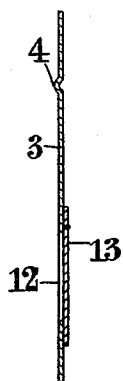
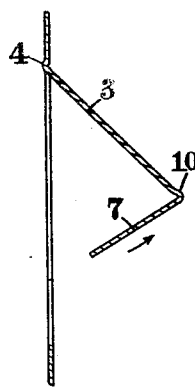
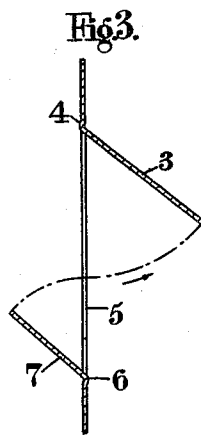
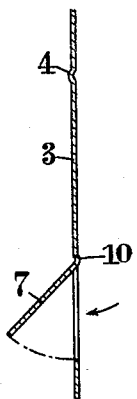
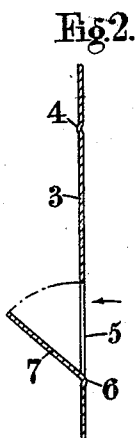
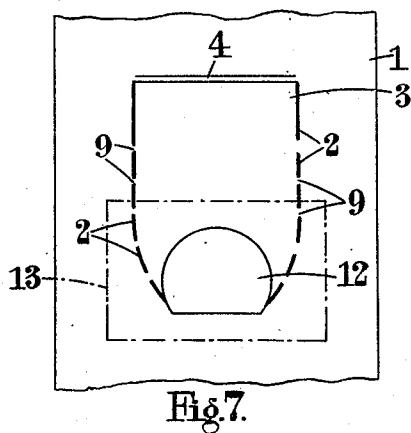
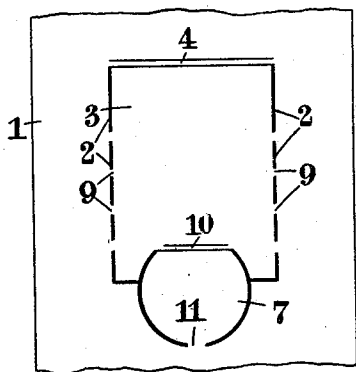
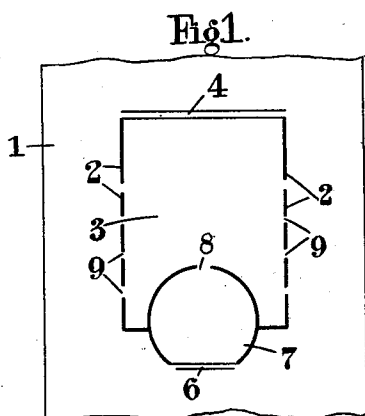


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CARDBOARD OR LIKE BOX OR CONTAINER

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UNITED STATES PATENT OFFICE

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CARDBOARD OR LIKE BOX OR CONTAINER

Joseph May Greeley, Southall, England, assignor
to The Quaker Oats Company, Chicago, Ill.Application January 28, 1939, Serial No. 253,453
In Great Britain February 11, 1938

9 Claims. (Cl. 229-7)

This invention relates to cardboard and the like boxes or containers of the fixed or knock-down type and has for its object the provision of improved and inexpensive means whereby the contents of the box may be conveniently emptied or poured out from time to time or whereby access may be had thereto. A further aim of the invention is to provide means which permit of closure or partial closure so that the residual contents is not unduly exposed to atmospheric effects.

The invention consists in a pouring or access flap integral with a box wall and outlined by aligned perforations or slits, in conjunction with a pilot tab or covered aperture whereby a displacement of the pilot tab or exposure of the pilot aperture enables a finger to be inserted to release or open the flap.

By slits or perforations is meant that the wall of the box is punctured or incised to leave fragile pieces or lands between the perforations or slits and it is intended that the phrase should include cases in which the wall has a continuous incision cut nearly through the thickness of the wall such that the part in question may be readily broken away by pressure. The invention further consists in that the hinge of the pouring flap and the hinge of the pilot tab are oppositely disposed and the pilot tab is connected to the pouring flap only by a fracturable land or lands.

It is preferred to arrange the lands between the perforations or flaps so that after the flap has been opened by pushing it inward it will tend to re-seat itself in the closed position.

According to a further construction an aperture is provided in the box wall adjacent the flap and into which run the perforated lines of the flap. This aperture is normally sealed or covered with a label or paper capable of rupture so that the fingers may be inserted in the uncovered hole to raise the flap.

Reference will now be made to the accompanying drawing which illustrates several modes of carrying the invention into effect and in which:

Figure 1 is an elevational view of a portion of a side of a box illustrating a flap and tab in the closed position;

Figure 2 is a sectional view of Figure 1 illustrating the tab pushed inwards;

Figure 3 is a sectional view illustrating the flap in the open position;

Figure 4 is an elevational view of a modified form in which the tab is hinged to the flap;

Figures 5 and 6 are sectional views of Figure 4 illustrating the tab and flap in the open position;

Figures 7 and 8 illustrate a further modification.

In carrying the invention into effect according to one convenient mode as applied by way of example to a box in which after the contents has been placed in it either in a packet or in loose form the end is sealed down, the blank of which such box is constituted as illustrated in Figures 1 to 3, is provided, in a portion 1 which is to form one of the narrower side walls of the box and in a position towards one end thereof, with incisions 2 scored or impressed on three sides of a rectangular space intended to constitute the opening or pouring flap 3 of the box. The fourth side of the rectangle, preferably that which lies transversely of the length of the box wall, is creased so that it may form a convenient hinge 4 for the flap 3. The hinge 4 may be arranged at either end of the rectangle or laterally at either side. The side of the flap opposite to the hinge has extending into the rectangle an arcuate or other conveniently shaped incision 5 (or a plurality thereof) having as a chord to the arc a creased portion parallel with and opposite to the creased portion on the flap, so that it may constitute a hinge 6 for the arcuate piece which is intended to form a pilot to tab 7. The arcuate incision is carried out so as to leave a narrow land 8 connecting the tab and the flap together. A plurality of lands 9 may be left for uniting the two hinged pieces together but in any event the arrangement should be such that the pressure on the pilot tab 7 will cause its union with the flap 3 to be ruptured without rupturing the lands 9 which hold the flap itself in position. Thus it will be appreciated that when the pilot tab 7 has been broken away and pushed into the box as shown in Figure 2 the pouring flap 3 still remains intact in the closed position.

In operation the party wishing to open the box presses the finger upon the pilot tab 7 so that it is broken away and pushed inward. This leaves an aperture 5 through which the finger can be conveniently inserted to bring pressure to bear on the back of the flap 3 in order to rupture its lands 9 and open it outwardly about its hinging crease 4, as shown in Figure 3.

When opened the contents are accessible or can be poured through the aperture provided by the opened flap.

If the box is not emptied the piece constituting the hinged flap 3 can be pushed back into position and is retained therein by the engagement of the lands 9 on the edges thereof with those of the edges of the apertures in the wall. The

pilot tab 7 will tend to re-seat itself under the pressure of the contents.

According to a modified form as illustrated in Figures 4 to 6, instead of hinging the pilot tab 7 on the wall of the box it may be hinged at 10 to the flap 3 and connected to the wall 1 by fracturable lands 11 so that when the tab 7 has been pushed into the box a finger may be inserted to pull outwardly the flap 3 thus rupturing the lands 9. This form however may have the disadvantage that in liberating the pilot tab 3 by breaking its positioning lands 11 there is a tendency to push the flap itself inwardly.

Instead of having the tab extend into the rectangle of the flap the hinge line of the pilot tab adjoins the edge of the flap opposite to the hinge or it may adjoin any other convenient side of the flap.

Furthermore the flap need not be hinged but may be incised on all four sides so that after the pilot opening has been formed and a finger introduced the whole of the flap may be torn away.

According to a modification as shown in Figures 7 and 8 instead of providing a tab for covering the pilot opening a plain aperture 12 may be formed adjacent the edge of the pouring or access flap 3 and into which run the perforated lines of the flap, and this aperture may be covered by an adhesive label or paper covering 13 which is adequate to protect the contents and seal the box and can be readily ruptured by pushing the finger through it to enable the latter to be introduced at the back of the pouring or access flap to open it.

I claim:

1. In combination with a cardboard container, a pouring flap integral with one wall of the container and outlined along one side by a crease line about which the flap is hinged to the container wall and along its other sides by aligned perforations, and a frangible pilot closure located over a pilot aperture partly in the container wall and partly in the pouring flap to enable a finger to be inserted through said aperture behind the pouring flap to open the flap outwardly upon its hinge when the closure has been ruptured.

2. In combination with a cardboard container, a pouring flap integral with a container wall and outlined along one side by a crease line about which the flap is hinged to the container wall and along its other sides by aligned perforations and a pilot closure arranged partly within the area formed by the flap whereby a displacement of the closure enables a finger to be inserted behind the pouring flap to open it outwardly upon its hinge.

3. In combination with a cardboard container, a pouring flap integral with a container wall and outlined along one side by a crease line about which the flap is hinged to the container wall and along its other sides by aligned perforations and an independently operable pilot tab arranged partly within the area formed by the flap whereby a displacement of the pilot tab enables a finger to be inserted behind the pouring flap to open it outwardly upon its hinge.

4. In combination with a cardboard container, a pouring flap integral with a container wall and outlined by aligned perforations, a crease line formed along one edge about which said flap is hinged to the container wall, a pilot tab located over an aperture in the container wall adjacent the pouring flap, a crease line about which the pilot tab is hinged to the container wall and oppositely disposed to the crease line of the pouring flap and a fracturable land connecting the pilot tab to the pouring flap.

5. In combination with a cardboard container, a pouring flap integral with a container wall and outlined by aligned perforations, a crease line formed along one edge about which said flap is hinged to the container wall, a pilot tab located over an aperture partly within the area formed by the flap, a crease line about which the pilot tab is hinged to the container wall and oppositely disposed to the crease line of the pouring flap and a fracturable land connecting the pilot tab to the pouring flap.

6. In combination with a cardboard container, a pouring flap integral with a container wall and outlined by aligned perforations, a crease line formed along one edge about which said flap is hinged to the container wall, a pilot tab located over an aperture partly within the area formed by the flap, a crease line about which the pilot tab is hinged to the container wall and oppositely disposed to the crease line of the pouring flap and fracturable lands connecting the pilot tab to the pouring flap.

7. In combination with a cardboard container, a pouring flap integral with a container wall and outlined by aligned perforations, a crease line formed along one edge about which said flap is hinged to the container wall, a pilot tab located over an aperture partly within the area formed by the flap, a crease line about which the pilot tab is hinged to the pouring flap, and a fracturable land connecting the pilot tab to the container wall.

8. In combination with a cardboard container, a pouring flap integral with a container wall and outlined by aligned perforations, a crease line formed along one edge about which said flap is hinged to the container wall, a pilot tab located over an aperture partly within the area formed by the flap, a crease line about which the pilot is hinged to the pouring flap and fracturable lands connecting the pilot tab to the container wall.

9. In combination with a cardboard container, a flap covering a pouring aperture and integral with one wall of the container and outlined by aligned perforations, a crease line formed along one side about which said flap is hinged to the container wall, and a displaceable pilot cover located over a pilot aperture which is only a fraction of the area of the pouring aperture and which is partly in the container wall and partly in the flap to enable a finger to be introduced at the back of the flap through the aperture to open the flap upon its hinge when the cover has been displaced.

JOSEPH MAY GREELEY.