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Tray with cover provided with guarantee closure.

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Description

The present invention relates to a tray with a cover means provided with a guarantee closure according to the preamble of claim 1. Document GB-A-2040267 discloses a tray with a cover means corresponding to the preamble of claim 1.

In the packaging of products, in particular alimentary products, so-called "trays" are used, which are produced by moulding a thermoplastic materials, and are closed by means of cover elements. In general, such cover elements, also manufactured by moulding, can be stably coupled with an upwards protruding, contoured edge along the perimeter of the mouth of the tray.

Such a coupling requires suitably contoured edges, not always easy to be manufactured as regards the complementary undercuts to be provided in the cover element.

Furthermore, although their cover element can be fastened onto them by means of such a snap-coupling, said trays known from the prior art do not guarantee that the container has not been opened previously, and therefore do not guarantee that their contents have not been tampered with.

A purpose of the present invention is of providing a tray made of a thermoplastic material, provided with a relevant cover element, which is capable, once that the package is complete, of securing the reliability and genuineness of the contained product.

A further purpose is of making it possible a packaging with sealing to be accomplished in a simple, quick and cheap way.

These purposes according to the present invention are achieved by a tray with a guarantee closure cover means comprising the features of claim 1.

The characteristics and advantages of the present invention will be clearer from the following disclosure, made by referring to the accompanying schematic drawings, in which:

Figure 1 shows a perspective view of a tray with cover means according to the present invention, Figure 2 shows a top plan view of the tray with cover means of Figure 1,

Figure 3 shows a magnified detail of the sectional view made along the path line III-III of Figure 2, and

Figure 4 shows a view at all similar to the view of Figure 3, in a different position.

Referring to Figure 1, a tray made from a thermoplastic material, generally indicated with the reference numeral 11, is shown, above which a cover element, generally indicated with 12, is placed.

The tray 11, which, in the example shown herein, has a downwards-tapered parallelepipedal shape, is manufactured, e.g., by moulding, and is provided along its perimetrical side, with a composite edge (Figure 3) consisting of an upper flat portion 13, two

inclined connecting portions 14, and, finally, an also essentially horizontal, outwards cantilever-protruding flange 15.

Also the cover element 12 is provided with a perimetrical edge extending from an inverted-"U"-shaped portion 16, suitable for getting positioned and engaged above the upper flat portion 13 of the tray.

Also such a perimetrical edge of the cover element 12 is composed by an inclined portion 17 used as a connection means between the inverted-"U"-shaped portion 16 and an outwards cantilever-protruding flange 18, also essentially horizontal, or, better, positioned parallel to the flange 15 of the tray 11.

In particular, the upper, flat portion 13 of the composite edge of the tray 11 is defined by an external, inclined portion 14 and a corresponding internal, inclined and convergent end 14a of the inner wall of said tray. Simultaneously, in their inverted-"U"-shaped portion 16, the ends of the cover element are convergent towards each other, so that they are suitable to receive and/or get engaged on the internal wall and on the inclined connecting portions 14 of the edge of the same tray.

As one can see from the figures, the cover element is provided with breakage invitation lines 19, such as to define outwards-extending regions 20 of the tray and of the cover element. Such regions 20 of the cover element 12 are stably and irremovably constrained to corresponding regions of said tray.

In the herein depicted form of practical embodiment, the breakage invitation lines 19 and corresponding regions 20 have been positioned at the corners, but they can be alternatively positioned at any points along the edge, provided that a safe closure of the tray is secured.

The breakage invitation lines 19 and the corresponding, stably and irremovably constrained, regions 20 are preferably accomplished directly during the step of positioning of the cover element 12 above the tray 11, once that the latter is filled with its contents.

This is done by using a suitable bonding means, e.g., ultra-sound welding means, which cause the mutually opposite surfaces of the regions 20, into mutual contact, to get irremovably welded to each other, and simultaneously welds and partially cuts said flange portions, generating breakage invitation lines 19. In particular, said breakage invitation line is a weld partially penetrating into the interior of said flange.

One may thus immediately observe that, once that the cover element 12 is stably constrained to the tray 11 (Figure 3), it is enough that one, in order to remove said cover element 12, bend outwards, according to the arrow 21, the regions 20 welded to each other. By such a movement, a fracture is caused at the breakage invitation line 19, in the material which constitutes the cover element 12 which, hence, once

disengaged from the tray, can be removed, as shown in chain line in Figure 4.

One can observe that, once that such a separation has occurred, the original closure cannot be restored. In that way, the occurred deocclusion of the tray is evidenced.

In any case, a good tight closure between the tray and the cover element can be restored, thanks to the provision of the portions 13 and 16 and respectively 14 and 17, which get mutually engaged respectively with each other.

It is evident that, alternatively, the breakage invitation lines might be provided on the cover element in a preliminary step, which cover element, so formed, would be then stably constrained above the edge of the tray, thus providing a guarantee occlusion.

Also a composite tray accomplished by constraining a thermoplastic tray as disclosed hereinabove inside a cardboard tray which surrounds it, has to be considered as comprised within the scope of the claims.

Claims

1. Tray (11) with a guarantee closure cover means made from a thermoplastic material, comprising a container portion provided along its top peripheral side with an upwardly and outwardly protruding edge (14a, 13, 14; 15) above which a cover element (12), having also an outwardly protruding edge (16, 17, 18), is positioned, said cover element (12) being provided with at least two portions (20) with a breakage invitation line (19), which define two outwards-extending regions (20) of said tray (11) and cover element (12), and the outwards-extending regions (20) being stably and irremovably constrained to each other, characterised in that said edge of said cover element (12) is provided with an inverted U-shaped portion (16) formed by a flat top portion and two inwardly converging side portions depending from the flat top portion as well as an external flange (18), and the tray edge comprises a flat top portion (13) connected to an external inclined portion (14) and an internal inclined portion of the side wall (14a), whereby the inclined portions (14, 14a) diverge from the top portion (13), and a cantilever flange (15).
2. Tray according to claim 1, characterised in that said at least two portions provided with breakage invitation lines (19) are corners of said cover element (12).
3. Tray according to claim 1, characterised in that said breakage invitation line (19) is a weld partially penetrating into the interior of said cover flange

(18).

4. Tray according to any one of the preceding claims, characterised in that it is constrained to, and contained inside, a cardboard tray.

Patentansprüche

1. Behälter (11) mit einem Originalverschluß-Deckel aus einem thermoplastischen Material, umfassend einen Behälterteil, welcher an seinem oberen Ende mit einer aufwärts und auswärts ragenden Kante (14a, 13, 14, 15) versehen ist, über welcher ein Deckelelement (12), welches ebenfalls eine auswärts ragende Kante (16, 17, 18) aufweist, positioniert ist, welches Deckelelement (12) mit wenigstens zwei Bereichen (20) mit einer Sollbruchlinie (19) versehen ist, welche zwei sich auswärts erstreckende Bereiche (20) des Behälters (11) und des Deckelelementes (12) definieren, und wobei die sich auswärts erstreckenden Bereiche (20) stabil und nicht entfernbar miteinander verbunden sind, dadurch gekennzeichnet, daß die Kante des Deckelelementes (12) mit einem umgekehrt U-förmigen Bereich (16) ausgebildet ist, welcher aus einem ebenen oberen Bereich und zwei nach innen konvergierenden Bereichen, welche von dem ebenen oberen Bereich abhängen sowie von einem äußeren Flansch (18), gebildet ist, und daß die Behälterkante einen ebenen oberen Bereich (13), welcher an einen äußeren geneigten Bereich (14) und einen inneren geneigten Bereich der Seitenwand (14a) gebunden ist, wobei die geneigten Bereiche (14, 14a) von dem oberen Bereich (13) divergieren, und einen vorragenden Flansch (15) umfaßt.
2. Behälter nach Anspruch 1, dadurch gekennzeichnet, daß die wenigstens zwei Bereiche, welche mit Sollbruchlinien (19) versehen sind, Ecken des Deckelelementes (12) sind.
3. Behälter nach Anspruch 1, dadurch gekennzeichnet, daß die Sollbruchlinie (19) eine Schweißnaht ist, welche teilweise in das Innere des Deckelflansches (18) eindringt.
4. Behälter nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß er an einen Kartonbehälter gebunden ist und in diesem enthalten ist

Revendications

1. Plateau-casier (11) avec un moyen de couvercle de fermeture à garantie, réalisé en matériau ther-

moplastique, comprenant une partie récipient pourvue, le long de son côté périphérique supérieur, d'un bord (14a, 13, 14; 15) faisant saillie vers le haut et vers l'extérieur, au-dessus duquel un élément couvercle (12), ayant également un bord (16, 17, 18) en saillie vers l'extérieur est positionné, ledit élément couvercle (12) étant pourvu d'au moins deux parties (20) ayant une ligne destinée à la rupture (19), définissant deux zones (20) s'étendant vers l'extérieur dudit plateau (11) et ledit élément couvercle (12) et les zones (20) s'étendant vers l'extérieur étant retenues de façon stable et inamovible les uns par rapport aux autres, caractérisé en ce que ledit bord dudit élément couvercle (12) est pourvu d'une partie (16) en U inversé, formée par une partie supérieure plate et deux parties latérales, convergeant vers l'intérieur, pendant depuis la partie supérieure plate, ainsi que d'un bord externe (18), et le bord du plateau-casier comprenant une partie supérieure (13) plate, reliée à une partie externe (14) inclinée et à une partie interne inclinée de la paroi latérale (14a), de manière que les parties inclinées (14, 14a) divergent à partir de la partie supérieure (13), et comprend un rebord (15) en porte-à-faux.

2. Plateau-casier selon la revendication 1, caractérisé en ce que lesdites au moins deux parties pourvues de lignes destinées à la rupture (19) sont des angles dudit élément couvercle (12).
3. Plateau-casier selon la revendication 1, caractérisé en ce que ladite ligne destinée à la rupture (19) est une soudure pénétrant partiellement à l'intérieur dudit rebord de couvercle (18).
4. Plateau-casier selon l'une quelconque des revendications précédentes, caractérisé en ce qu'il est retenu sur, et contenu à l'intérieur, d'un plateau en carton.

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Fig.1

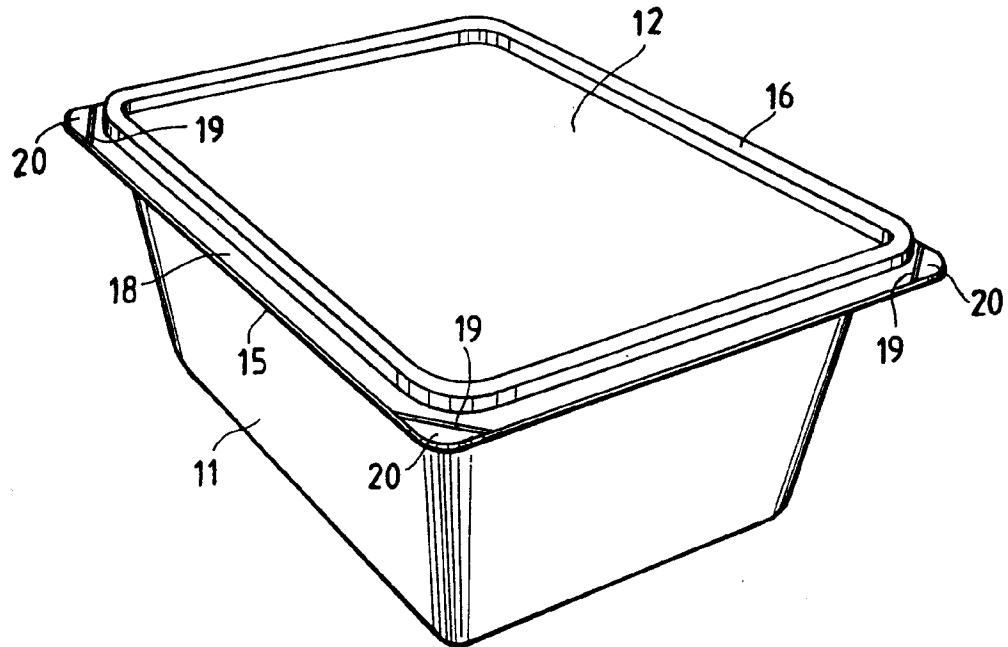
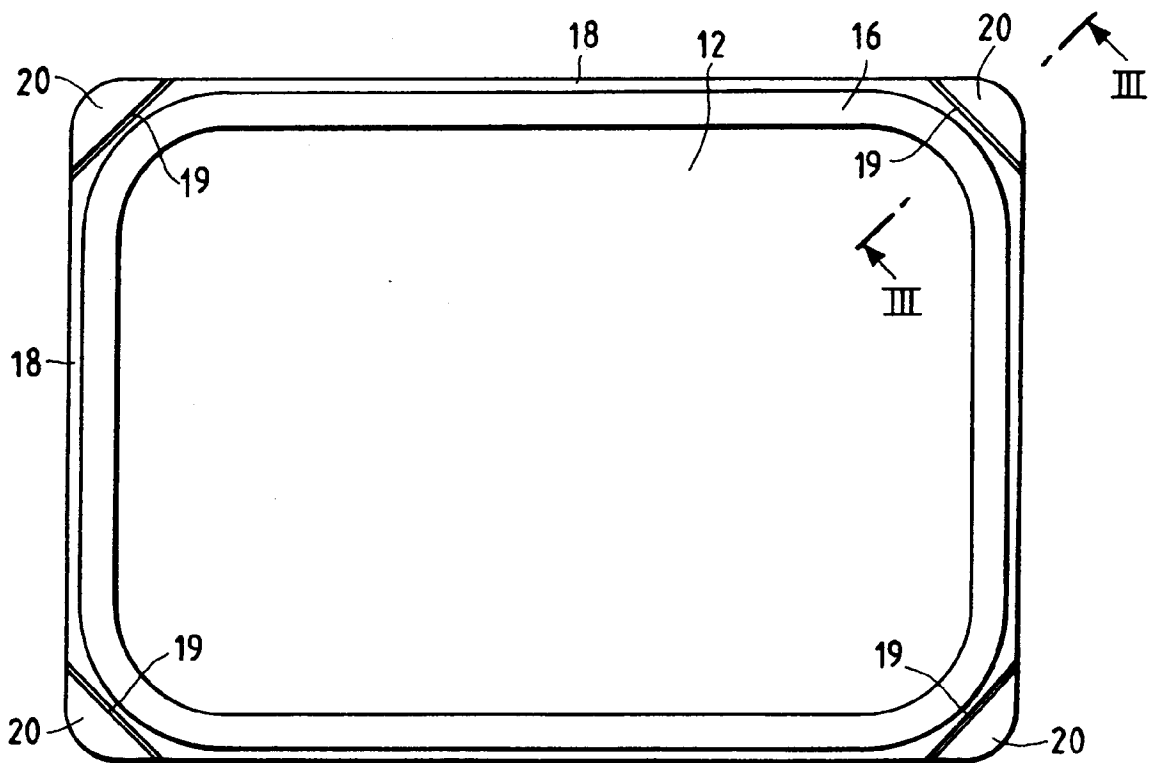


Fig.2



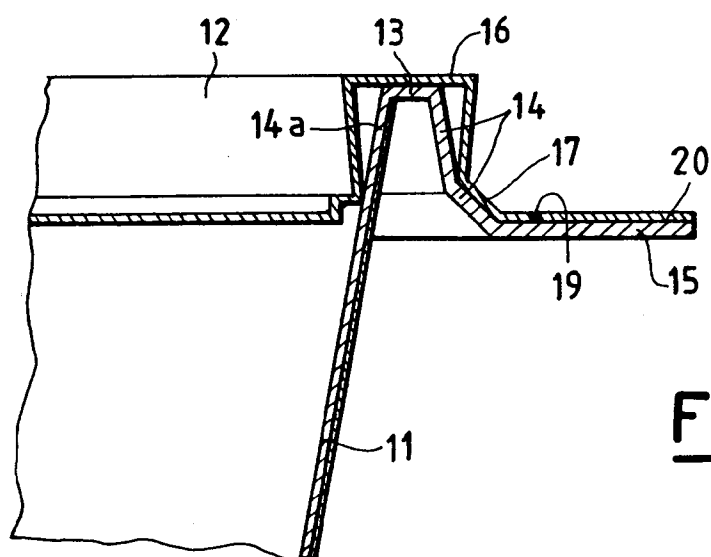


Fig.3

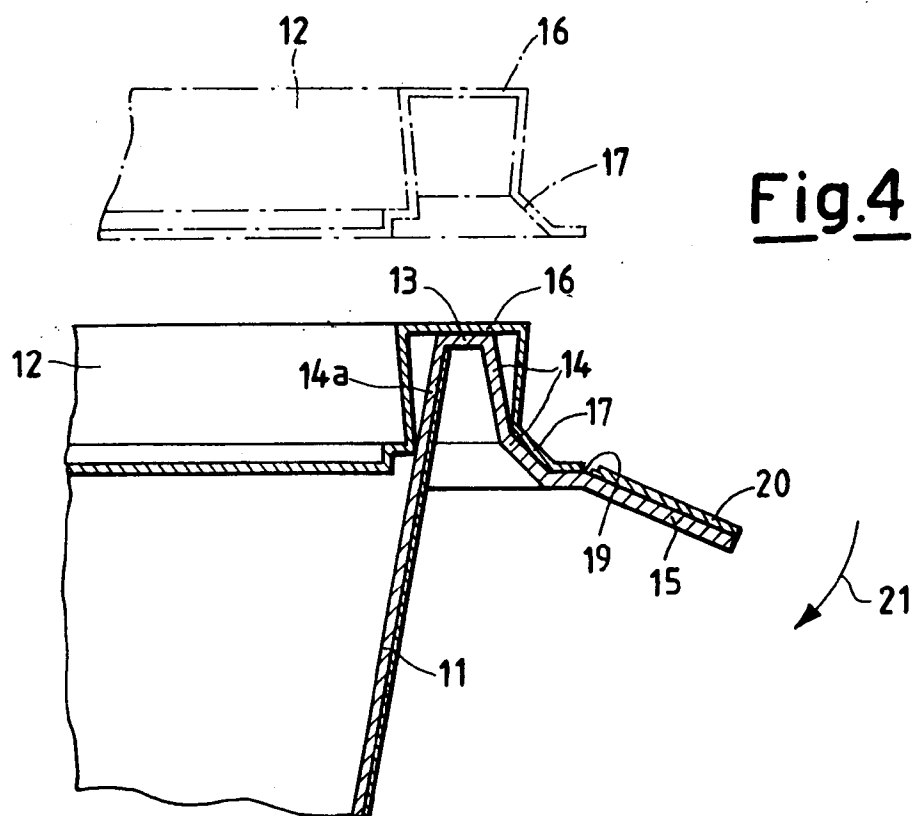


Fig.4