United States Patent

Inman

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[54] METHOD OF MAKING A PACKAGE

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[52] **U.S. Cl.** .....**53/14,** 53/37, 150/0.5, 206/46 F, 206/65 R

[51] **Int. Cl.** **B65b 3/04,** B65b 61/02

[58] **Field of Search** .....53/14, 37, 39, 40, 282, 329; 206/46 F, 56 A, 56 AB, 65 R; 150/0.5

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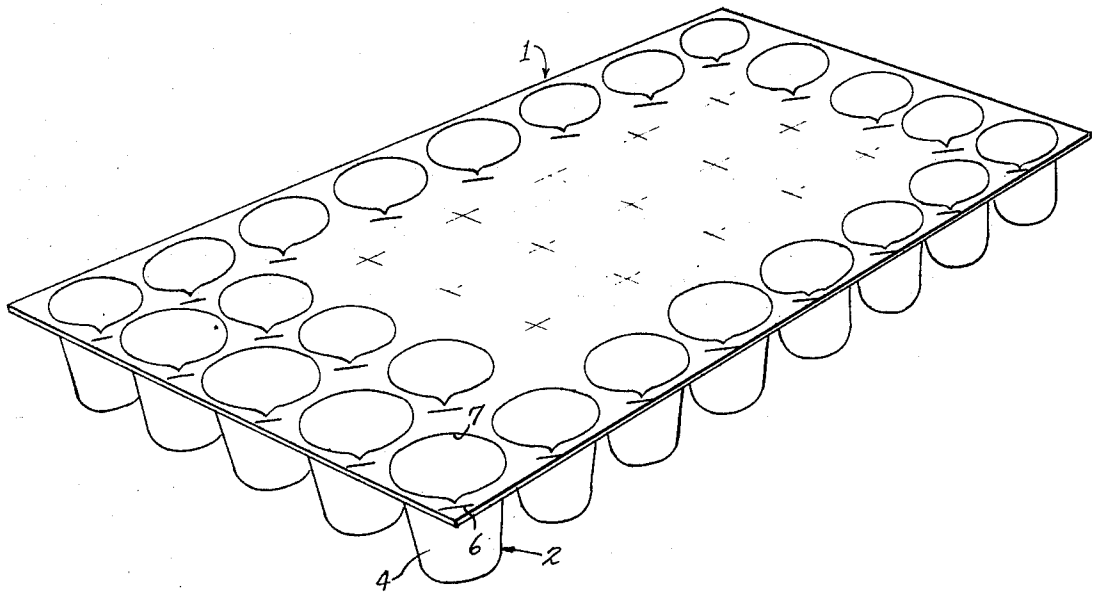
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[57] **ABSTRACT**

A method of making individual serving packages in which a sheet is sealed around the rims of a plurality of cups formed in a single sheet. After sealing, the cups are cut away from the sheet with the cover sheet sealed to them. The initial sheet containing the cups has a slit which causes a tab to be formed when the completed packages are severed from the sheet.

2 Claims, 4 Drawing Figures



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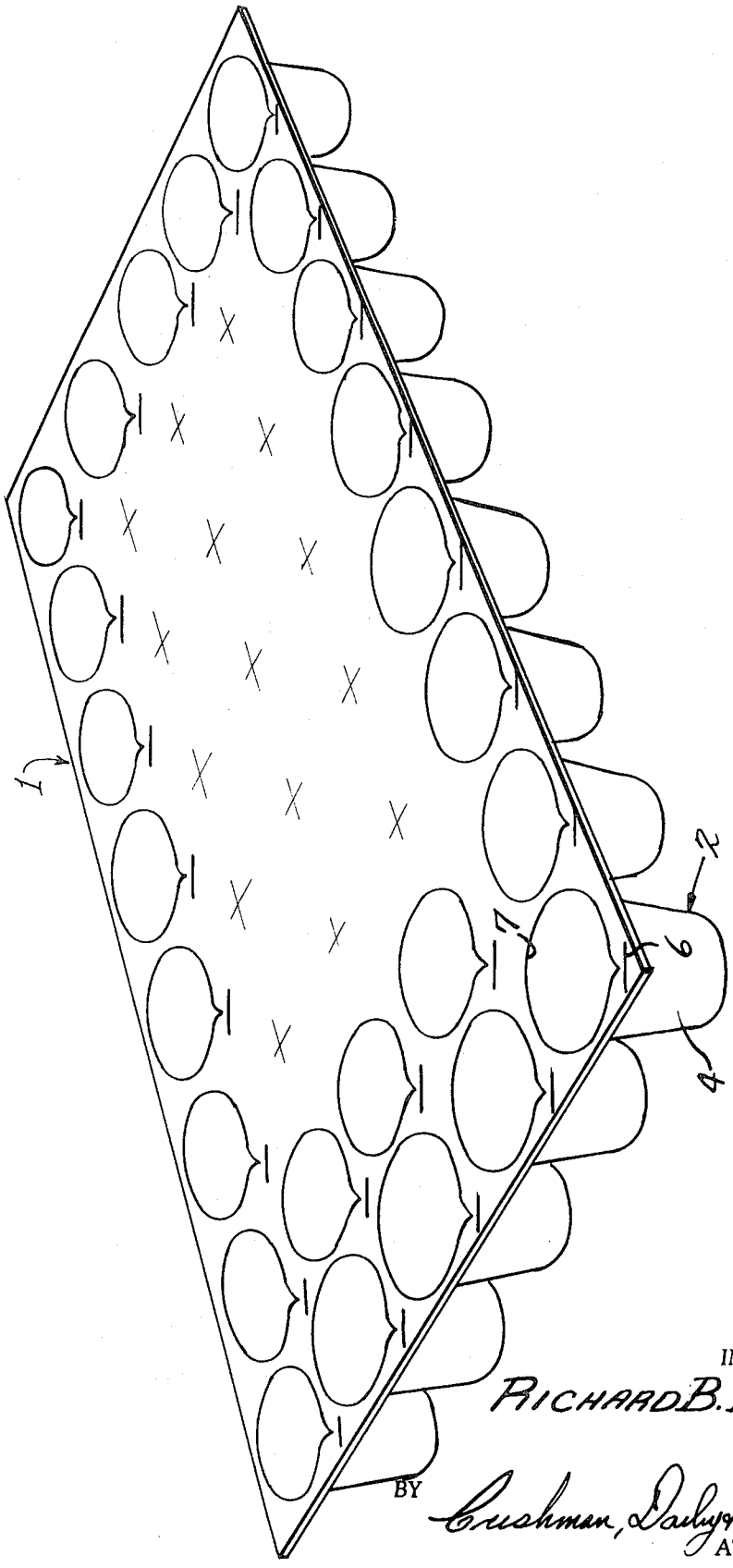


Fig. 1

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Fig. 2.

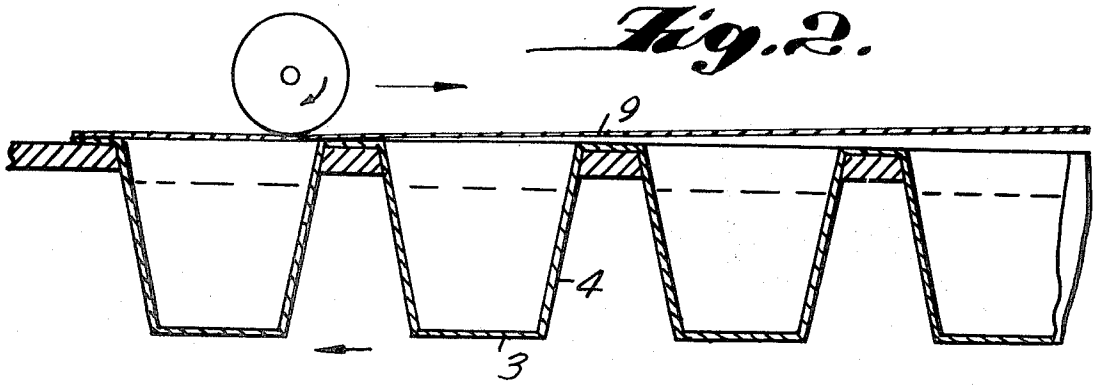


Fig. 4.

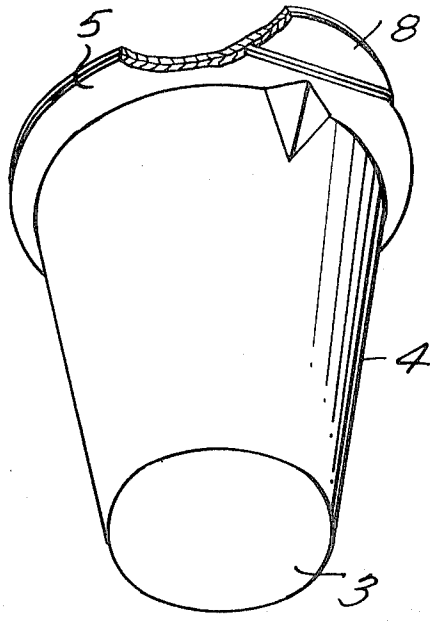
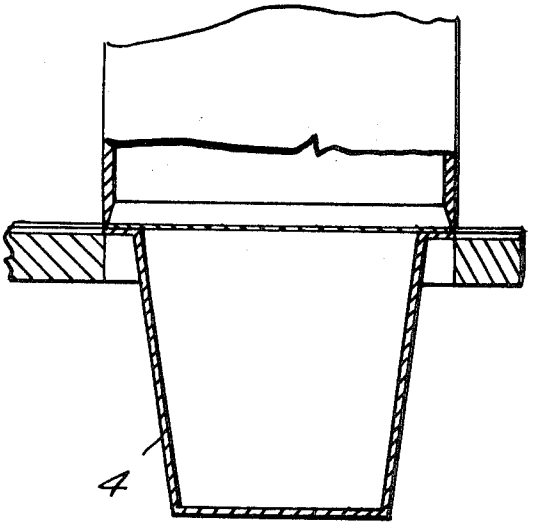


Fig. 3.



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METHOD OF MAKING A PACKAGE

The present invention relates to a method of making a package and a sheet containing a plurality of receptacles for use in practicing the said method. The package produced by the method consists of one of the receptacles and a sheet material covering it, the invention providing a reinforcing tab attached to one corner of the sheet material, to be grasped by the consumer in pulling off the sheet material. The package is particularly useful for individual servings of food products such as cream for coffee and jellies.

The receptacle is of the type having a bottom, one or more side members extending upwardly from the bottom and a flange extending laterally outwardly from the tops of the side members and continuously around the rim of the receptacle. The sheet member is sealed to the top of the flange and is trimmed to have the same size and shape as the top of the receptacle, as defined by the perimeter of the flange.

In opening a package of this type, it is necessary to pry the sheet material from the flange, normally at one corner, to be able to grip the sheet material and to then pull the sheet material away from the flange. However, it is difficult sometimes to pry the sheet material away from the flange, and, if the consumer is not careful, the sheet material will tear leaving fragments of it sealed to portions of the flange.

The present invention provides an improvement in this type of package by means of a reinforcing tab, composed of the same material as the flange, attached to the foil at one corner of the flange but not attached to the flange. The consumer can grip the tab and pull the sheet material from the flange.

The invention can be better understood by referring to the following description of a preferred embodiment, reference being made to the drawing, in which:

FIG. 1 is a perspective view of the sheet of receptacles used in making the package of the present invention;

FIG. 2 is a cross section showing the application of a sheet material closure to the sheet of receptacles;

FIG. 3 is a cross section showing the step of severing packages from the sheet of receptacles; and

FIG. 4 is a perspective view partly broken away, of the finished package.

Referring to FIG. 1, there is shown a sheet 1 of receptacle 2 which preferably is composed of an opaque or transparent thermoplastic material such as polystyrene, polyvinyl chloride or saran. Paper and aluminum foil may also be used, as well as various laminates. This sheet may be produced by a vacuum or pressure forming the plastic into a die from a flat sheet of such plastic about 5 to 20 mils thick, after heating the plastic to a suitable temperature. The sheet should be thick enough to be semirigid or rigid. The sheet may contain 40, more or less, receptacles, e.g., in five rows of eight receptacles side-by-side, depending on their sizes and the size of the sheet.

Each receptacle consists of a bottom 3, a round sidewall 4, extending upwardly from the bottom, and a flange 5 extending laterally outwardly from the top of the sidewall. The flanges are integral with the sheet 1, but they are severed from it in the process of producing a package.

Adjacent each receptacle there is a slit 6 through the plastic. In the embodiment shown, the slit is perpendicular to a line from the center of the receptacle, and, since this embodiment of the receptacle is circular, the slit is tangential. The slit is spaced outwardly from the top 7 of the sidewall 4 to provide an area in between for sealing the package. The slit is completely through the sheet 1, although in less preferred embodiments it may be part of the way through from one or both surfaces to provide a line of weakness. In any event, the plastic must be cut at least part of the way through along the slit so that it is easy to sever manually the tab 8 from the flange 5.

In manufacturing packages, a commodity is placed in each receptacle and then a sheet material 9 is sealed to the top of the sheet 1 of receptacles. Preferably, all of the area of the sheet 1 is sealed to the sheet material 9, but it is at least essential to seal those portions of the sheet 1 which subsequently become the tab 8 and the flange 5. The sealing may be achieved by any means, depending on the composition of the sheet 1 and the sheet material 9. If both are heat-sealable thermoplastic, they are pressed together while heated. If they are not, one or both may be coated with a heat activatable adhesive, and they are pressed together while the adhesive is hot. The sheet material 9 may be of any suitable material such as those mentioned in connection with sheet 1, except that a thinner stock is preferred so that sheet material 9 will be flexible. For example, it may be polyethylene film about 2 mils thick.

After the sheet material 9 is sealed to sheet 1, the packages are separated by cutting through both of them, leaving the waste stock of both. The cut is made along the perimeter of flange 5, across the slit 6 and around the edge of tab 8. It will be noted that the line along which the cut is made crosses the slit in two places, preferably at both of its ends, so that the tab is completely severed from the flange 5, or, if the slit is not all of the way through the sheet 1, so that the only connection between the tab and the flange is along a line of weakness.

The resulting packages are of the teardrop shape, having a single corner with the tab at that corner. It will be appreciated that the packages may also be square or triangular, having four or three corners respectively, and tabs may be formed at one or more of those corners. If a liquid is to be stored in the package, a spout may be formed at the corner where the flange and sidewall meet, adjacent a corner of the package where a tab also is formed. Other changes may be made in details of construction and mode of operation, without departing from the invention.

I claim:

1. A method of making a plurality of easily opened packages comprising placing a commodity in each of a plurality of receptacles in a sheet,

each receptacle comprising a bottom and at least one sidewall extending upwardly from the bottom, the upper end of said sidewall being integral with said sheet and the sheet occupying all of the area between and around the several receptacles,

said sheet being cut at least part of the way through its thickness along a plurality of score lines each of which score lines is adjacent to one of said receptacles and transverse to a line through the center of the receptacle to which it is adjacent, said score lines being spaced outwardly from the upper ends of the sidewalls of the receptacles to which they are, respectively, adjacent,

sealing a sheet material to said sheet in at least a continuous ring around the mouth of each receptacle, said ring including areas of said sheet on both sides of the receptacle around which the ring extends,

and severing said sheet and sheet material along a plurality of perimeter lines, each perimeter line extending completely around one of the receptacles and being spaced outwardly from the mouth of the receptacle around which it extends to form from said sheet, between the top of the sidewall of that receptacle and the perimeter line, a flange extending outwardly from the mouth of the receptacle to the perimeter line and the score line, at least a portion of the continuous sealed ring around each receptacle being between the mouth of that receptacle and the perimeter line around it, so that each said flange is sealed to said sheet material,

each of said perimeter lines crossing the score line adjacent the receptacle around which it extends in two places spaced along, that score line to form a tab between the perimeter line and the score line, from a portion of said sheet adjacent the flange said continuous ring including at least a portion of the area of said sheet which forms said tab so that the tab is sealed to the sheet material.

2. A method as set forth in claim 1 in which said sheet is cut through along said score lines to form a slit, so that said tabs are attached to said flanges only by said sheet material.

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