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PACK FOR FOIL CONTAINERS

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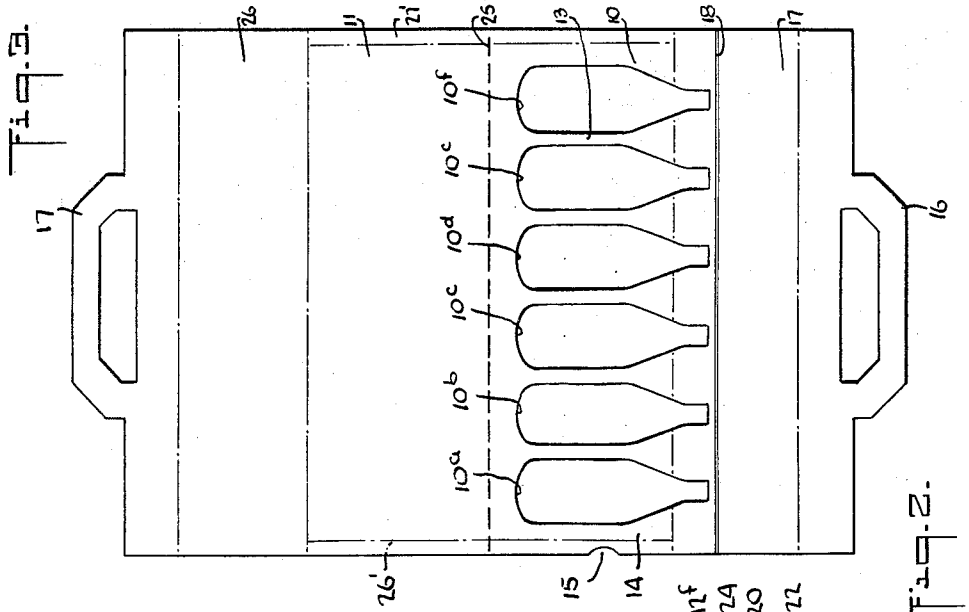


Fig. 3.

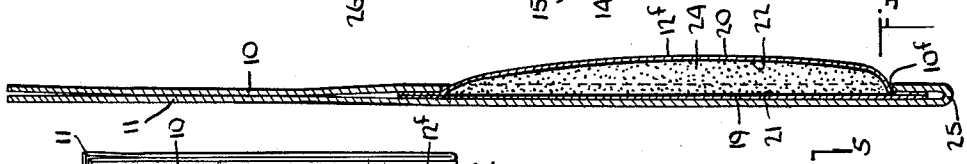


Fig. 2.

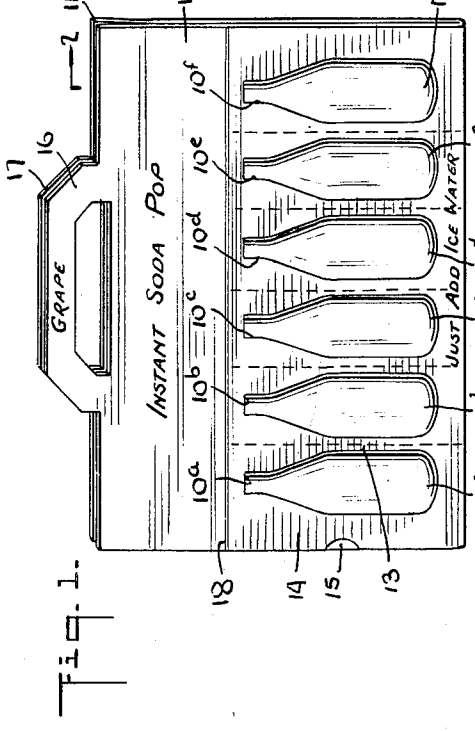


Fig. 1.

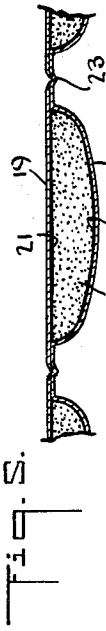


Fig. 5.

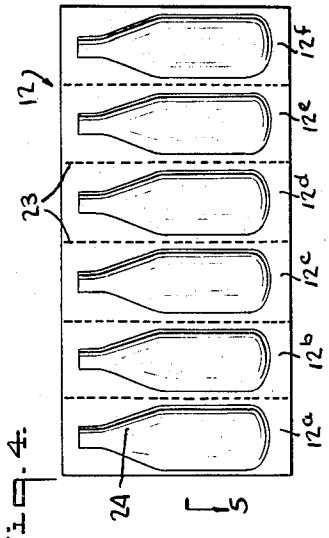


Fig. 4.

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PACK FOR FOIL CONTAINERS

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8 Claims. (Cl. 206—80)

The present invention relates generally to packs for foil containers, and more particularly to a pack adapted to carry a strip of foil containers and to display the individual containers therein, access to each container being had through a removable window slat.

It is known to prepare beverages, such as coffee, tea or flavored soft drinks, by adding water to a powdered concentrate of the beverage. Heretofore the practice has been to supply the powdered concentrate in a bottle or jar, the user being required to spoon the desired portion into a suitable drinking cup. While this procedure may not be objectionable in connection with so-called "instant" coffees or teas, it has serious drawbacks when used with powdered soda pop.

Powdered soda pop is composed of flavoring essences, as well as sweeteners, stabilizers and substances causing fizzing when water is added to produce a carbonated drink. The amount of powder placed in the cup must be carefully measured in order to produce a satisfactory drink, for otherwise the drink will be excessively dilute or overly concentrated. Casual spoon measurement, as with powdered coffee, is not feasible for powdered soda pop. Moreover, to maintain the quality of the drink, it is important that the powdered ingredients be hermetically sealed in the package, for the flavoring essences are volatile and gradually evaporate if exposed to the atmosphere. Moreover, the deliquescent nature of the fizzing powder ingredients requires that the powder be insulated against moisture. This cannot be effected with conventional jars.

While it is possible to provide individual bags or envelopes for predetermined portions of the powdered soda, such containers are relatively expensive to manufacture and they lack consumer appeal. It must be borne in mind that in the case of powdered coffee or tea, there is no labelling problem, for it is merely necessary to mark the container as coffee. But where a variety of flavors must be made available to the consumer, containers of conventional design must be individually marked both as to the nature of the powder and the flavor thereof.

In view of the foregoing, it is the principal object of the invention to provide an improved hermetically-sealed foil container for a powdered concentrate and a pack carrier for a plurality of such containers.

More specifically it is an object of the invention to provide a container strip composed of an interconnected series of individual foil containers, said strip being inserted within a cardboard folder having a like series of windows, each of which displays one foil container. A salient feature of the invention resides in the fact that ready access to each container may be had by rupturing the window therefor.

Also an object of the invention is to provide a foil container which is convertible into a funnel to facilitate pouring out of the contents.

Briefly stated, these objects are attained in a pack

comprising a cardboard folder having superposed front and rear leaves provided with a complementary handle portions, the front leaf having a linear array of openings cut therein to define windows separated by slats. Inserted within the folder is a strip of foil containers, each container being severable from the strip and including a bellied pocket for accommodating a predetermined portion of powder, the pocket projecting through a window of the folder. Access to an individual container is had simply by tearing out the associated slat. The pocket in the container is bottle shaped and is provided with a tapered neck portion whereby when the foil container is torn open, the neck of the pocket is converted into a funnel to facilitate discharge of the contents.

For a better understanding of the invention as well as other objects and further features thereof, reference is had to the following detailed description to be read in conjunction with the accompanying drawing, wherein like components in the various views are identified by like reference numerals.

In the drawings:

Fig. 1 is a front perspective view of a pack in accordance with a preferred embodiment of the invention and constituted by a folder in conjunction with a strip of foil containers.

Fig. 2 is an enlarged transverse section taken through the pack in the plane indicated by lines 2—2 in Fig. 1.

Fig. 3 is a view of the flat blank forming the cardboard folder in the pack.

Fig. 4 is a front view of the strip of foil containers.

Fig. 5 is a longitudinal section taken in the plane indicated by lines 5—5 in Fig. 4.

Referring now to the drawings, it will be seen that the pack according to the invention is constituted by a rectangular two panel cardboard folder formed by a front leaf **10** and a rear leaf **11** in combination with a strip **12** inserted between the leaves and formed by a series of interconnected individual foil containers **12***a*, **12***b*, **12***c*, **12***d*, **12***e* and **12***f*.

The front leaf **10** has a row of bottle-shaped openings **10***a*, **10***b*, **10***c*, **10***d*, **10***e* and **10***f* cut therein at equi-spaced positions to define a series of six windows separated by slats, such as slat **13** between windows **10***a* and **10***b*. The area between the left edge of the front leaf **10** and the first window **10***a* forms a slat **14** provided with a notch **15** which permits the user to insert his finger between the leaves of the folder to grasp the slat. Integral with the upper edge of front leaf **10** is a handle portion **16**, the rear leaf **11** being provided with a corresponding handle portion **17**, whereby the folder may be hand-carried by the consumer. Extending across the front leaf **10** above the row of windows is a score line **18**. A line of perforations **25**, as shown in Fig. 3, extends across the center of the blank to facilitate folding.

Strip **12** is formed by two sheets **19** and **20** of metallic foil material, such as aluminum foil, the inner surfaces of the foil being lined with a thermoplastic material, such as vinyl layers **21** and **22** which may be heat-sealed. Sheet **19** is of flat formation, whereas sheet **20** has a series of bottle-shaped troughs or bellied pockets **24** impressed therein at spaced positions to provide wells for accommodating individual charges of powder. The neck of the pockets is tapered whereby when the mouth of the pocket is torn open, a funnel is created to facilitate pouring.

Sheets **19** and **20** are laminated together by heat-sealing techniques, and the resultant combination is perforated along parallel lines **23** to define the individual container panels. In practice, the heat-sealing operation is

preferably carried out along the rectangular periphery of each container as well as along the contours of the pockets, thereby producing a double hermetic seal of the contents.

The strips may be fabricated in a continuous operation by using two rolls of foil material, a continuous web from each roll being fed into a combiner provided with heat-sealing and perforating dies adapted to act on the combined webs to form the individual containers. Before entering the combiner, one of the foil webs is caused to travel through an embossing station which may take the form of a pair of coacting cylinders, one having circumferentially arranged male die elements which operate in conjunction with complementary female elements on the other cylinder to impress the desired pocket indentation in the web as it passes between the cylinders.

The embossing station is followed by a filling station provided with a powder dispenser adapted to discharge a predetermined portion of powdered ingredients in each pocket as it passes through the station. Thus the strip is produced continuously and it may then be sectioned to the desired size. In the drawing, the strip section is shown having six individual containers, but it is to be understood that the invention is by no means limited to this amount.

The containers may be used to package any type of powder. In the case of powdered soda pop, the powder may be constituted by a mixture of citric acid, sodium bicarbonate, vegetable stabilizer, sodium cyclamate, sodium saccharine and some form of flavoring substance. The invention is of course not limited to such powder mixtures and may be used with any type of powdered beverage or medication.

The bottle-shaped pockets in the strip are dimensioned to conform to the contours of the windows in the folder, and in assembling the pack, the strip is placed behind the front leaf **10** so that the pockets in containers **10***a* to **10***f* protrude through windows **12***a* to **12***f*. The rear leaf **11** is then joined to the front leaf **10** by the use of adhesive applied on the leaves in the matching bands **26** and **27** indicated in Fig. 3 of the drawing. To prevent improper removal of the containers, adhesive may also be applied along the edges in bands **26** and **27**. Displacement of the strip relative to the folder is prevented by reason of the projection of the pockets through the windows.

To remove a single container from the pack, one has merely to break away the associated slat, and then tear the container from the strip **12** along the perforation line. The containers are removed in sequence, starting from the left. Slat **14** is the first to be ruptured, the slat being then bent upwardly along the score line **18**. After the first container **12***a* is removed, the second slat becomes accessible, and so on. If desired, the ends of the slats may be perforated to facilitate removal.

The contents of the containers are released simply by tearing the foil along the mouth of the bottle-shaped pocket, thereby producing a funnel through which the powder contents may be conveniently procured in a cup. All that is then necessary to produce a carbonated drink is to add water to the cup. It will be appreciated that the pack of instant soda pop containers does away with the need to carry bottles to and from the store.

In practice, the flavor of the sodas may be printed on both sides of the handle, while instruction for use may be printed on the rear panel. If desired, the flavor may also be inscribed along the right hand edge of the individual containers beyond the area of the pockets. Batch numbers for quality control purposes may be inscribed along the left hand edge of the containers.

The foils which make up the containers may be constituted by laminated material rather than single sheets of metal in order to economize on the use of metal. For example, foil and paper combination may be used.

While there has been shown what is considered to be a preferred embodiment of the invention, it will be manifest that many changes and modifications may be made therein without departing from the essential spirit of the invention. It is intended, therefore, in the annexed claims to cover all such changes and modifications as fall within the true scope of the invention.

What is claimed is:

1. A pack comprising a cardboard folder having a front leaf provided with a row of openings separated by slats and a rear leaf joined to said front leaf along a fold line, and a strip of interconnected containers inserted between said leaves and constituted by a series of severable individual containers, one for each opening, each container having a pocket for accommodating a charge of powder, said strip having a series of tearing lines interposed between said containers and positioned behind said slats, the pockets in said containers protruding through said openings, access to each container being had by breaking open the associated slat.

2. A pack comprising a cardboard folder having a front leaf and a rear leaf, said front leaf being provided with a row of bottle-shaped openings separated by slats, and a strip of interconnected foil containers inserted between said leaves and constituted by a series of severable individual containers, one for each opening, each container having a bottle-shaped pocket for accommodating a charge of powder, said strip having a series of tearing lines interposed between said containers and positioned behind said slats, said pockets protruding through said openings.

3. A pack for carrying a plurality of individual containers of powdered material, said pack comprising a cardboard folder having front and rear leaves, said front leaf having a row of openings therein to define bottle-shaped windows separated by removable slats, a rectangular strip of foil containers inserted between said leaves and constituted by a series of severable individual foil containers each including a bellied pocket portion which projects through a respective window in said folder, said strip having a series of tearing lines interposed between said containers and positioned behind said slats, said pocket having the same contour as said window.

4. A pack for carrying a plurality of individual containers of powdered material, said pack comprising a cardboard folder having front and rear leaves each having an integral handle portion at corresponding positions, said front leaf having a row of openings therein to define bottle-shaped windows separated by removable slats, a rectangular strip of foil containers inserted between said leaves and constituted by a series of severable individual foil containers each including a bellied pocket portion which projects through a respective window in said folder, said strip having a series of tearing lines interposed between said containers and positioned behind said slats said pocket having the same contour as said window.

5. A pack for carrying a plurality of individual containers of powdered material, said pack comprising a cardboard holder having front and rear leaves each having an integral handle portion at corresponding positions, said front leaf having a row of openings therein to define bottle-shaped windows separated by removable slats, a rectangular strip of foil containers inserted between said leaves and constituted by a series of severable individual foil containers each including a bellied pocket portion which projects through a respective window in said folder, said pocket having the same contours as said window, said strip being constituted by a first flat sheet of foil material joined to a second sheet having a series of pocket indentations therein, said strip being provided with a series of perforation lines between said pockets and positioned behind said slats.

6. A pack, as set forth in claim 5, wherein said first and second sheets are heat-sealed together about the contours of said pocket as well as at the edges to form a double hermetic seal.

7. A pack, as set forth in claim 5, wherein said bottle-shaped pocket has a tapered neck to provide a funnel opening when the top of said bottle is torn open.

8. A pack as set forth in claim 1, wherein each individual foil container for powdered ingredients comprises superposed foil panels, one of which has a bottle-shaped pocket impressed therein to accommodate said ingredients, said pocket having a tapered neck portion to provide a funnel, and means sealing said panels together along the contour of said pocket.

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