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(12) # EUROPEAN PATENT APPLICATION

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(54) **Container holder for post mix dispenser.**

(57) Apparatus for preparing an intact liquid filled container having a bottom and a top terminating inside said container in a point for dosing said liquid in a dosing device comprising

- means (2,2',3,4) for holding and exchangeably securing said container in an upside down position, and
- means (8,10), attached by a hinge (9) to said holding means, for punching a hole in the bottom of said container when inserted in said holding means as it swivels around said hinge and presses said bottom, said hole enabling the introduction in said pack of a suction tube (11) for said liquid.

EP 0 141 433 A1

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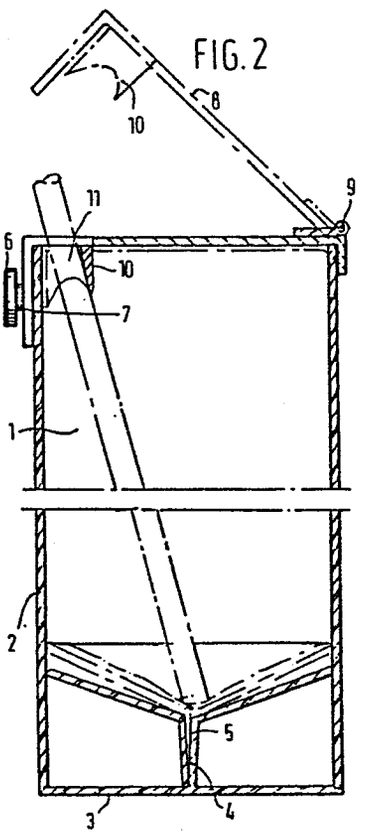
FIG. 2



Title: Container holder for post mix dispenser

In juice dispensers which mix concentrated juices with liquid (post mix dispensers) the fruit juices are delivered in highly concentrated condition. These juices, often containing pulp, are very viscous. A normal procedure is that the containers in which the concentrates are delivered, after having been opened, are emptied into a reservoir, belonging to the dosing apparatus. This dosing apparatus contains a device for sucking the concentrate out of the reservoir and mixing it with chilled water. Examples of these sucking devices are venturi tubes, tube pumps, impeller pumps and the like.

Due to the high viscosity of the concentrate considerable losses are incurred in this way. When the concentrate is poured from the container in which it is delivered into the reservoir of the dispenser a loss of 5-8% of the total content of the containers remaining on the walls of the container is normal. Also a certain amount of concentrate will remain on the walls and bottom of the reservoir. The sum of these two losses can easily exceed 10% of the total amount of concentrate. It is obvious that from an economic as well as hygienic point of view, this kind of handling of the concentrate has considerable drawbacks.

The present invention concerns a method and apparatus whereby losses, as described above, are minimized and handling simplified. According to the invention the container in which the concentrate is delivered is itself used as a reservoir from which the dosing is directly accomplished. Preferably use is made of a container, made of impregnated cardboard and itself widely used for diary products and pre-mixed juices (trade name e.g. "Pure Pack"). This kind of container has, due to the special manner of folding and sealing, an inside surface which at its upper end has the shape of a pyramid with an imaginary rectangular base and four triangular sides, meeting each other in one point. This type container is termed a "pointed pack" in the underfollowing.

According to the invention, an apparatus is provided for preparing an intact, liquid filled, "pointed pack", as defined, for dosing the liquid in a dosing device with

- means for holding and exchangeably securing the pack in an upside down position and with the point extending downwardly and

- means, attached by a hinge to the holding means, for punching a hole in the bottom of the pack when inserted in the holding means as it swivels around the hinge and presses onto the bottom, the hole enabling the introduction in the pack of a suction tube for liquid.

The apparatus is used as follows.

After punching a hole in the upside down bottom of the pack, the punching means may be swiveled back to its former position whereafter the suction tube can be inserted in the pack. It is of course of importance in order to avoid losses as much as possible to ensure that the lower extremity of the tube will reach the lowest part of the upside down pack, which as already pointed out, at the inside will end in a point.

However, by using a punching means with a bore forming a passageway for the tube, the punching means after having punched a hole in the upside down bottom of the pack can be left in place and the tube inserted through this passageway. This has the advantage that the configuration of the passageway can be chosen in such a way that by inserting the tube and pushing it all the way down it is led to the lowest part of the pack. This will be discussed more in detail in the underfollowing. The means for punching a hole in the bottom of the pack will normally comprise a part having the shape of a piercing knife.

Advantageously the piercing knife will be constructed as a cylinder with a central bore extending therethrough enabling the introduction of the suction tube. Also, advantageously it will be provided with at least one beak shaped piercing point. After the pack has been emptied by repeated dosing operations, the tube can be rectracted through the back of the piercing knife. The knife can then be swiveled back and the empty pack can be dislodged from the holding means, wherein it was

inserted, and thrown away. A new intact pack filled with liquid can then be inserted in the holding means.

Retracting the tube through the bore in the piercing knife before swiveling back the piercing knife has the disadvantage that a tube, possibly contaminated with some liquid adhering to it, has to be handled by the person servicing the dosing apparatus. This can be avoided by shaping the piercing knife in such a way that it can be swiveled back without first taking the tube out of the container.

This can e.g. be accomplished by giving the knife the shape of an incomplete cylinder, with a central bore extending therethrough having an opening at the side farthest away from the hinge around which it can be swiveled. As follows from what has already been discussed above, the central bore of the incomplete cylinder is advantageously shaped in such a way as to direct a straight suction tube passed through it to the lowest point of the pack when installed in the apparatus in an upside down position. This means that the axis of the bore will make a slight inward angle with respect to the longitudinal axis of the pack.

The means for holding and exchangeably securing the pack in an upside down position may comprise at least two parallel flat side walls, connected by a bottom and a slit shaped slot. As stated above, preferably use is made of a pack formed by folding e.g. impregnated cardboard sheet material and sealing it at a seam perpendicular to the longitudinal axis of the pack formed in this way.

When the pack is inserted in the holder in an upside down position the seam will be secured into the mentioned slit shaped slot.

The invention will now be discussed in more detail with the help of an example, to which belong the Figures 1-4.

Fig. 1 is a perspective view of the apparatus with a "pointed pack" as defined inserted.

Fig. 2 is a longitudinal cross section of the apparatus shown in Fig. 1.

Fig. 3 is a side view of a preferred embodiment of the piercing knife.

Fig. 4 is a perspective view of that preferred embodiment.

At 1 we see a pack inserted in the apparatus in an upside down position. The two sheet metal side walls are shown at 2 and 2'. The two side walls are connected by the bottom 3 and the slit shaped slot 4 the seam 5 of the pack being secured between the two "wings" of that slot. The side wall 2 carries a knob 6 attached to it by the stem 7. At 8 the lid is to be seen attached by a hinge 9 to the side wall 2^1. In Fig. 2 the lid is also in an "open" position.

The piercing knife is to be seen at 10 and at 11 the tube inserted through the bore of it into the pack 1. The knife has three beak-shaped piercing points 12, 13, 14, which can best be seen in Fig.4. As shown in Fig. 2 the central bore through knife 10 is shaped to direct tube 11 to the lowest point of pack 1.

Claims

1. Apparatus for preparing an intact liquid filled container having a bottom and a top terminating inside said container in a point for dosing said liquid in a dosing device comprising

- means for holding and exchangeably securing said container in an upside down position, and

- means attached by a hinge to said holding means, for punching a hole in the bottom of said container when inserted in said holding means as it swivels around said hinge and presses said bottom, said hole enabling the introduction in said pack of a suction tube for said liquid.

2. Apparatus according to claim 1, whereby said means for punching a hole in the bottom of said container comprise a part having the shape of a piercing knife.

3. Apparatus according to claim 2, whereby said piercing knife is provided with a central bore opening for example a bore extending therethrough, enabling the introduction of said suction tube, and with at least one beak shaped piercing point.

4. Apparatus according to claim 2, said piercing knife has the shape of an incomplete cylinder having an opening at the side farthest away from said hinge.

5. Apparatus according to claim 2, 3 or 4 wherein said piercing knife defines a central bore extending therethrough so as to direct a straight suction tube, passed through it, to the lowest point of said container, when installed in said apparatus in an upside down position.

6. Apparatus according to claim 2, 3 or 5, wherein said holding means

has at least two parallel flat side walls connected by a bottom and a slit-shaped slot for receiving the sealed seam of an upside down container formed by folding sheet material and sealing it at a seam perpendicular to its longitudinal axis, and a hinged lid, carrying said piercing knife.

FIG.1

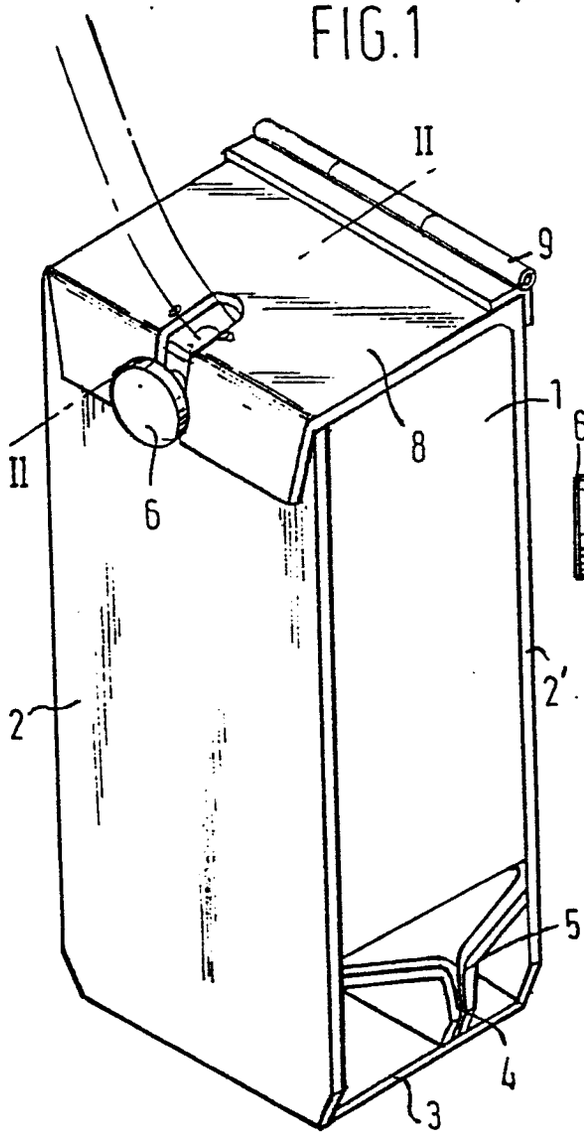


FIG.2

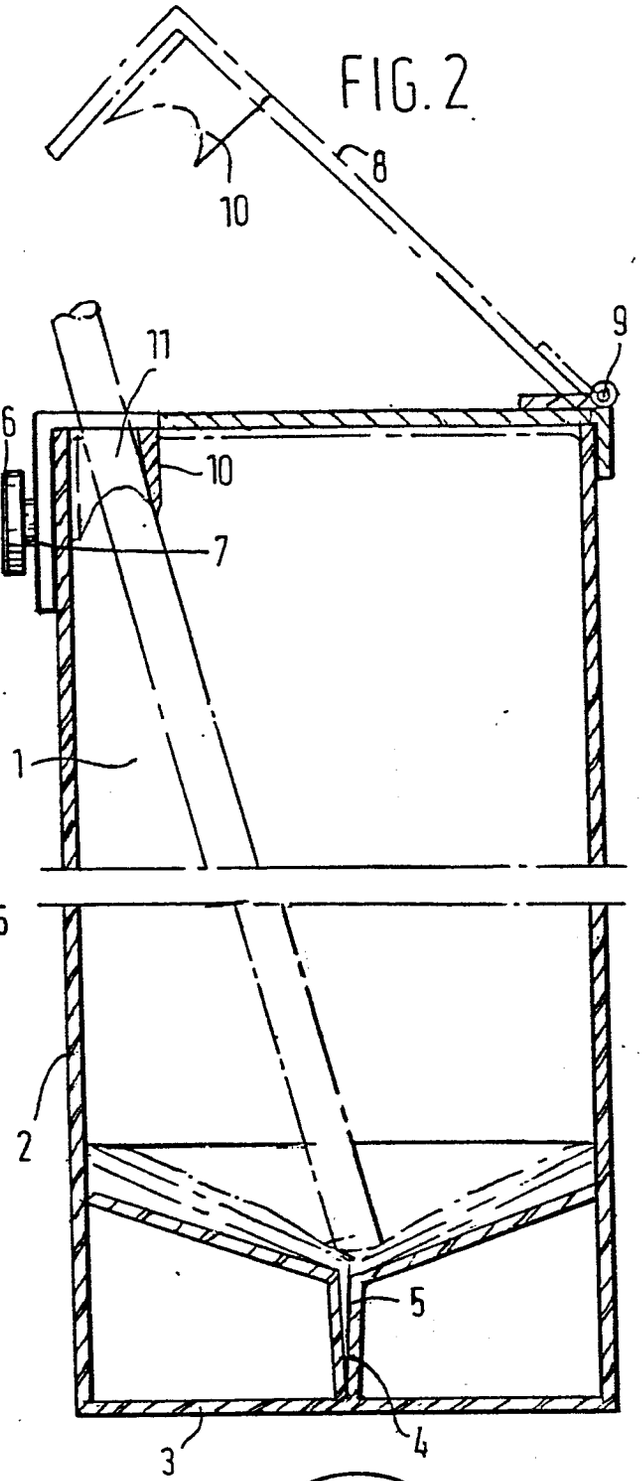
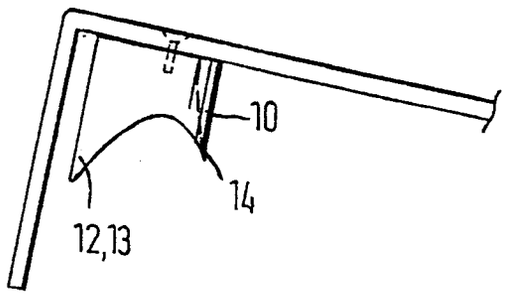


FIG.3



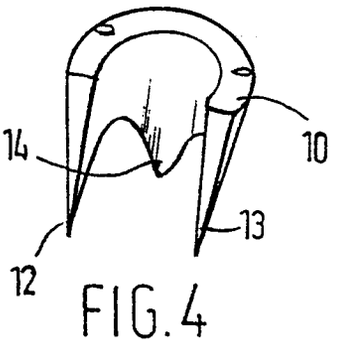


FIG.4

European Patent Office

EUROPEAN SEARCH REPORT

0141433

Application number

EP 84201159.5

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl 4)
X	AT - B - 368 981 (HINTERREITER) * Totality, especially fig. 3,4 * --	1,2,3	B 67 B 7/28 B 65 D 25/38 B 65 D 25/52
X	CH - A - 406 883 (ZOLLINGER) * Totality, especially page 1, line 69 * --	1,2,3	
X	US - A - 4 265 372 (WAINBERG) * Fig. 2,3,7,9-12 * --	1,2,3	
A	US - A - 2 707 580 (HARRIS) * Fig. 1,2 * ----	1,2	

TECHNICAL FIELDS SEARCHED (Int. Cl.4)

B 65 D 17/00
B 65 D 25/00
B 65 D 33/00
B 65 D 47/00
B 65 D 51/00
B 67 B 7/00

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
VIENNA	18-12-1984	CZUBA

CATEGORY OF CITED DOCUMENTS

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