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(54) **Punnet**

Trogförmiger Behälter

Barquette

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## Description

The invention relates to a punnet, for example for packaging fruit and vegetable products, which is made of plastics material and is provided on its sidewalls with a plurality of side-by-side stiffening ribs spaced apart from each other and extending around the rounded corner which connects the sidewalls to the bottom of the punnet, while each stiffening is provided with a step in the lower part of the sidewalls and is connected to a step which is provided at the peripheral edge of the bottom and extends continuously around the bottom.

A punnet of this kind is known from the document EP-A-0484709, a document in accordance with Art. 54(3) EPC, which discloses the most relevant prior art. In this document steps are provided in each stiffening rib, while the sidewalls of the punnet are deprived of steps and are smoothly connected to the rounded corner between them and the bottom.

The object of the invention is to provide a punnet of the kind initially described, having greater stiffness and strength against any punnet-deforming pressure on its bottom area, by using very simple and low-cost manufacturing means.

The invention attains this object by providing a punnet according to the preamble of claim 1 and characterized in that the step in each stiffening rib provided at the lower edge of the sidewalls extends as well in the sidewalls continuously around the punnet, thus dividing the connection corner between the bottom and the sidewalls into a plurality of successive segments which are defined by two stiffening ribs at the ends thereof and by two steps at the top and bottom sides, respectively.

The corner connecting the bottom and sidewalls of the punnet is thus stiffened considerably, imparting the punnet a remarkable strength against deformation pressures. This, advantageously, avoids any possibility of damage to the products arranged in the punnets, for example, when they are either handled or transported.

Further features of the invention are the subject of the dependent claims.

The features of the invention and the advantages resulting therefrom will become more apparent from the following description of an exemplary embodiment as shown in the accompanying drawings, wherein:

Figure 1 is a perspective view of the punnet according to the invention, in an upturned position;

Figure 2 is an enlarged view of a detail of the punnet of Figure 1, showing an area of the connection corner;

Figure 3 is an enlarged cross sectional view through the area of the connection corner of the punnet of Figures 1 and 2.

Illustrated in the figures is a punnet indicated generally at 1 and made, specifically, by molding a foil of plastics material such as the so-called PVC.

The sidewalls 2 merge into the bottom 3 of the pun-

net 1 through a rounded connection corner 4. The connection corner 4 is united to both the sidewalls 2 and bottom 3 and forms therewith outwardly-protruding steps 5,6. The steps 5,6 extend continuously along the entire peripheral edge of the bottom 3 and sidewalls 2 in endless configuration.

A plurality of side-by-side stiffening ribs 7 extend from the step 5 at the lower edge of the sidewalls 2 to the other step 6 at the bottom 3 round across the connection corner 4. Preferably, said stiffening ribs 7 are equally spaced apart and divide the area of the connection corner 4 into a plurality of successive segments 104 which are defined by two successive stiffening ribs 7 at the ends thereof and by the steps 5 and 6 at the top and bottom sides, respectively.

When, as in the illustrated example, the punnet is made by molding a foil of plastics material, the steps 5,6 and stiffening ribs 7 may be made during the same molding operation as the punnet 1 by deforming accordingly the sidewalls 2, bottom 3 and connection corner 4, so that no additional material is required to form them.

According to a further characteristic of the invention, each stiffening rib may comprise an extension 107 over the sidewalls 2. The extensions 107 may become progressively larger upwards to assume an upturned triangular configuration.

In this instance, the endless step 5 at the lower edge of the sidewalls may also concern the extensions 107 of the stiffening ribs 7, thus contributing to increase the stiffening action.

The stiffening ribs 7 are of a certain width and of any cross section, such as either a constant, rectangular, trapezoidal or rounded cross section. Their outer sides may extend to a slightly lower level than that of the outer sides of the steps 5,6 so that they join said steps 5,6 (specifically the step 6 at the bottom 3) to form a small step 10.

Specifically, the step 6 at the sides of the bottom may be formed by the peripheral outer sides of a peripheral rim 8 protruding downwards from the bottom 3, thus forming an additional step 9 opposing the deformation of the punnet at the inner sides of the peripheral rim.

Advantageously, the longitudinal portions of the peripheral rim may be connected to each other by transverse ribs 108 which further improve the stiffening action on the bottom of the punnet.

As an alternative to the illustrated embodiment, the stiffening ribs 7 at the corner 4 may comprise extensions on the punnet bottom 3 which connect opposed ribs 7 two by two either of only two sides, thus forming, for example, the stiffening ribs 108, or of all the sides, thus forming a stiffening grating for the bottom 3.

## Claims

1. A punnet made of plastics material and provided on its sidewalls (2) with a plurality of side-by-side stiffening ribs (7) spaced apart from each other and extending around the rounded corner (4) which

connects the sidewalls (2) to the bottom (3) of the punnet, while each stiffening rib (7) is provided with a step in the lower part of the sidewalls (2) and is connected to a step (5) which is provided at the peripheral edge of the bottom (3) and extends continuously around the bottom, characterized in that the step in each stiffening rib (7) provided at the lower edge of the sidewalls (2) extends as well in the sidewalls (2) continuously around the punnet, thus dividing the connection corner (4) between the bottom and the sidewalls into a plurality of successive segments (104) which are defined by two stiffening ribs (7) at the ends thereof and by two steps (5,6) at the top and the bottom sides, respectively.

2. The punnet according to claim 1, characterized in that the stiffening ribs (7) protrude to a lower extent than the step (6) at the peripheral edge of the bottom (3) and join this step (6) with a small difference in height (10).
3. The punnet according to claim 1 or 2, characterized in that the step (6) at the bottom (3) is formed by a peripheral rim protruding downwards from the bottom (3) and forming on inner side thereof a further concentric step (9), and the opposite sides of the peripheral rim (8) are connected by transverse stiffening ribs (108).

#### Patentansprüche

1. Ein trogförmiger Behälter, hergestellt aus Plastikmaterial und an seinen Seitenwänden (2) versehen mit einer Vielzahl von Seite an Seite liegenden versteifenden Rippen (7), jeweils voneinander beabstandet und sich erstreckend um die gerundete Kante (4), die die Seitenwände (2) mit dem Boden (3) des trogförmigen Behälters verbindet, wobei jede der versteifenden Rippen (7) mit einer Stufe in dem unteren Bereich der Seitenwände (2) versehen ist und mit einer Stufe (5) verbunden ist, die an der umlaufenden Kante des Bodens (3) vorgesehen ist und kontinuierlich entlang des Bodens vorsteht, **dadurch gekennzeichnet, daß** die Stufe in jeder versteifenden Rippe (7), die an der unteren Kante der Seitenwände (2) vorgesehen ist, sich ebenso in den Seitenwänden rings um den trogförmigen Behälter herum erstreckt, somit trennend die verbindende Kante (4) zwischen dem Boden und den Seitenwänden in eine Vielzahl von aufeinanderfolgenden Segmenten (104), die durch zwei versteifende Rippen (7) an den Enden davon und aus zwei Stufen (5, 6) an der Oberseite bzw. der Unterseite definiert werden.
2. Trogförmiger Behälter gemäß Anspruch 1, **dadurch gekennzeichnet, daß** die versteifenden Rippen (7) um ein geringeres Maß als die Stufen (6) an der äußeren Kante des Bodens (3) hervor-

stehen und sich an diese Stufe (6) mit einem kleinen Abstand in der Höhe (10) anschließen.

3. Trogförmiger Behälter gemäß Anspruch 1 oder 2, **dadurch gekennzeichnet, daß** die Stufe (6) an dem Boden (3) durch einen umlaufenden Rand gebildet ist, der unterseitig des Bodens (3) hervorstet und an der Innenseite davon eine weitere konzentrische Stufe (9) bildet, und daß die gegenüberliegenden Seiten des umlaufenden Randes (8) durch querversteifende Rippen (108) verbunden sind.

#### Revendications

1. Barquette faite de matière plastique et munie, sur ses parois latérales (2), d'une pluralité de nervures de renforcement (7) consécutives, espacées les unes des autres, et s'étendant autour de l'angle arrondi (4) qui relie les parois latérales (2) au fond (3) de la barquette, tandis que chaque nervure de renforcement (7) comporte un décrochement dans la partie inférieure des parois latérales (2) et est reliée à un décrochement (5) qui est ménagé au niveau du bord périphérique du fond (3) et s'étend en continu autour du fond, caractérisée en ce que le décrochement de chaque nervure de renforcement (7) ménagé au niveau du bord inférieur des parois latérales (2) s'étend également dans les parois latérales (2) tout autour de la barquette, en divisant ainsi l'angle de liaison (4) entre le fond et les parois latérales en une pluralité de tronçons successifs (104) qui sont définis par deux nervures de renforcement (7) aux extrémités de ceux-ci et par deux décrochements (5, 6) au niveau des côtés haut et bas, respectivement.
2. Barquette selon la revendication 1, caractérisée en ce que les nervures de renforcement (7) font moins saillie que le décrochement (6) au niveau du bord périphérique du fond (3) et rejoignent ce décrochement (6) avec une faible différence de hauteur (10).
3. Barquette selon la revendication 1 ou la revendication 2, caractérisée en ce que le décrochement (6) au niveau du fond (3) est formé par un rebord périphérique faisant saillie vers le bas à partir du fond (3) et formant, sur le côté intérieur de celui-ci, un décrochement concentrique supplémentaire (9), et en ce que les côtés opposés du rebord périphérique (8) sont reliés par des nervures de renforcement transversales (108).



