Feb. 17, 1931. H. D. FIELD ET AL 1,793,073

DISPENSING CARTON

Filed March 21, 1928

Fig. 1.

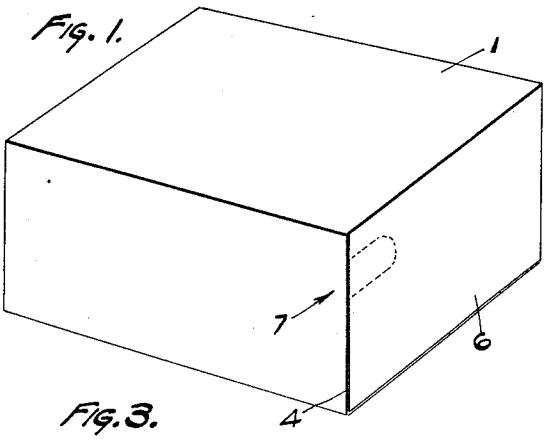


Fig. 2.

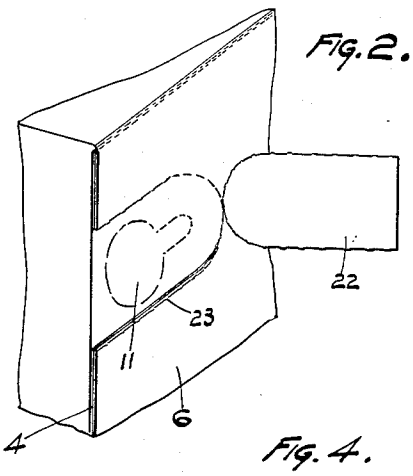


Fig. 3.

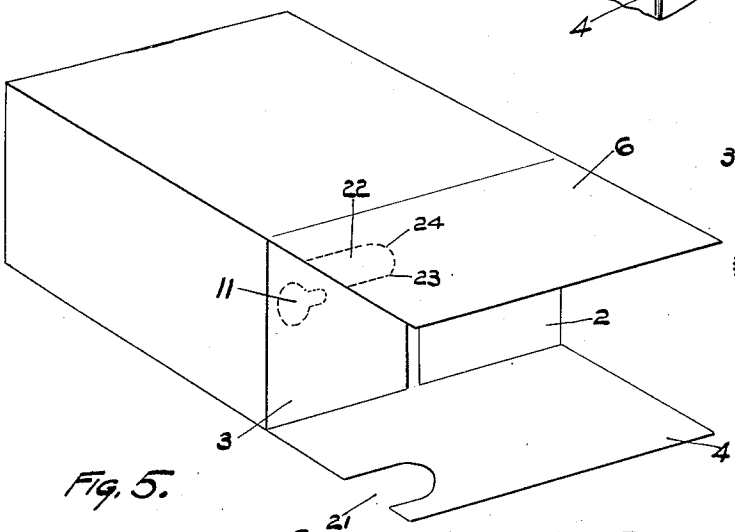


Fig. 4.

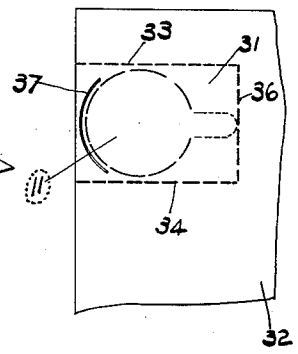


Fig. 5.

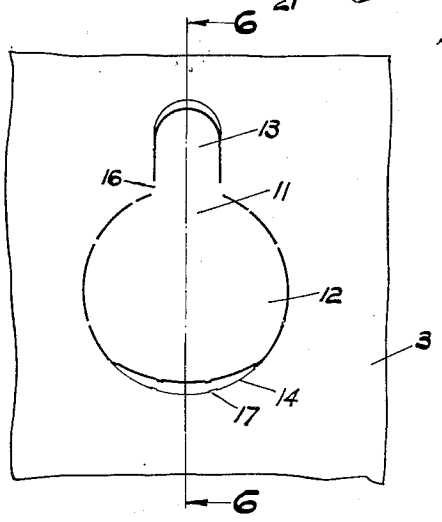


Fig. 6.

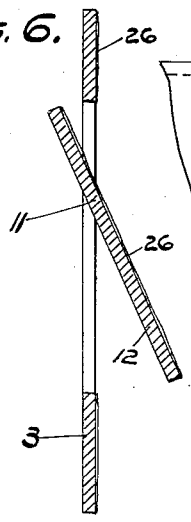
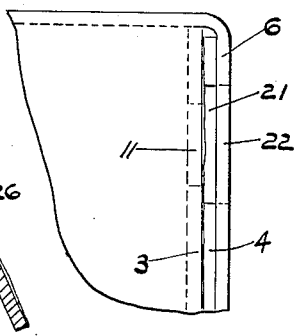


Fig. 7.



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UNITED STATES PATENT OFFICE

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DISPENSING CARTON

Application filed March 21, 1928. Serial No. 263,498.

Our invention relates to improvements in dispensing cartons, and has for an object the provision of a carton in which a partially severed knock-out portion is provided to furnish convenient means for pouring the contents from the carton.

Another object of the invention is the provision of a carton having a knock-out portion, as above described, which is capable of being closed after the desired amount of the contents has been poured from the carton.

A further object of the invention is the provision of a dispensing carton which is an improvement over that disclosed in Patent No. 1,632,412, issued June 14, 1927, to Robert C. McCrystal, one of the joint inventors of the present device, in that means are provided for preventing accidental opening of the carton.

A still further object of the present invention is the provision of means for preventing sifting of comminuted material through the incisions defining the knock-out portion of our improved carton.

Another object is the provision of a carton having the improvements above enumerated, and yet which is capable of being filled and sealed in the conventional machines ordinarily used for that purpose.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of our invention which is illustrated in the drawings accompanying and forming part of the specification. It is to be understood that we do not limit ourselves to the showing made by the said drawings and description, as we may adopt variations of the preferred form within the scope of our invention as set forth in the claims.

Referring to the accompanying drawings wherein similar reference characters denote similar parts throughout:

Figure 1 is a perspective view of a closed carton in which the improved form of knock-out portion of our invention is incorporated.

Figure 2 is an enlarged view of a portion of the carton of Figure 1, with the outer, protecting knock-out portion partially removed.

Figure 3 is a perspective view of the carton of Figure 1 before the closing flaps in which the knock-out portions are provided, are closed.

Figure 4 is a plan view showing a modified form of outer knock-out portion.

Figure 5 is a plan view of a portion of one of the inner flaps of the carton of Figure 1 to better reveal the nature of the innermost knock-out portion.

Figure 6 is a sectional view of the flap and knock-out portion of Figure 5, the plane of section being indicated by the line 6—6 of Figure 5.

Figure 7 is a side elevation of a portion of the carton of Figure 1, the direction of view being indicated by the arrow 7 of Figure 1.

The present embodiment of our invention is shown incorporated in a small rectangular carton 1 of pasteboard provided at each end with the conventional closing flaps 2, 3, 4, and 6, it being understood that the flaps 2 and 3 are intended to be folded down first when closing the carton, as shown in Figure 3, after which flap 4 is to be folded and then flap 6. A knock-out portion 11 is provided in the flap 3. This knock-out portion comprises a nearly completely circular area 12 having a tongue 13 extending therefrom. The outline of the knock-out is formed by a plurality of incisions 14 slightly spaced from each other to provide webs 16 and 17, it being understood that there are two webs 16 provided on opposite sides of the circular area 12. The purpose of this arrangement is so that when one part of the knock-out 11 is pressed inwards of the carton, the smaller webs 17 will be ruptured, but one or both of the larger webs 16 will be left intact, so that the other part of the knock-out will extend outside the carton so as to be readily grasped in the event that the complete removal of the knock-out portion is desired. Were all the webs of the same size, and were the knock-out portion simply circular or rectangular in shape, pressure upon the knock-out would simply force the entire knock-out inside the carton, not only rendering the removal or

replacement impossible, but also bringing about an insanitary condition, and tending to stop the outlet.

An aperture 21 extends inwards from an edge of the flap 4 and is so positioned in the flap 4 that it overlies the knock-out portion 11 when the carton is closed. A second knock-out portion 22, preferably similar in shape to the aperture 21, is provided in the flap 6. The knock-out portion 22 is formed by a series of incisions 23 slightly spaced to provide easily rupturable webs 24, and is so disposed within the flap 6 that it overlies the knock-out portion 11 and aperture 21 when the carton is closed, as shown in Figures 1, 2, and 7. A coating 26 of sodium silicate or other suitable adhesive agent is applied to preferably all the flaps, for the purpose of sealing the carton, and more particularly to the outer surface of the flap 3 so as to close what slight apertures there might be formed therein by the incisions 14, thus preventing the possibility of sifting of the contents of the package therethrough in the event that such contents are sufficiently pulverized that liability of their sifting therethrough would be presented.

The device is used in the following manner: When it is desired to pour all or a portion of the contents from within the carton 1, the knock-out portion 22 may be easily grasped and drawn from its associated flap 6, as indicated in Figure 2, thus exposing the knock-out portion 11 through the aperture 21. Access to the contents of the carton may then be had by pressing part of the knock-out 11 inwards, this being easily accomplished by the finger. This causes the smaller webs 17 to rupture since they are relatively weak. The stronger webs 16 then act as a hinge, and by torsion of their vibrations permit the knock-out to assume the position as shown in Figures 5 and 6, after which the knock-out 11 may be completely removed.

It will be apparent that our invention provides a carton which may be easily opened without the necessity of using any tools or mutilating it in any other manner, and that the operation is expeditious and most convenient. It will also be seen that this has been accomplished without increasing the cost of manufacturing the carton and without detracting in any way from the appearance or utility thereof, and that the improvements made in the carton will in no manner prevent the carton's being filled and sealed through the expedient of the conventional machinery ordinarily used for that purpose. We have also improved upon cartons heretofore produced having knock-out portions therein, by providing means for preventing sifting of comminuted material past the knock-out portion, and we have also provided means for preventing accidental opening of the cartons, which frequently happens in the prior devices when the finger is accidentally pressed upon the knock-out portion when the carton is grasped. The outer knock-out portion 22 provides sufficient protection for the inner knock-out portion 11 so that liability of its accidental removal is eliminated.

In Figure 4 we have shown a modified form of outer knock-out portion. The knock-out portion 31 in the outer flap 32 is rectangular in form, the sides being defined by incisions or perforations 33 separated by rupturable webs 34, and the inner end defined by a score 36. An arcuate incision 37 is formed adjacent the outer end of the knock-out portion, and is positioned slightly nearer the side of the carton than the outer side of the knock-out 11. This construction makes it possible to tear the sides of the outer knock-out but leave the inner end intact, so that the knock-out is in the form of a flap hinged at its inner end. After this flap has once been opened and the inner knock-out 11 removed, the outer knock-out 31 may be closed upon the aperture left in the inner flap 3, and a slight pressure adjacent the inner side of the arcuate incision 37 will serve to snap an arcuate edge of the outer knock-out 31 into the aperture in the inner flap 3, and then hold the knock-out 31 in closing position.

It is to be understood that instead of forming the flap 4 with the aperture 21 as described above, we may provide the flap 4 with an additional knock-out portion similar in shape to the knock-out portion 22 in the flap 6. This will be the expedient resorted to in the event that a carton of relatively thin material is manufactured.

Various changes in the details of construction may be made without departing from the spirit and scope of the invention as defined by the appended claims.

We claim:

1. In a dispensing carton a closing flap hingedly carried thereby, a knock-out portion comprising an area partially severed from said flap and connected to the material thereof by webs upon which it is adapted to swing, a second closing flap having an aperture therein, a third closing flap, and a knock-out portion in said last mentioned flap, said aperture and second mentioned knock-out portion being so disposed in their respective flaps as to overlie said first mentioned knock-out portion when the flaps are in closing position.

2. In a dispensing carton a closing flap hingedly carried thereby, a knock-out portion comprising an area partially severed from said flap and connected to the material thereof by webs upon which it is adapted to swing, a coating of adhesive material applied to the surface of said flap, a second closing flap having an aperture therein, a third closing flap, and a knock-out portion in said last mentioned flap, said aperture

and second mentioned knock-out portion being so disposed in their respective flaps as to overlie said first mentioned knock-out portion when the flaps are in closing position.

3. In a dispensing carton, a pair of closing flaps, a knock-out portion in each of said flaps, the knock-out portion of the inner flap being completely removable therefrom to form an aperture therein, and the knock-out portion of the outer flap being severable along all but one edge thereof from its flap, to form a hinged closure, and a tongue defined by an incision in said hinged closure adapted to be sprung into said aperture to hold the closure in closed relation thereto.

4. In a dispensing carton, a pair of closing flaps, a knock-out portion in the outermost of said flaps and overlying an aperture in the innermost flap, said knock-out portion being severable along all but one edge thereof from its flap to form a hinged closure, and a tongue defined by an incision in said hinged closure adapted to be sprung into said aperture to hold the closure in closed relation thereto.

5. In a dispensing carton, a pair of closing flaps, a knock-out portion in the outermost of said flaps and overlying an aperture in the innermost flap, said knock-out portion being severable along all but one edge thereof from its flap to form a hinged closure, and a tongue defined by an incision in said hinged closure, the outer end of said tongue extending slightly beyond the edge of said aperture to be engaged therebeneath and hold the closure in closed relation to the aperture.

6. In a dispensing carton, a pair of closing flaps, a knock-out portion in each of said flaps, webs connecting the inner knock-out portion to its flap, certain of said webs on opposite sides of the knock-out portion being less easily rupturable than the others to serve as hinges as the others are broken, said knock-out portion being completely removable by severing all of said webs to form an aperture in its flap, the knock-out portion of the outer flap being severable along all but one edge thereof from its flap, to form a hinged closure, and a tongue defined by an incision in said hinged closure adapted to be sprung into said aperture to hold the closure in closed relation thereto.

7. In a dispensing carton, a pair of overlapping closing flaps, registering knock-out portions formed in said flaps, a tongue extending from one of said knock-out portions, said tongue and its associated knock-out portion being defined by a plurality of discontinuous incisions in the associated flap, webs of full tensile capacity joining said tongue to its associated flap adjacent its line of juncture with its knock-out portion, a coating of adhesive material covering the flap bearing said tongued knock-out portion and sealing said incisions against leakage therethrough, and means interposed between said adhesive material and the other knock-out portion for preventing adhesion of said knock-out portions together.

In testimony whereof we have signed our names to this specification.

R. C. McCRYSTAL.
HERBERT D. FIELD.