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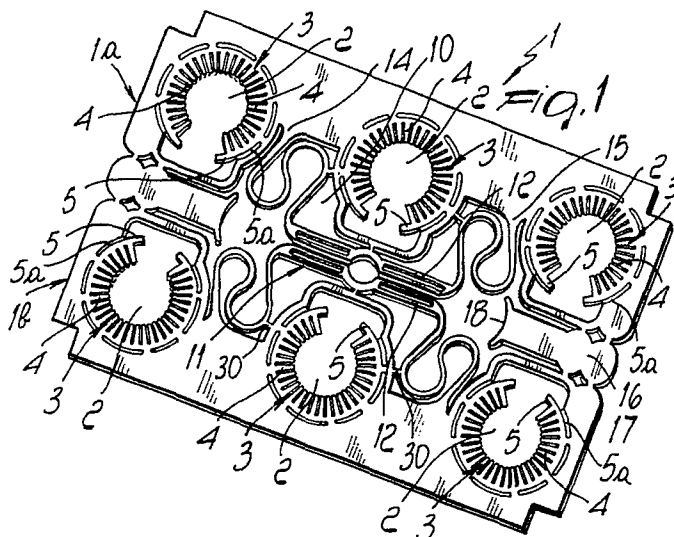
(54) **Packaging device particularly for packing bottles of mineral water and of beverages and bottle for carbonated beverages.**

(57) A packaging device particularly for packing bottles of mineral water and beverages comprises a platelike element (1) which defines a plurality of seats (2) for accommodating and removably retaining bottles and the like.

Tear-off means (16-17) are provided on the plate-like element (1) and allow to divide the plate-like element (1) into portions (1a,1b) with a smaller

number of seats (2); extractable grip means (11) for carrying the package of bottles are furthermore provided.

A bottle (6) for carbonated beverages is provided with a plurality of resting points (22), arranged substantially circumferentially and delimiting a cavity (23) extending toward the inside of said bottle (6).



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PACKAGING DEVICE PARTICULARLY FOR PACKING BOTTLES OF MINERAL WATER AND OF BEVERAGES

The present invention relates to a packaging device particularly for packing bottles of mineral water and beverages.

As known, the current method for packaging bottles made of plastic material, which generally contain carbonated beverages and the like, uses a tray or cardboard sheet on which six bottles are arranged side by side in pairs and are then wrapped in a sheet of shrink-wrap material which packs the bottles after passing in a shrinkage oven.

Grip elements have already been applied in order to facilitate the carrying of these packages: in one type of known package, said grip elements are constituted by a strap or band made of plastic material defining a loop which longitudinally embraces the pack; in another type of known package, said grip elements are constituted by a portion of band which is applied to the outside of the pack and has a tape-like section defining the handgrip.

In the first case, the strap is generally structured so as to allow easy transport, but it has the disadvantage of being difficult to remove, since it must be cut with scissors or the like.

In the second case, the band having a tape-like section, frequently becomes separated from the package, whereby it cannot function as a supporting element.

Another disadvantage of said known types of packaging is constituted by the fact that they do not allow the packages to be divided, except simply by breaking them to remove the individual bottles.

A further disadvantage is constituted by the storage of said packages, which are generally arranged on pallets, requiring the insertion of a sheet or layer of cardboard between one layer and another layer of bottle packages, since said intermediate cardboard layer being absolutely necessary to give sufficient stability to the various stacked packs of bottles.

The aim of the invention is to eliminate the disadvantages described above by providing a packaging device particularly for packing carbonated beverages and the like, which allows to firmly join for example six bottles, maintaining the possibility of dividing the packages into submultiples, each having a grip element.

Within the scope of the above described aim, a particular object of the invention is to provide a packaging device which eliminates the use of the supporting cardboard for each package.

Another object of the present invention is to provide a packaging device which allows the easy removal of individual bottles therefrom, without hav-

ing to resort to tools or other elements.

A further object of the present invention is to provide a packaging device which considerably facilitates stacking of the various packs of bottles, obtaining a palletizable stack which is stable without requiring intermediate sheets or layers of cardboard.

A not least object of the present invention is to provide a packaging device which, by virtue of its peculiar characteristics, is capable of giving the greatest assurances of reliability and safety in use and is furthermore competitive from a merely economical point of view.

The above-mentioned aim and objects, and others which will become apparent hereinafter, are achieved by a packaging device particularly for packing bottles of mineral water and beverages in general, according to the invention, characterized in that it comprises a plate-like element defining a plurality of seats for accommodating and removably retaining bottles and the like, tear-off means being provided on said plate-like element for dividing said plate-like element into portions having a smaller number of seats, and extractable grip means for carrying the package of bottles.

Further characteristics and advantages will become apparent from the description of a preferred but not exclusive embodiment of a packaging device particularly for packing bottles of mineral water and beverages in general, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

figure 1 is a perspective view of the packaging device according to the invention;

figure 2 is a perspective view of the tear-off means for dividing the plate-like element;

figure 3 is a schematic perspective view of a package of bottles with six bottles;

figure 4 is a schematic perspective view of a divided package of bottles, with only three bottles, provided with the related grip element;

figure 5 is a perspective view of the detail of a bottle retained in the related accommodation seat;

figure 6 is a sectional view of the bottle retained in the related seat;

figure 7 is a schematic sectional view of the step of disengagement of the bottle from the seat;

figure 8 is a schematic view of a stack of packages of bottles obtained with the packaging device according to the invention;

figure 9 is a schematic sectional view of the configuration of the bottom of the bottle which is suitable for allowing the insertion of the neck of the underlying bottle;

figure 10 is a schematic plan view of the bottom of a bottle.

With reference to the above figures, the packaging device particularly for packing bottles of mineral water and beverages in general, according to the invention, comprises a plate-like element, generally indicated by the reference numeral 1, which has a substantially rectangular configuration and a plurality of seats 2 for accommodating and removably retaining bottles and the like; advantageously, in the described example, said plate-like element is designed for accommodating six bottles.

Each seat 2 has an arc of circumference 3 the internal perimeter whereof is constituted by a plurality of elastically flexible laminae 4 which, according to what is described in figures 1, 5, 6 and 7, extend along an arc of more than 180° in order to retain the bottle and have a ring 5 for coupling to the element 1, which is connected with a tear line 5a at least at the portion which is proximate to the free end.

The neck of a bottle 6 can be inserted in each seat 2 so that the laminae 4 pass beyond the collar 7, normally provided on a bottle. In practice the laminae 4 lock below said collar to prevent the accidental extraction of the bottle.

According to the embodiment of figure 2, the laminae 4 extend along a smaller circumferential arc and the bottles are kept in place by an elastic tab 50 which acts in practice as a presser which keeps the bottle engaged against said laminae, thereby preventing it from being accidentally extracted from the package.

An open portion, indicated by 10, is provided on the plate-like element in the internal region adjacent to the part which defines the seats 2, and a pair of carrying handles, generally indicated by the reference numeral 11, is provided in said open portion monolithically with said plate-like element.

Said handles 11 have a rectilinear central portion 12 provided with an internal depression 12a to provide a more comfortable grip; said central portion 12 is connected to the edge of the open portion 10 by means of a loop-shaped portion 13.

Each loop-shaped portion is connected to the plate-like element in two points, indicated by 14 and 15, which are arranged so as to be barycentric and aligned with the row of bottles between which the points 14 and 15 are provided.

The couplings 14 and 15 are arranged in the direction of the externally arranged seats 2, so as to obtain a better distribution of the stresses with the weight of the bottle 6 arranged in the central seat. In practice the weight is equally distributed between the two coupling points of each handle.

Tearable bridges, indicated by 30, are furthermore provided and have the function of keeping, during the packaging step, the grip element co-

planar in the plate-like element, so as to create no hindrances during the packing step, though they can be rapidly torn to extract the grip elements when the device is to be used.

The plate-like element 1 can be advantageously divided into reduced portions which are for example constituted by symmetrical parts 1a and 1b, each of which retains three bottles; this divisibility is provided by virtue of tear-off means constituted by removable tabs 16, defined in a longitudinal median region of the plate-like element and being connected to the plate-like element by means of reduced-thickness portions 17.

The portion 16 has, at its free end which is directed inwardly, a curved portion 18 for accommodating a user's finger in order to exert a traction force in the tearing direction which causes the easy removal of the tab 16.

Advantageously, the width of the tabs 16 exceeds the size of a user's finger, and said tabs thus intrinsically constitute accident-prevention means which prevent the possibility of abrasions or cuts during tearing.

Advantageously, the six-bottle package is joined, in order to firmly retain said bottles in position, by means of a cord 19 which is closed by a knot 20 of an easily openable type which can be easily removed when the six-bottle package is to be separated.

Each bottle advantageously has a bottom 21 which allows to mutually stack a plurality of packages in order to obtain greater stability of the stack.

The bottom 21 has, in a per se known manner, a plurality of resting points 22 which are arranged circumferentially and delimit an internal cavity 23 which has such dimensions as to accommodate the closure 9 of another bottle. Said cavity furthermore has ridges which extend longitudinally on the periphery of the cavity itself, starting from the regions comprised between the resting points 22, and have the function of providing a stiffening element for said cavity, preventing the pressure which is possibly present inside the bottle from causing a deformation or outward expulsion of the bottom.

In practical use, therefore, in order to provide the package of the bottles it is sufficient to insert the plate-like element on a group of six bottles by pressing, causing the laminae 4 to lock below the collar 7.

In these conditions the bottles are retained firmly, and when they are to be carried it is sufficient to extract the handles 12, breaking the bridges 30 and obtaining a supporting element which is perfectly balanced, since the handles are connected at the points 14 and 15 which are arranged in barycentric alignment with the two rows of bottles. In order to remove the individual bottles from the package it is sufficient to tilt the bottle (figure 7),

breaking the line 5a and obtaining the possibility of extracting said bottle.

If only three bottles are to be removed, it is sufficient to break the package by removing the tabs 16, thus obtaining three bottles arranged in alignment with a grip element, again constituted by the handle 12, which is arranged so as to be perfectly barycentric on the three bottles.

Furthermore, the plate-like element thus provided also acts as positioning and centering element for the mutual stacking of the bottles if they have the bottom 21 with the cavity 23 which allows to mutually lock the various packages, obtaining a stable and safe assembly.

From what has been described above it can thus be seen that the invention achieves the intended aim and objects and in particular the fact is stressed that a packaging device is provided which is extremely practical and safe and which furthermore, besides offering the possibility of dividing the six-bottle package into a plurality of packages with a smaller number, also allows to have a reduced amount of material to be discarded, since the plate-like element has considerably small dimensions.

The invention thus conceived is susceptible to numerous modifications and variations, all of which are within the scope of the inventive concept.

All the details may furthermore be replaced with other technically equivalent elements.

Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the scope of each element identified by way of example by such reference signs.

Claims

1. Packaging device particularly for packing bottles of mineral water and beverages, characterized in that it comprises a plate-like element defining a plurality of seats for accommodating and removably retaining bottles and the like, tear-off means provided on said plate-like element in order to divide said plate-like element into portions with a smaller number of seats, and extractable grip means for carrying the package of bottles.
2. Packaging device, according to claim 1, characterized in that said seats for accommodating and removably retaining bottles and the like have an arc of circumference which extends along an angle of more than 180° and has, on its inner edge, a plurality of adjacent laminae,

extending from a ring connected to said plate-like element with a tear line at least at the free ends of said ring.

3. Packaging device, according to the preceding claims, characterized in that said seats for accommodating and removably retaining bottles and the like have a reduced arc of circumference which has, on its inner edge, a plurality of adjacent laminae, an elastic tab being provided opposite to said laminae and adapted for pushing the neck of the bottle toward said laminae in order to keep them engaged below the collar of said bottle.
4. Packaging device, according to the preceding claims, characterized in that said tear-off means are constituted by tabs provided in a median portion of the longitudinal extension of said plate-like element, said tabs being connected to the plate-like element by reduced-thickness portions.
5. Packaging device, according to one or more of the preceding claims, characterized in that said tabs have, at their internal end, a curved portion for the engagement of a user's finger for exerting traction in the tearing direction.
6. Packaging device, according to one or more of the preceding claims, characterized in that said tabs have a width which is greater than the width of a user's finger.
7. Packaging device, according to one or more of the preceding claims, characterized in that said grip means have a substantially rectilinear portion provided in a central portion and connected, at its ends, to loop-shaped sections associated with coupling points of said plate-like element.
8. Packaging device, according to one or more of the preceding claims, characterized in that said handle and said loop-shaped sections are connected to said plate-like element with bridges which are removable by tearing.
9. Packaging device, according to one or more of the preceding claims, characterized in that said coupling points are barycentrically associated with a row of said bottles.
10. Packaging device, according to one or more of the preceding claims, characterized in that it comprises a cord, with a related closing knot, which is adapted for joining the bottles accommodated in said seats.

11. Bottle for carbonated beverages, characterized in that it has a bottom provided with a plurality of resting points, arranged substantially circumferentially and delimiting a cavity extending toward the inside of said bottle. 5
12. Bottle according to the preceding claim, characterized in that it comprises stiffening ridges extending longitudinally in said cavity starting from points provided between said resting points. 10
13. Bottle, according to one or more of the preceding claims, characterized in that said cavity is adapted for accommodating the closure and a portion of the neck of an underlying bottle. 15

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