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(54) **MANUAL DISPENSER OF DISPOSABLE HEAT-SHAPED CUPS**

HANDBETÄTIGTE ABGABEVORRICHTUNG FÜR WARMGEFORMTE WEGWERFBECHER

DISTRIBUTEUR MANUEL DE GODETS THERMOFORMES JETABLES

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(73) Proprietor:
Garcia Egido, Florencio
28017 Madrid (ES)

(72) Inventor:
Garcia Egido, Florencio
28017 Madrid (ES)

(74) Representative:
De Pablos Riba, Julio
Los Madrazo, 24
28014 Madrid (ES)

(56) References cited:

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US-A- 1 940 067	US-A- 2 298 884
US-A- 2 315 827	US-A- 3 163 323

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Description

These Specifications deal with a manual dispenser for disposable heat-shaped cups which, thanks to its functional design, is able to supply individual cups automatically and continuously, by simple manual traction.

The proposed invention is conceived and designed for direct application in public establishments which dispense soft drinks, *horchatas* and citrus products such as orange and lemonades in their various categories.

It can also be used in official installations and offices in general where there are machines for dispensing a variety of drinks such as coffee, tea, etc. ... while its functionality also makes it ideal for installation alongside drinking water facilities to be used by employees and others working in such centres.

THE STATE OF THE TECHNOLOGY.- There is at present a multiplicity of devices and elements for dispensing disposable one-use cups, all employing vertical stacks of a number of cups coupled together one within the other, and with a reinforced top.

Some supply the cups with pairs of cylinders with slots enabling the bottom cup to be removed in a quarter turn, while a turn in the opposite direction locates, couples and secures the next cup to be dispensed.

Others stack the cups inside a tubular recipient and hold them in place by a narrowing at the bottom of that housing so that the lowest cup can be removed manually in a process of tractive deformation.

There are also dispensers which hold the stack of cups in retaining ribs which are operated to allow the bottom cup to fall out.

By the US Patent A-1 940 067 it is known a dispenser for disposable glasses wherein the stacked glasses are held in their position by means of mobile jaws pushed by respective leaf springs, provided on their internal edges with notches intended to receive the rim of each of said glasses.

DE-B-1 295 148 is also referred to a dispenser for disposable glasses, in which means shaped as a yoke are used for retaining and dispensing individually the mentioned glasses.

The design and operation of the present invention is entirely different from the dispensers familiar today which function reasonably satisfactorily; however, some have drawbacks which deform the cup, with negative results, while the dynamic structure of others is expensive so that the components are difficult to pay off and thus become prohibitive, making operation costly in terms of their function. Finally, some are of a structure which makes it difficult to dispense the cups which, on occasions, even spill out more than one at a time.

Essentially, this invention, as claimed in independent claim 1, consists of an annular element fitted into two superimposed rings which can be dismantled and which are attached by screws and bolts or by any other securing system.

The housing consists basically of a casing which

contains four retaining components inside the double ring assembly in an internal peripheral position and arranged opposite, in twos, on the imaginary corners of a symmetrical square shape.

The four project inwards thanks to the four notches in the annular element that contains these elements, while the other ring caps and secures the assembly in place.

As specified in dependent claim 2, the retaining and dispensing elements are yoke-shaped, with a transversal opening through them housing a horizontal shaft with a pair of retaining and rotary stop springs: its free ends are fitted and secured in the angular elements which hold the whole assembly on the base container ring, using standard securing elements.

The yoke elements overcome the opposing force of the springs and are able to rotate freely a functional one-quarter turn on their shafts, so that the cups can be supplied individually, one-by-one, when drawn manually.

For a better understanding of the foregoing, drawings are attached to show in diagrammatic form the invention which is described below in detail with reference to said drawings.

In the drawings:

Figure 1 shows an elevation view of the annular element.

Figure 2 shows a face view of the same element, from above.

Figures 3 and 4 show the annular element dismantled, with its two ring components and the dynamic retaining and dispensing elements, the shaft, the yoke and the spring.

Finally, figure 5 shows a possible installation of the dispenser on a tubular structure containing a stack of heat-shaped cups.

According to the figures, which show the invention by way of illustration and without limitation, it comprises an annular element consisting of two superimposed rings, 1 and 2, preferably screwed in place, 3 and 4, or using any other attachment procedure.

The ring, 1, has four notches, 5, 6, 7 and 8, in which the dynamic elements 9, 10 and 11 are positioned and which correspond respectively to the yoke component, the shaft it contains and the two opposing springs: this assembly is functionally attached by a pair of angle elements 12 and 13 which are in turn fixed to the base element 1, using standard securing devices.

The housing 1, 1' and 2 is fitted on a tubular structure, 15, containing the stack of cups to be dispensed, 14, using standard devices which are not the subject of claim.

OPERATION. A stack of heat-shaped cups is placed inside a tubular structure, 15, so that the lip of the bottom cup rests in the space taken by each yoke element corresponding to the yoke components attached

to the annular base component, 1.

Manual traction in the direction of the arrow A overcomes the retaining forces on the yoke elements and the opposing springs, so allowing rotation through approximately a quarter turn on their shaft, enabling the bottom cup to be removed, while the top of the yoke elements holds back the following cup.

As soon as this manual tractive action ceases, the springs return to their original position as do the yoke elements: as a result, the lip on the following cup enters and fits into the yokes until it is required.

Having thus sufficiently described the nature, operation and scope of this invention and a preferred embodiment of its design, it is hereby recorded that the materials, forms, dimensions and in general any ancillary and secondary details may vary, provided that this does not alter, change or modify the essence of the invention.

The terms of these specifications are true and an accurate reflection of the object described: they must be interpreted in their broadest sense and never with restrictive criteria, the novel essence being summarised and specified in the following claims.

Claims

1. A manual dispenser for disposable heat-shaped cups wherein a stack of cups (14) with a protruding lip fitted one within the other is placed inside a tubular container housing (15), and being maintained in place by means of retaining elements, the dispenser being made up of an annular casing comprising two superimposed ring elements (1, 2) that can be dismantled and which are secured together by bolts and nuts, forming a type of housing of four dynamic retaining and dispensing elements (9) inside the double ring on the inside edge, placed opposite in twos as if on the imaginary corners of a symmetrical square, which protrude inward thanks to four vertical notches incorporated for the purposes in the base (1) containing them; the other ring element (2) covering and securing the assembly.
2. A manual dispenser for disposable heat-shaped cups as set forth in the previous claim, wherein said retaining and dispensing components (9) are yoke-shaped and have a transversal opening through them for a horizontal shaft (10) accompanied by pairs of springs (11) which act in opposition and as rotary stops; the free ends of the shap fit into two angular elements (12) which hold the assembly together, attaching it to the annular base with known standard securing devices.

Patentansprüche

1. Manueller Spender für warmverformte Wegwerf-

cher, in dem sich ein Becherstapel (14) innerhalb einem röhrenförmigen Aufnahmebehälter (15) befindet und dort über Haltemittel festgehalten wird, wobei jeder der Becher mit einer vorstehenden Lippe versehen ist, die innerhalb einer anderen zu liegen kommt, und wobei der Behälter aus einem röhrenförmigen Gehäuse besteht, das zwei sich überdeckende Ringelemente (1, 2) aufweist, die ausgebaut werden können und aneinander über Bolzen und Schrauben befestigt werden, und so eine aus vier Elementen (9) bestehende Aufnahme bilden, zum Spenden und zur dynamischen Halterung im Inneren des Doppelringes über dem inneren Rand, wobei jeweils zwei Elemente gegenüberliegend angeordnet sind, als ob es sich um die imaginären Ecken eines symmetrischen Quadrats handeln würde, und diese durch vier vertikal zu diesem Zweck in der sie enthaltenden Auflage (1) angebrachten Nuten nach innen vorstehen, wobei das andere Element (2) die Gesamtanordnung überdeckt und sichert.

2. Manueller Spender für warmverformte Wegwerfbecher nach dem vorhergehenden Anspruch, in dem die genannten Bauteile (9) zur Halterung und zum Spenden in Form einer Gabel geformt sind und über eine quer angeordnete Öffnung verfügen, die für eine waagerechte Achse (10) vorgesehen ist, welche über Federpaare (11) verfügt, die in entgegengesetzte Richtung wirken und drehbare Anschläge darstellen, so dass die Achsenden sich an die beiden die Gesamtanordnung zusammenhaltenden Winklelemente (12) anpassen, wobei die Gesamtanordnung über herkömmliche Befestigungsmittel an der ringförmigen Auflage befestigt ist.

Revendications

1. Un distributeur manuel de godets thermoformés jetables, dans lequel un amoncellement de godets (14), chacun desquels étant muni d'une lèvre qui dépasse qui se situe à l'intérieur de l'autre, se situe à l'intérieur d'un logement (15) pour contenir tubulaire, et se maintient dans sa position grâce à des éléments pour retenir, étant l'élément pour contenir construit à partir d'une carcasse tubulaire qui comprend deux éléments (1, 2) en anneau superposés qui peuvent être démontés, y qui se fixent entre eux au moyen de boulons et écrous, formant un type de logement à quatre éléments (9), pour dispenser et retenir dynamiquement à l'intérieur du double anneau sur le bord intérieur, tous les deux situés en opposition comme si c'étaient des coins imaginaires d'un carré symétrique, lesquels dépassent vers l'intérieur grâce à quatre entailles verticales incorporées à ce but dans la base (1) qui les contient, en couvrant et en assurant l'autre élément à l'ensem-

ble.

2. Un distributeur manuel de godets thermoformés jetables selon la revendication antérieure, dans lequel les composants cités (9) pour retenir et dispenser sont conformés comme une fourche et ont un trou transversal, à travers les mêmes, prévu pour un axe (10) horizontal pourvu de paires de ressorts (11) qui agissent en opposition et comme des butées giratoires, de façon que les extrémités de l'axe s'adaptent à deux éléments (12) angulaires que maintiennent l'ensemble uni, le fixant à la base annulaire au moyen de dispositifs de fixation conventionnels.

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FIG. 1

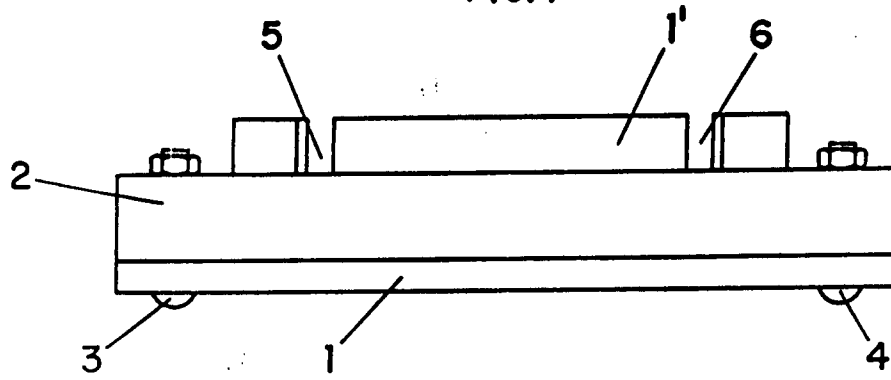


FIG. 2

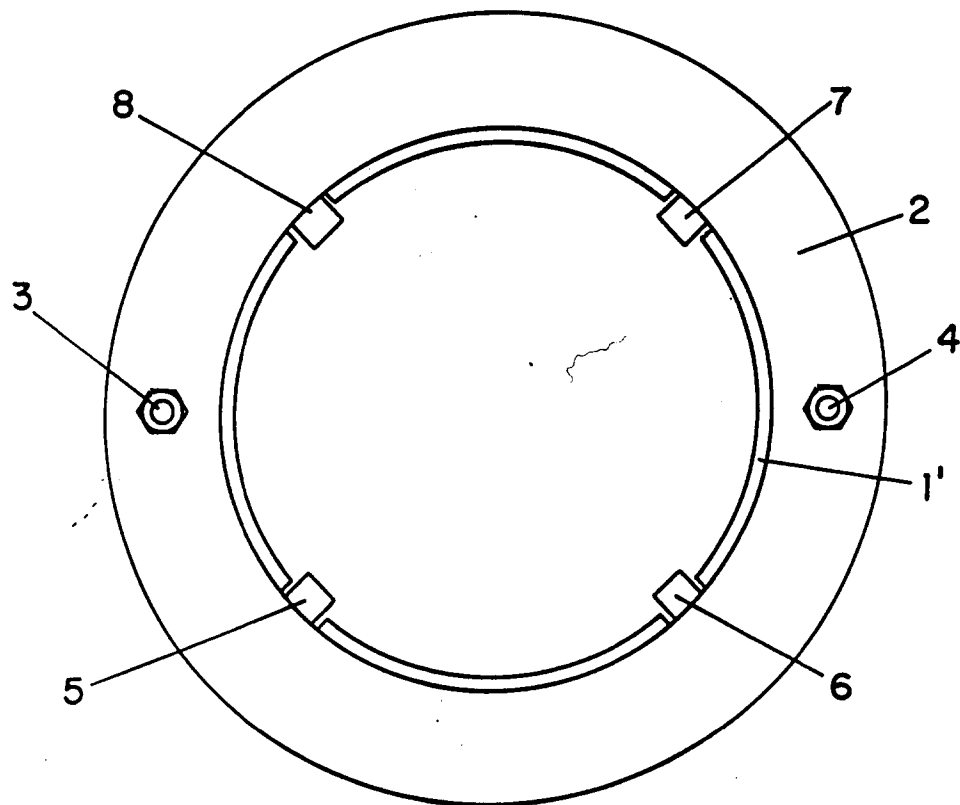


FIG.3

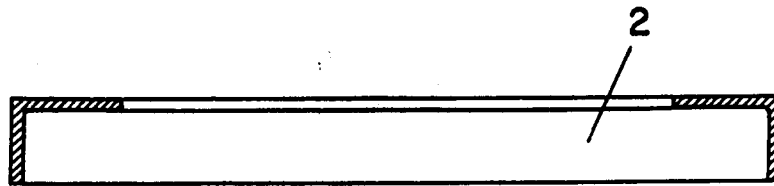


FIG.4

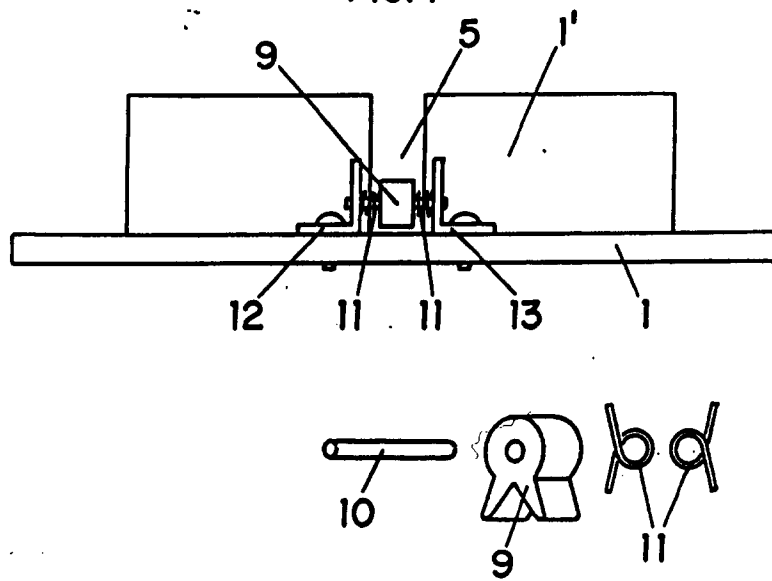


FIG.5

