A food container arrangement formed of plastic sheeting, includes a cup (12) and a cover (14) for holding foods. The cup can be held in an auto cup holder (E) while part of the cover lies over the cup and part lies beyond the cup rim. The cup and cover can be formed of a single piece of plastic sheeting, with rim joining portions (30, 32) that lie facewise adjacent with a tear line (34) between them where the sheeting can be torn to separate them. The cover has an upper surface with a groove (80) that can receive the rim of the cup when the cover lies in an upside-down position. The cover groove walls include a projection (112) and the cup rim has an L-shaped insertion slot (100) that the cover projection fits into to prevent the cover from falling off.
DIP PACKAGING SYSTEM

BACKGROUND OF THE INVENTION

[0001] There are many foods that are best packaged separately but eaten together. These include french fries and ketchup, apple pieces and yogurt, and tortilla chips and salsa. A food packaging system that packaged the foods separately in closed containers, but allowed the opened containers to be securely held together so at least two foods could be conveniently held together, would be of value. When the opened containers are held together, it is desirable that they be held in the same manner as a single container, such as with one hand when a person is walking, or as a socha can or cup held in a vehicle cup holder. It also would be desirable if the closed containers clearly indicated if they had been already opened (after a clerk loaded food into the containers) so the buyer could be assured that no one had already opened them to sample the food and possibly contaminate it.

SUMMARY OF THE INVENTION

[0002] In accordance with one embodiment of the invention, a low cost food container arrangement is provided that holds two different foods in separate closed containers, that allows the opened containers to be securely held together in a manner that facilitates eating the foods together, and that assures the customer that the container has not been previously opened. The packaging system comprises plastic sheeting that forms a cup, and a cover that closes the open top of the cup in a first cover position. The cover is mountable in a second position on the rim of the cup so the cover extends horizontally with part of the cover lying over the cup open top and part of the cover extending horizontally beyond the open top of the cup.

[0003] The cover has an upper surface with a groove, and the cover can be turned upside-down and the groove moved down to receive the cup rim. This mounts the cover on the cup, with a portion of the cover lying directly over the cup open top and with a portion of the cover lying beyond the cup rim but at the same height as the cup rim. The cup then can be easily held in a vehicle cup-holder that is designed to hold ordinary cups. One side of the cover groove has a sideward projection, and the cup rim has an L-shaped undercut insertion slot. The cover can be moved down and turned in the L-shaped insertion slot to lock the cover in place.

[0004] The cup and cover can be formed of a single piece of plastic, with the cup and cover having flat parts lying facewise adjacent and connected by a tear joint along which the plastic sheet is weakened. The first person to open the container arrangement, tears along the tear line, which makes it obvious that the cup has been opened.

[0005] In another embodiment of the invention, a third container is mounted in a cover recess.

[0006] The novel features of the invention are set forth with particularity in the appended claims. The invention will be best understood from the following description when read in conjunction with the accompanying drawings.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0007] FIG. 1 is an isometric view of a container arrangement of the invention, in a position where the cup and container are ready to be filled by a clerk.

[0008] FIG. 1a is an isometric view of the arrangement of FIG. 1 in an open position and held in a vehicle cup holder.

[0009] FIG. 2 is an isometric view of the container arrangement of FIG. 1, wherein the cover lies in a first position is closed on the cup to completely cover the cup top.

[0010] FIG. 3 is an isometric view of the container arrangement of FIG. 1, wherein the cover has been torn loose from the cup and the cover lies in a second position with part of the cover lying over the cup open top and part of the cover extending horizontally beyond the cup open top.

[0011] FIG. 4 is a plan view of the container arrangement of FIG. 3.

[0012] FIG. 5 is a plan view of the container arrangement in the position of FIG. 1.

[0013] FIG. 6 is a side elevation view of the container arrangement of FIG. 5.

[0014] FIG. 7 is a plan view of the container arrangement in the closed initial first position of FIG. 2.

[0015] FIG. 8 is a sectional view taken on line A-A of FIG. 7, with a third container shown installed in the cover.

[0016] FIG. 9 is an enlarged view of area B-B of FIG. 8.

[0017] FIG. 10 is an enlarged view of area C-C of FIG. 8.

[0018] FIG. 11 is an enlarged view of area 11-11 of FIG. 10 with the tear line intact.

[0019] FIG. 12 is a view similar to that of FIG. 11, after the tear line has been torn.

[0020] FIG. 13 is an exploded isometric view of the container arrangement of FIG. 8 which includes a third container.

[0021] FIG. 14 is an enlarged partial isometric view of area D-E of FIG. 13, showing how the cover projection of FIG. 6 locks to the cup.

[0022] FIG. 15 is a sectional view of the container arrangement of FIG. 13 with the cover mounted in the second position on the cup, and is a view taken on line F-F of FIG. 4.

[0023] FIG. 16 is an enlarged sectional view of area G-G of FIG. 15.

DESCRIPTION OF THE DRAWINGS

[0024] FIG. 1 shows a packaging system, or container arrangement 10 of the present invention, which is formed of polymer material such as plastic sheeting of 0.020 inch thick PETE (polyethylene terephthalate). The container arrangement includes a cup 12 and a cover 14, formed of a single piece 20 of sheet plastic. The cup has a vertical axis 22 and has a rim 24 that extends around a majority of the axis, and the cover has a cover axis 26. The cup also has a joining portion 30 that initially joins to a joining portion 32 of the cover, along a tear line 34. At a facility where food is loaded into the cup, such as at a store or distribution facility, a clerk loads a first food into the cup 12. The clerk also usually loads a second food into a recess 40 in the cover 14, and closes the cover recess using a peel-off film (not shown) that initially adheres to a cover film-attachment surface 42. The clerk then may close the cover on the cup, with a cover seal 44 that seals to a cup seal 50. In the closed position of the cover, seals or sealing portions 44, 50 resist opening the cover unless it is pulled up by a tab. FIG. 2 shows the cover closed on the cup.

[0025] In the closed position of the cup, the cup can be opened by tearing the apart the cover and cup joining portions 32, 30 (FIG. 1) along the tear line 34. This can be done by pulling up on one of two pull tabs 52, 54 that lie on opposite sides of the tear line. As indicated in FIG. 8, when the cover is closed the cup rim 24 has empty spaces 62, 64 that lie under the pull tabs 52, 54 to facilitate a person grasping one of the tabs. The plastic sheet is weakened along the tear line 34, as...
by multiple perforations that facilitate tearing the plastic and with a slit leading to a joined tear line location of the cover and cup. After the tear line is torn so the cup and cover are separated along the tear line, the cup and cover can be closed on the cup in a first position shown in FIG. 2. The only observed difference is that the radially outer ends and (FIG. 12) of the joining portions and are then separated by a gap. Applicant forms a bump in a least one of the joining portions that extends toward the other joining portion to provide a gap that is large enough to be readily seen after the tear joint has been torn. The gap provides evidence of tampering before the cover is torn off. If the tamper evidence feature of the tear line is not required, then the cup and cover can be formed of two sheets of plastic.

FIG. 1 shows that the cover has a groove with a curvature corresponding the curvature of the cup rim. FIG. 3 shows that after the cover has been separated from the cup, the cover can be mounted on the cup in a second position of the cover. In this second position, the cover groove receives the cup rim. The cover groove and cup rim form interfitting attachment parts that hold the cover in the second position of FIG. 3, over the cup. In the second position of FIG. 3, the cover lies with one cover part 82 lying directly over the cover open top which lies within the cup rim, and with another cover part 86 lying horizontally beyond the cup rim. That is, the beyond cover part 86 lies at the same height as the directly-over cover part 82. The fact that the beyond cover part 86 lies at about the same height as the directly over cover part, results in the cup being mountable in an auto cup holder that surrounds most of the height of the cup. FIG. 1A shows the cup lying in a recess of a cup holder surface, with the cover 14 lying over a raised auto part that lies above the height of surface. The figure also shows first and second foods F1, F2 in the two containers.

As shown in FIG. 4, the beyond cover part extends horizontally beyond the cup rim a maximum distance that is close to half the cover diameter A. That is, the beyond cover part and the directly-over cover part each extends between one fourth and three fourths, and preferably between one third and two thirds, of the rim diameter B from the rim edge location that lies closest to the far end of the cover rim. This leaves a cup top opening of at least half the area of a completely uncovered (open) cup top, out of which a person can withdraw a first food such as a slice of apple, and dip it into a second food such as yogurt that lies in the cup recess. This also results in the center of gravity of the weight of the second food in the cover recess plus the cover weight, lying approximately over the cup rim location, so the cover does not have a strong tendency to tip over.

To prevent cover tip-over, applicant forms the cover as shown in FIG. 13, with an insertion slot. As shown in FIG. 14, the insertion slot is L-shaped (as seen in a mirror image), with a vertical slot part that extends down into the radially (with respect to the cup axis) inside of the cup rim, and with a circumferential undercut slot part that extends circumferentially (with respect to the cup axis) from the bottom of the vertical slot part. As shown in FIG. 6, the cover groove has a groove side wall with a projection that projects toward the other groove wall. As shown in FIG. 14, the walls of the cover groove are lowered onto the cup rim with the projection moved down along the vertical part of the insertion slot. The cover is then moved in direction approximately 40° (5° to 60°) around the cup axis, to move the projection along the undercut insertion slot circumferential part. This latches the cover to the cup, with the cover straddling the cup rim as shown in FIG. 15.

Although particular embodiments of the invention have been described and illustrated herein, it is recognized that modifications and variations may readily occur to those skilled in the art, and consequently, it is intended that the claims be interpreted to cover such modifications and equivalents.

What is claimed is:

1. A plastic food packaging system which includes a cup with an open top, and a cover that fits on said cup in a first cover position wherein said cover completely covers said cup open top, with said cup and cover each made of polymer material, wherein:

   - said cup and cover form inter-fitting attachment parts that hold said cover in a second position wherein said cover lies over part of said cup open top but leaves open at least one-half of the cup open top.

2. The system described in claim 1 wherein:

   - said cup top has a cup rim that forms said open top, said cover has upper and lower surfaces, and said cover has groove walls forming a groove in its upper surface that receives said cup rim when the cover lies upside-down from its orientation in said first cover position.

3. The system described in claim 2 wherein:

   - said cup has a cup axis, said cup rim has a vertical insertion slot where said cup rim is of reduced radial thickness on the inside of its rim, and said cup rim has an undercut circumferential passage extending circumferentially from a bottom of said insertion slot;
said cover has a cover axis that is coincident with said cup axis in said first cover position, and said cover has at least one radial projection on one of said groove walls that is moveable down into said insertion slot when said cover is pushed down and that is then moveable along said circumferential passage by moving said cover about said cup axis.

4. The system described in claim 1 wherein:
said cup and cover each has a rim, and said cup and cover are formed of a single piece of plastic and have joining portions (30, 32) that extend toward each other from said rims with a tear line that lies between said joining portions, said piece of plastic being weakened along said tear line.

5. The system described in claim 4 wherein:
in said first cover position but before said tear line is torn, said joining portions of said cup and cover lie facewise adjacent to each other and said tear line forms a 180° fold, with at least one of said joining portions having a bump that increases the vertical separation of said facewise adjacent joining portions.

6. The system described in claim 4 wherein:
said cover forms at least one handle that lies beyond said tear line in said first cover position, and said cover forms a recess under said at least one handle to facilitate grasping only said handle.

7. The system described in claim 1 including:
a third container which has a closed flat bottom and side walls and an open third container top;
said cover having a recess which opens upward in said cover second position, and said third container lies in said cover recess with said third container top opening upward in said second cover position.

8. The system described in claim 7 including:
a quantity of a first food lying in said cup;
a quantity of a second food in said third container, and a film that extends across said third container open top, to hold in said second food when said cover lies in said first position with said third container open top facing downward.

9. A food packaging system of polymer material which includes a cup with cup rim walls that form a cup rim and a cup open top, and a cover that fits on said cup and completely closes said cup open top in a first cover position, wherein:
said cover has a top with groove walls that form a groove that receives said cup rim in a second cover position wherein said cover is upside-down and covers only a portion of said open top;
said cup rim walls have a vertical cup axis and said rim walls include an insertion slot in a radially inner-surface of the rim, wherein said insertion slot has a slot vertical part with a bottom and a primarily horizontal slot part extending circumferential to said axis from the bottom of said slot vertical part;
said groove walls include a first groove wall with a projection that fits into said slot vertical part and then into said horizontal part, when said cover is moved down to receive said rim and the cover is then turned.

10. The system described in claim 9 wherein:
said cup and cover are formed of a single piece of formed plastic sheeting with facewise adjacent flat parts extending to a 180° fold that forms a tear line that is more easily torn that the rest of said single piece of plastic, in said first cover position.

11. A food packaging system which includes a cup with an open top, and a cover that fits on said cup and closes said top in a first cover position, with said cup and cover formed of polymer material, wherein:
said cup and cover form interfitting attachment parts that hold said cover on said cup in a second cover position wherein the cover lies upside-down from said first cover position, said cover having a recess that opens upwardly in said second cover position; and including a third container which has a third container opening, said third container lies in said cover recess with said third container opening oriented to open upward in said second cover position.

12. The system described in claim 11, including:
said third container lies in said cover recess with said cover lying in said first cover position and with said third container opening facing downward, and including a removable lid that closes said downward facing third container opening.

13. The system described in claim 11, including:
a quantity of a first food lying in said cup;
a quantity of a second food in said third container, and a peel-off film that extends across said third container opening to hold in said second food when said cover lies in said first position and said third container opening faces downward.

14. The system described in claim 11 wherein:
said cover lies over only part of said cup open top in said cover second position, to leave open part of the cover top for access to a first food in said cup, said third container holds a second food.

15. The system described in claim 11, wherein:
said cover has side walls with a cover rim portion that has an undercut, and said third container has a rim portion that latches to said undercut of said cover rim portion.

16. A polymer food packaging system comprising:
a cup with an open top;
a cover that fits on said cup in a first cover position wherein said cover completely covers said cup open top, with said cup and cover each made of polymer material;
said cup and cover form attachment means that holds said cover in a second position wherein said cover lies over only part of said cup open top.

17. The system described in claim 16 wherein:
said cover top has a cup rim that forms said open top, said cover has upper and lower surfaces, and said attachment means comprises groove walls in said cover that form a groove in the cover upper surface that receives said cup rim when the cover lies upside-down from its orientation in said first cover position.

18. The system described in claim 16 wherein:
said cup and cover are formed from a single sheet of polymer, and in an initial configuration said cup and cover are joined along a tear line (34) and said cover is pivotable on said tear line to a closed position on the cup wherein sealing portions (44, 50) on the cup and cover resist opening said cover, so in said initial position said cover cannot be readily opened unless said cup and cover are separated along said tear line.

19. A food packaging system comprising:
a polymer cup with an open top;
a polymer cover that mounts on said cup and closes said open top of said cup in a first cover position;
said cover being mountable on said cup in a second position wherein said cup top is at least partially open;
said cup and cover having means for holding said cover
stable in said second position on said cup.

20. The system described in claim 19 wherein:
said means for holding said cover stable in said second
position includes walls forming a groove in said cover
that receives an upper portion of said cup.

21. The system described in claim 19 wherein:
said groove is vertically undercut and said cup forms a
horizontal projection (112) that projects into an undercut
part of said groove.

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