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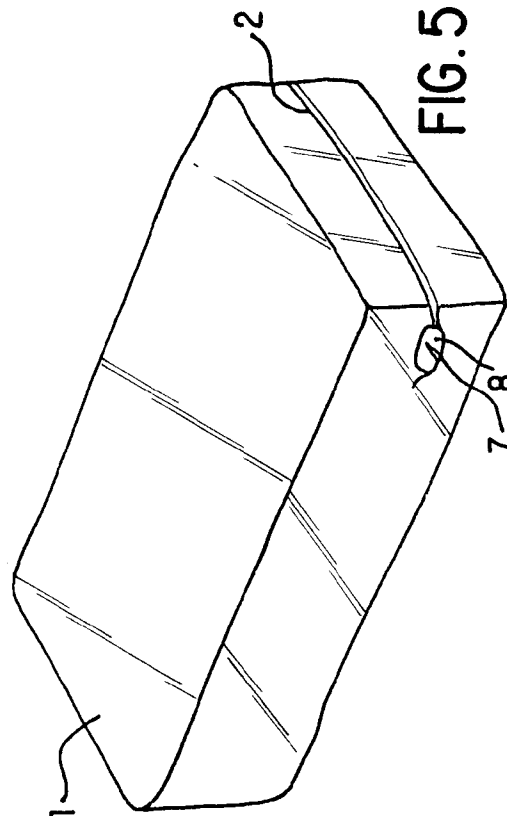
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(54) **Packaging for goods such as a foodstuff which may be easily opened and method of making such packaging**

(57) The present invention relates to a packing for an article such as a foodstuff.

The packing comprises a tongue (8) facilitating the opening of the packing, formed by making a cut (7) in a zone hermetically isolated from the remainder of the film (1) and extending from one edge of the film (1) prior to heat-shrinking the packing.

The invention is applicable to packings for use under vacuum or with a modified atmosphere for foodstuff.



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Description

The present invention relates to a packing for an article such as a foodstuff which may be easily opened.

It is also directed to a method permitting such a product packing to be made.

There is known packing under vacuum of a foodstuff of the type comprising film of heat-shrinkable material in the shape of a bag into which the foodstuff is placed. This unit is then brought into a machine which can create a vacuum within the bag before closing the latter by a transverse line of heat-sealing and cutting it off in the vicinity of this line. The evacuated unit then passes into a hot air tunnel or a hot water bath at a predetermined temperature to shrink the packing by heat so that it tightly encloses the foodstuff.

There is also known a foodstuff packing containing a modified atmosphere and made in a machine by which a flat film of a heat-shrinkable material is shaped into a tube by longitudinal heat-sealing while at the same time the foodstuff is inserted into this tube which is heat-sealed transversely at one end. A gas of modified atmosphere comprising for example a mixture of oxygen, of carbon dioxide and of nitrogen is then fed into the film wrapping the foodstuff prior to hermetically closing the tube through transverse heat-sealing of the opposite end of the tube. Finally this unit is inserted into a tunnel containing air heated to a predetermined temperature for shrinking the film which thus tightly encloses the foodstuff.

The packings of the kind described hereinabove have the major inconvenience of being difficult to open.

The present invention proposes a packing for an article permitting easy opening thereof while preserving the vacuum or the modified atmosphere therein as long as the packing is not opened.

According to this invention there is provided packing for an article, such as a foodstuff, comprising a film of a heat-shrinkable material in which to wrap the article, characterized in that the packing has an edge zone isolated from the rest of the film by an area where opposed faces of the film are sealed to each other, and has a cut in the zone extending inwards from one edge of the film, whereby, on heat-shrinkage of the film around a wrapped article a tongue is formed to facilitate opening.

The invention also provides such packing wherein the film has been wrapped around the article and has been heat-sealed over at least one portion of its periphery and then has been heat-shrunk so as to enclose more tightly the article, the zone containing the cut being hermetically isolated from the article.

The invention also provides a method of making a packing for an article such as a foodstuff including the steps of wrapping the article in a film of a heat-shrinkable material, heat-sealing the film over at least one portion of its periphery and then heat-shrinking the film, characterized in that the packing is formed with an edge zone isolated from the rest of the film by an area where op-

posed faces of the film are sealed to each other, and with a cut in the zone extending inwards from one edge of the film, whereby, on heat-shrinkage of the film around a wrapped article a tongue is formed to facilitate opening.

With the invention, when the film is shrunk by heat to engage more tightly around the article, a tongue is formed which projects outwards from the resulting package. This tongue has a cut enabling relatively easy tearing and opening of the package.

The invention will be better understood and further objects, preferred features, details and advantages thereof will appear more clearly in the course of the explanatory description which will follow, made with reference to the attached diagrammatic drawings given by way of example only illustrating two embodiments of the invention and in which:-

FIGURE 1 is a plan view of an article packing bag arranged according to the invention;

FIGURE 2 is a perspective view showing the packing bag of Figure 1 ready to receive an article;

FIGURE 3 is a partial plan view of a packing bag according to an alternative embodiment of the invention;

FIGURE 4 is a perspective view showing the article packed under vacuum within the packing bag prior to heat-shrinking the packing film;

FIGURE 5 is a perspective view showing the heat-shrunk packing bag; and

FIGURE 6 shows the application of the invention to a packing of the type containing a modified atmosphere.

The invention will be described as applied to a packing of an article under vacuum but it is well understood that it also applies to any other type of article packing such as that containing a modified atmosphere as will be described subsequently.

Referring to Figures 1 to 5, the reference numeral 1 designates a packing bag made from a synthetic film of a heat-shrinkable thermoplastic material, one end of which is hermetically closed by a transverse heat-sealed seam 2. An article 3 such as a food product is inserted into the packing bag 1 and the whole is brought into a machine for providing the vacuum within the bag 1 and then the other end of the bag 1 is hermetically closed by a second transverse heat-sealed seam 4 and cut off to the desired length of the bag 1. The whole thus formed is then brought into a hot air tunnel or a hot water bath at a predetermined temperature for heat-shrinking the film of the bag 1 so that the latter tightly wraps the article 3.

According to the invention the packing bag 1 in its initial state, i.e. before being heat-shrunk comprises a zone 5 hermetically isolated from the remainder of the film of the bag 1 and extending from a longitudinal edge 1a of the bag 1. As shown in particular in Figures 1 and

2, the zone 5 is hermetically isolated by heat-sealing opposed faces of the film over the whole area of the zone 5 whereas according to an alternative embodiment shown on Figure 3 this zone 5 is hermetically isolated by heat-sealing opposed faces of the film 1 along only the periphery 6 of the zone 5.

Moreover a cut 7 is made in the hermetically isolated zone 5 inwards starting from the edge 1a of the bag 1.

The hermetically isolated zone 5 is preferably distinct from a heat-sealed portion 2, 4 of the bag 1 and preferably this zone is located near a heat-sealed seam, in the present case the seam 2.

The hermetically isolated zone 5 and the cut 7 are described hereinabove as being formed in the packing bag 1 intended subsequently to receive an article 3 but they may be made during or after the steps of evacuating the bag 1 and of heat-sealing and severing the latter, the essential point being that they be formed before the step of heat-shrinking the film forming the bag 1. In addition the cut 7 may be carried out by any suitable means for example by a mechanical cutting means either automatically during the making of the bag 1 or during the steps of packing the article 3 prior to the heat-shrinking operation or manually with the assistance of a cutting tool before the heat-shrinking step.

When the unit constituted by the packing bag 1 and the article 3 such as shown on Figure 4 is heated in order that the film of the bag 1 shrinks through heat, the hermetic zone 5 is deformed so that a tongue 8 intended to facilitate the opening of the packing under vacuum is formed near the seam of heat-sealing 2 as shown in Figure 5. This tongue 8 constituted by the heat-sealed zone 5 fully and hermetically isolates the cut 7 from the interior of the packing so that no outward vacuum leakage in the packing is to be feared.

To open the packing, it suffices to pull on one portion of the tongue 8 so as to tear the packing along the seam of heat-sealing 2.

The invention described hereinabove may also be applied to the type of packing which contains a modified atmosphere, diagrammatically shown in Figure 6.

As is known, such packings are made in a horizontal filming machine from a heat-shrinkable film 1 shaped into a tube by a longitudinal welding S1 while at the same time the article to be packed, such as for example a foodstuff placed upon a tray or a small boat-shaped trough is inserted into this tube under a modified atmosphere comprising for example a mixture of oxygen, of carbon dioxide and of nitrogen. Then after withdrawal of the excess gaseous mixture the tube is closed at its two ends by two hermetic transverse heat-seals S2 and S3, respectively, to preserve the modified atmosphere within the packing thus made. Figure 6 shows that a zone 5 hermetically isolated from the remainder of the packing film has been provided by heat-sealing in the same conditions as those of Figure 1 or of Figure 3 while being preferably located near one of the transverse welds S2 and S3.

When the film 1 wrapping the modified atmosphere of the corresponding article is brought into a hot air tunnel, the latter would heat-shrink to enclose tightly the article and during the deformation of the film a tongue is formed in the same manner as the tongue 8 of Figure 5 to permit afterwards the easy opening of the packing along the weld line S3.

The films used for this type of packing preferably are of the barrier film type known per se with a core layer forming an oxygen barrier and for example based upon a copolymer of ethylene and of vinyl alcohol, or upon polyvinyl alcohol or upon polyvinylidenechloride (PVDC).

The method enabling the packing of an article to be made whether it is of the type made under vacuum or under a modified atmosphere clearly is apparent from the foregoing description and need not be described in detail.

The packing which has just been described therefore permits the opening of the packing to be facilitated while guaranteeing a total protection of the vacuum or of the modified atmosphere in the packing as long as the packing has not been opened.

Claims

1. Packing for an article, such as a foodstuff, comprising a film (1) of a heat-shrinkable material in which to wrap the article, characterized in that the packing has an edge zone (5) isolated from the rest of the film (1) by an area where opposed faces of the film are sealed to each other, and has a cut (7) in the zone (5) extending inwards from one edge (1a) of the film, whereby, on heat-shrinkage of the film around a wrapped article a tongue (8) is formed to facilitate opening.
2. Packing for an article according to claim 1, wherein the film (1) has been wrapped around the article and has been heat-sealed over at least one portion of its periphery and then has been heat-shrunk so as to enclose more tightly the article (3), the zone (5) containing the cut (7) being hermetically isolated from the article.
3. Packing according to claim 2, characterized in that the hermetically isolated zone (5) is distinct from the or each heat-sealed portion (2; 4) of the periphery of the film (1).
4. Packing according to claim 2 or 3, characterized in that the hermetically isolated zone (5) is located adjacent the or each heat-sealed portion (2; 4) of the periphery of the film (1).
5. Packing according to any one of the preceding claims, characterized in that the zone (5) is isolated

by heat-sealing thereof over its whole surface.

6. Packing according to any one of claims 1 to 4, characterized in that the zone (5) is isolated by heat-sealing along its periphery (6) only. 5
7. Packing according to any one of the preceding claims, characterized in that the film (1) constitutes a bag for packing the article (3) under vacuum. 10
8. Packing according to one of claims 1 to 6, characterized in that the film (1) is made from a material permitting the article to be packed under a modified atmosphere. 15
9. Packing according to any one of the preceding claims, characterized in that the film (1) is of the barrier film type with a core layer forming a barrier against oxygen and based upon either a copolymer of ethylene and vinyl alcohol, or upon polyvinyl alcohol, or upon polyvinylidene chloride. 20
10. A method of making a packing for an article such as a foodstuff including the steps of wrapping the article (3) in a film (1) of a heat-shrinkable material, heat-sealing the film (1) over at least one portion of its periphery and then heat-shrinking the film (1), characterized in that the packing is formed with an edge zone (5) isolated from the rest of the film (1) by an area where opposed faces of the film are sealed to each other, and with a cut (7) in the zone (5) extending inwards from one edge (1a) of the film, whereby, on heat-shrinkage of the film (1) around a wrapped article (3) a tongue (8) is formed to facilitate opening. 25
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11. A method according to claim 10, characterized in that the isolated zone (5) is formed by heat-sealing.
12. A method according to claim 10 or 11, characterized in that it comprises the step of evacuating the film (1) prior to the step of heat-sealing the film (1) over at least one portion of its periphery. 40
13. A method according to claim 10 or 11, characterized in that it comprises the step of modifying the atmosphere within the film (1) prior to the step of heat-sealing the film (1) over at least one portion of its periphery. 45
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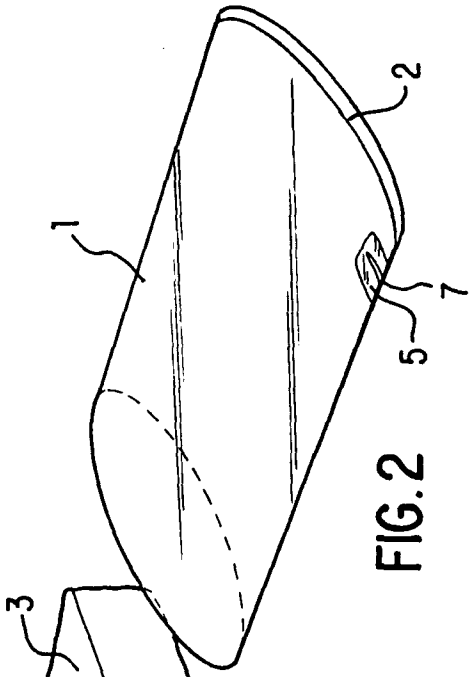


FIG. 2

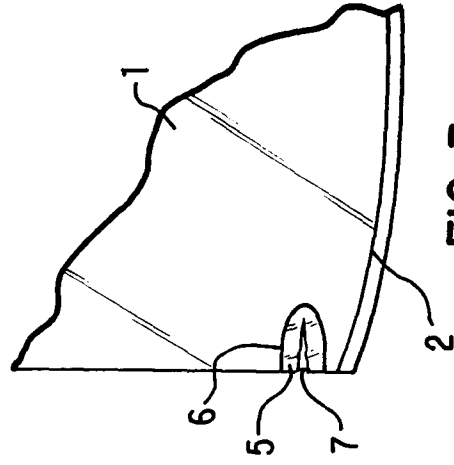


FIG. 3

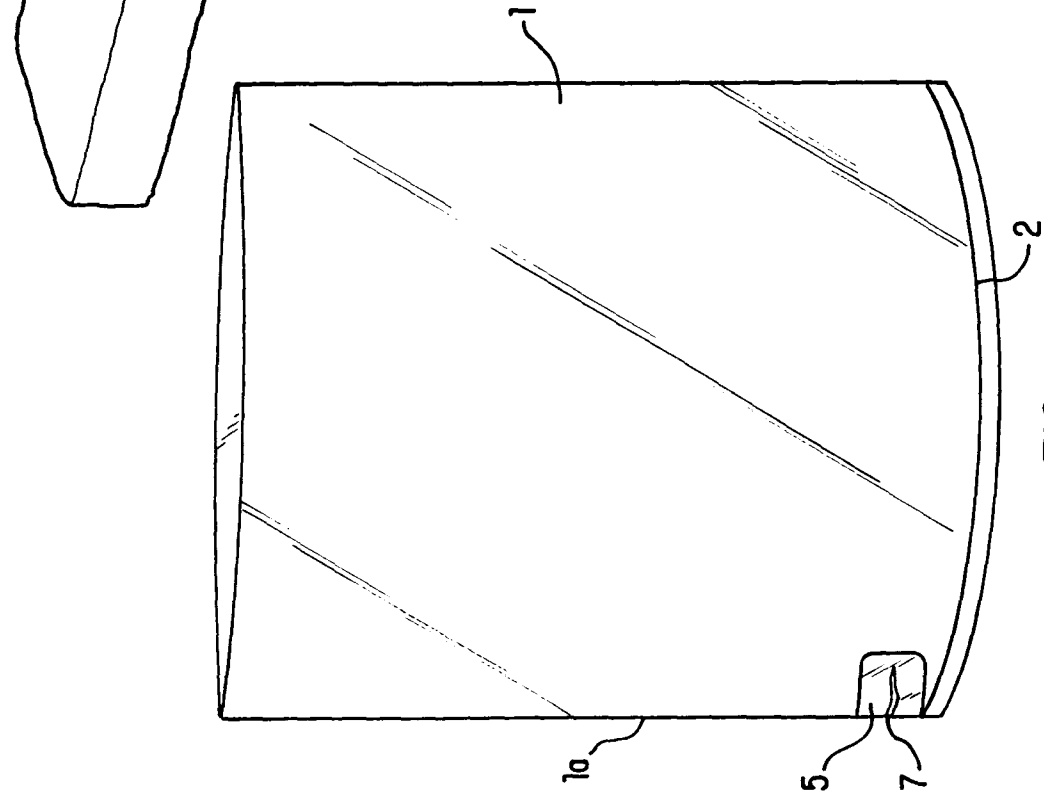
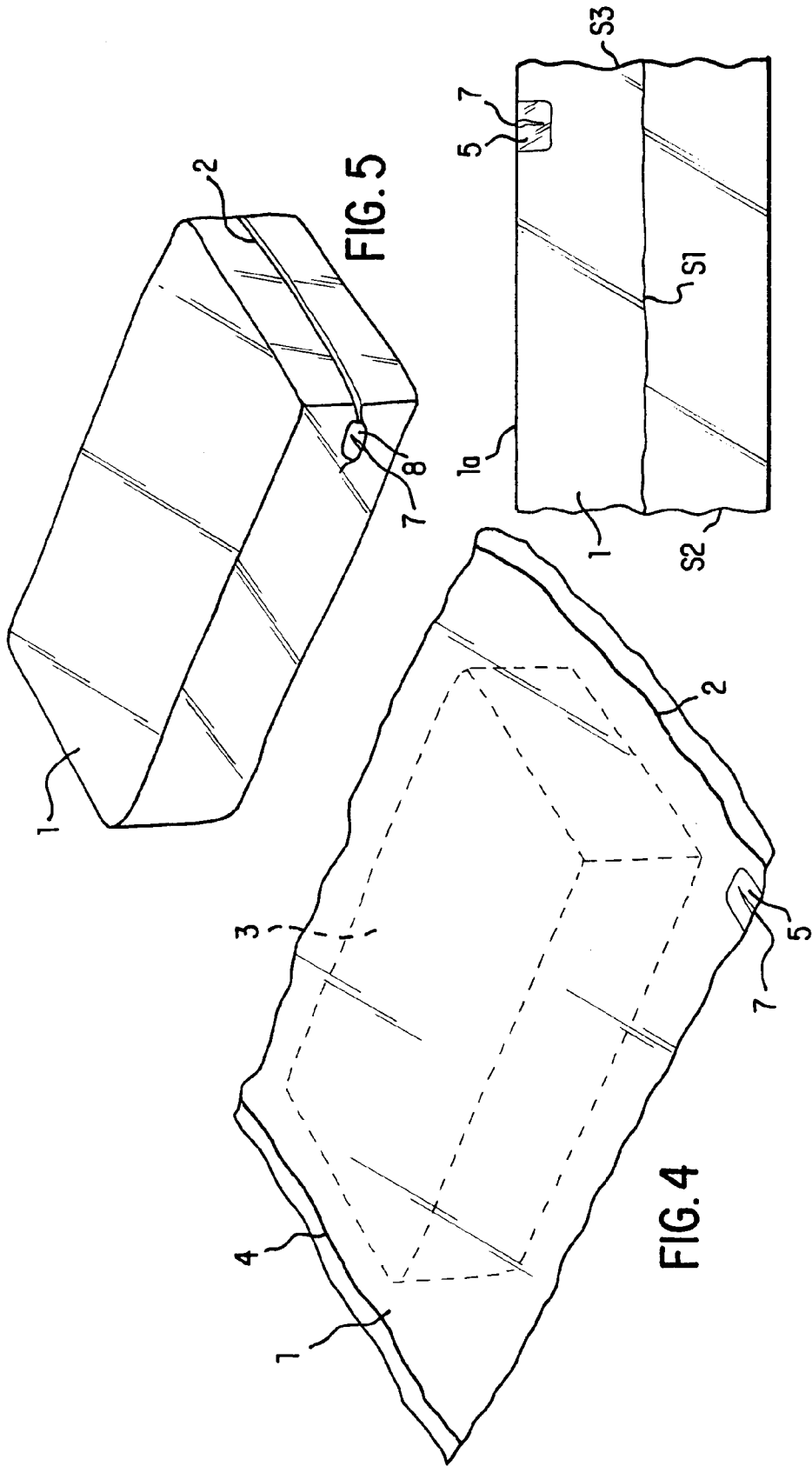


FIG. 1





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EUROPEAN SEARCH REPORT

Application Number
EP 96 30 3802

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.6)
Y	GB-A-1 364 300 (OGLE) * page 1, line 79 - line 92 * * page 2, line 12 - line 23; figures 1-3 * ---	1-6, 8-11,13	B65D75/58
Y	US-A-3 641 732 (FUJIO) * claims; figures * ---	1-6, 8-11,13	
A	AU-B-597 130 (ELLIS) * page 1, line 17 - line 29; claims; figures * ---	1-5,9-11	
A	EP-A-0 289 209 (DU PONT CANADA) * abstract; figure 3 * ---	1-6,9	
A	US-A-5 060 803 (BEER) * abstract; figures * ---	1-4,6	
A	DE-A-15 86 766 (KALLE AG) * claims 1-4; figures 1,2 * ---	1-4,6,9	
A	FR-A-1 557 778 (SEPROSY) * claim 1; figures * -----	1,5	TECHNICAL FIELDS SEARCHED (Int.Cl.6) B65D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 2 September 1996	Examiner SERRANO GALARRAGA, J
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	

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