

Fig. 3 is a perspective view of a carton embodying my invention and showing the end wall, containing the pouring spout, in the sealed condition.

Fig. 4 is a plan view of a blank from which the carton shown in Figs. 1 to 3 is made;

Fig. 5 is a section on the line 5—5 of Fig. 2;

Fig. 6 is a section on the line 6—6 of Fig. 3;

Fig. 7 is a view on the line 7—7 of Fig. 3; and

Fig. 8 is a section on the line 8—8 of Fig. 5.

Referring to the drawings, and more particularly to Fig. 4, it will be noted that the blank, from which the carton is made, is of a substantially rectangular shape and provided with the score lines 10, 11, 12, 13, 14 and 15 which define the sides 16, 17, 18 and 19. The blank is also provided with cuts 20, 21, 22, 23, 24 and 25 which form the flaps 26, 27, 28, 29, 30, 31, 32 and 33. Along one edge of the side 16 there is a narrow flap 34 which, when the carton is assembled, is glued to the inner surface of the side 19. This forms a rectangular tube with the flaps 27, 28, 29 and 30 projecting from one end thereof and the flaps 26, 31, 32 and 33 projecting from the other end thereof.

In manufacturing the carton the end which contains the pouring spout is closed first and before the contents are put into the carton. The manner in which the flaps, which form this end of the carton, are folded is indicated in Fig. 1 from which it will be seen that the flap 33 is first folded in and then the flap 31 is folded in so that its outer end 35 will overlap the end 36 of the flap 33. (See also Fig. 7.) The flap 31 is cut out to form a tongue 37 and this tongue is provided with the score lines 38 and the cuts 39 which permit the tongue to be folded into a trough-shaped spout comprising the bottom wall 40 and the sides 41. (See Fig. 2.)

After the flap 31 has been folded into overlapping relation with the flap 33, the flap 32

is folded down over the flaps 31 and 33 and, having been provided with glue or other adhesive on both of its surfaces, it will be secured to the flaps 31 and 33. It will be noted
 5 that the flap 32 has a U-shaped cut-out 42 which forms a tongue 43 and, when the flap 32 is folded down against the flaps 31 and 33, the tongue 43 is secured to the underside of the bottom wall 40 of the spout, thus reinforcing the latter. The flap 26 is then folded
 10 down over the flap 32 and the latter having been provided with glue or other adhesive on both sides, as previously described, the flaps 26 and 32 will be secured together. In
 15 thus closing the end of the carton it will be understood that the operation is performed with a mandrel or forming block arranged on the inside of the carton and having an end against which the flaps 31 and 33 may be
 20 folded and, when all of the flaps are in their closed position, pressure may be applied to the outer surface of the flap 26 to cause all of the flaps to be firmly secured together.

It will be noted that the flap 26 has an
 25 opening 44 therein which, as the blank is formed, is closed by a removable section 45, the latter being an integral part of the flap 26 and made removable by forming the opening by perforated lines.

30 The opening 42 is of such size and shape that when the flap 32 is folded over the flaps 31 and 33 the portions of the tongue 37 which form the sides of the spout will remain free.

35 The carton is filled from the opposite end and the flaps 27, 28, 29 and 30 are folded and glued in the usual manner to completely close the carton.

When it is desired to remove the contents of the carton the section 45 is torn out and,
 40 for convenience, a small opening 46 is provided at one end of the section to permit the insertion of the thumb nail or a suitable tool. The end 35 of the tongue, which forms the spout, is then lifted up and turned into the
 45 position shown in Figs. 2, 5 and 8. The sides 41 of the spout engage with the longitudinal edges of the opening 44, as the spout is withdrawn, and these edges cause these sides to be folded up to form the trough-shaped spout
 50 as shown in Fig. 2. After the desired amount of the contents of the carton have been poured out the spout may be pushed back into the carton and the sides 41 will be flattened out,
 55 as shown in Fig. 1, by the engagement of their edges with the end 36 of the flap 33 and portions of the sides 41 of the spout will be confined in the space between the end 36 of the flap 33 and the overlying portion of the flap 26. The construction is such that when the
 60 spout is pushed back into the container the final movement is somewhat like a snap, due to the pressure which the end of the flap 33 exerts on the sides 41 of the spout, so that when the spout is restored to its closed position it will be positively retained therein by

the clamping action of the end 36 of the flap 33 and the overlying portions of the flap 26. The sides 41, on account of tightly engaging with the longitudinal edges of the opening 42, insure against leakage of the material
 70 around the spout, as it is being poured out.

Having thus described my invention what I claim is:

1. A carton having a wall comprising three overlapping flaps, the outer one of said
 75 flaps having a removable section, the inner one of said flaps being formed with a foldable spout-forming section and the intermediate one of said flaps being cut out to provide
 80 openings over the lateral portions of said spout-forming section whereby said lateral portions will not be engaged by said intermediate flap when the carton is sealed, and said spout-forming section being withdraw-
 85 able through the opening formed in said outer flap by the removal of said removable section.

2. A carton having a wall comprising three overlapping flaps, the outer one of said flaps
 90 having a removable section, the inner one of said flaps being formed with a foldable spout-forming section and the intermediate one of said flaps being cut out to provide openings
 95 over the lateral portions of said spout-forming section and having a tongue between said openings which is secured to said spout-forming section, and said spout-forming section being withdrawable through the opening
 100 formed by the removal of said removable section.

3. A carton having a wall comprising three overlapping flaps, the outer one of said flaps
 105 having a removable section, the inner one of said flaps being formed with a foldable spout-forming section and the intermediate one of said flaps having a U-shaped cut-out
 110 portion forming a tongue which is secured to said spout-forming section and providing openings over the lateral portions of said spout-forming section whereby said lateral
 115 portions will not be engaged by said intermediate flap when the carton is sealed, and said spout-forming section being withdrawable through the opening formed in said outer flap by the removal of said removable section.

4. A carton having a wall comprising three overlapping flaps, the outer one of said
 120 flaps having an opening, the inner one of said flaps being formed with a tongue adapted to form the bottom and sides of a spout, the intermediate flap having a U-shaped opening
 125 beneath the first-mentioned opening forming a tongue which is secured to the bottom of said spout, opposite edges of the first-mentioned opening being arranged to be engaged by the first-mentioned tongue when it is withdrawn therethrough and auto-
 130 matically fold said tongue into spout form,

and said outer flap having a removable section for closing said opening therein.

5. A carton having a wall comprising four flaps of which three are in overlapping arrangement, the outer one of said three flaps having an opening, the inner one being formed with a tongue adapted to form the bottom and sides of a three-sided spout, the intermediate flap having an opening beneath the first-mentioned opening, and the other of said four flaps being secured to the inner side of said intermediate flap and underlying a portion of said tongue. 70

In testimony whereof, I hereunto affix my signature. 75

RALPH K. BECKER.

6. A carton having a wall comprising four flaps of which three are in overlapping arrangement, the outer one of said three flaps having an opening, the inner one being formed with a tongue adapted to form the bottom and sides of a three-sided spout, the intermediate flap having a U-shaped opening beneath the first-mentioned opening forming a tongue which is secured to the bottom of said spout, the other of said four flaps being secured to the inner side of said intermediate flap and underlying a portion of the first mentioned tongue, and said outer flap having a removable section for closing the opening therein. 80

7. A carton having a wall comprising four flaps of which three are in overlapping arrangement, the outer one of said three flaps having an opening, the inner one being formed with a tongue adapted to form the bottom and sides of a spout, the intermediate flap having a U-shaped cut-out beneath the first mentioned opening, forming a tongue which is secured to the bottom of said spout and providing openings over the portions of the first mentioned tongue which form the sides of said spout, the other of said four flaps being secured to the inner side of said intermediate flap and underlying a portion of said tongue. 85 90 95 100 105

8. A carton having a wall comprising four flaps of which three are in overlapping arrangement, the outer one of said three flaps having an opening, the inner one having its free end formed with a tongue adapted to form the bottom and sides of a spout, the intermediate flap having a U-shaped opening beneath the first-mentioned opening, the other of said four flaps being secured to the inner side of said intermediate flap and underlying a portion of said tongue, said intermediate flap having a tongue which overlies and is secured to the first-mentioned tongue, and said outer flap having a removable section for closing the opening therein. 110 115 120

9. A carton having a wall comprising four flaps three of which are in overlapping arrangement, the inner flap of said three having a spout-forming section, the outer flap having an opening through which said section may be withdrawn and the intermediate flap of said three having a cut-out therein. 125 130