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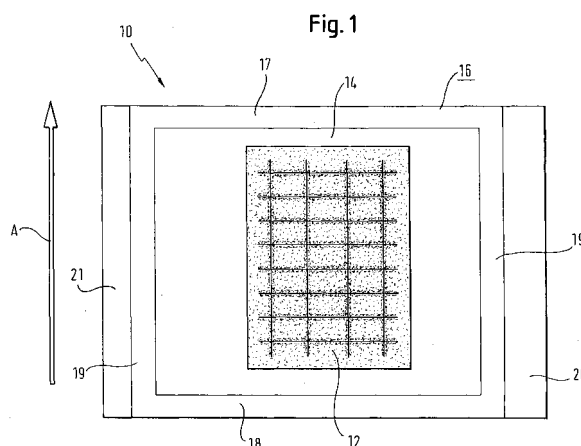
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(54) **Package for packing food products and method of packing food products**

(57) A package for packing generally block-shaped food products (12) comprises a generally rectangular sheet of a flat, foldable packing material (10) having an inner and an outer surface, the sheet comprising a central body portion (14) for enclosing the top, bottom, side, front and rear surfaces of the block-shaped food product (12), a frame-shaped sealing portion (16) enclosing the body portion (14) for sealing the package and comprising a front (17), a rear (18) and two side portions (19), and two flap portions (20, 21), one of the flap portions (20) being adjacent one side portion (19) of the sealing portion and the other flap portion (20) being adjacent the other one of the side portions (19) of the sealing portion (16), wherein the package is folded around the food product (12), such that the body portion (14) encloses the food product (12) with the inner surface of the sheet (10) directed to the food product (12), the inner surface of one of the side portions (19) of sealing portion (16) abuts to the inner surface of the other one of the side portions (19) of the sealing portion (16), and a seal being formed along the front (17), rear (18) and the side portions (19) of the sealing portion (16), respectively, wherein the inner surface of the flap portion (20, 21) and the outer surface of the flap (20, 21) portion are accessible, one of the flap portions (20) is wider than the other one of the flap portions (21), the flap portions (20, 21) are folded such that the wider flap portion (20) is located

on top of the narrower flap portion (21) and the seal is formed by means of adhesive applied on the inner surfaces of the sheet (10) in the sealing portion (16), and is characterized in that both grippable flap portions (20, 21) are free of adhesive.



Description

Technical field

[0001] The present invention relates to packaging, and more particularly is directed to an improved package for packaging food products, for example chocolate bars. Further, the present invention is directed to a method of packaging such food products.

[0002] Often, a wrapper which is suitable for packaging food products, such as chocolate bars, is fabricated from a material which is substantially gas and moisture impervious, in order to maintain the article at a desired level of freshness. Further, the packaging is intended to provide customer information, for example the content of the packaging, its origin or other information. Additionally, the wrapping has to provide a pleasing appearance of the product.

[0003] Further, it is an essential requirement of such wrappings, in particular for snack articles such as chocolate bars, that these packages can be opened easily. However, there is often difficulty in opening the package due to the strength of the wrapper material and its resistance to tearing. In particular, there is a requirement that the package can be opened without the aid of an additional tool such as scissors or a knife.

Prior art

[0004] Block-shaped products, in particular food products being used as snacks, are often wrapped in a sheet of flat, foldable packing material. Usually, this sheet is generally rectangular. Such a sheet comprises an inner surface and an outer surface, whereby the inner surface is the surface directed to the food product to be packed. Subsequently, an adhesive is applied to the inner surface of the sheet-shaped packing material to a frame-shaped portion surrounding the central portion onto which the block-shaped food product is laid. Alternatively, it is possible to provide an inner surface of the packing material which comprises a pressure sealable and re-sealable wax-like coating composition. For example, self-adhesive thermoplastic materials can be used which stick to each other upon application of moderate pressure.

[0005] Subsequently, the sheet material is folded around the block-shaped food product such that the block-shaped food product becomes wrapped and the inner surfaces of two opposite portions of the frame-shaped sealing portion contact. In this condition the seals are formed around the sealing portion. As the sealing portion is frame-shaped and extends from the central body portion of the sheet material onto which the food product is laid to all outer edges of the sheet-shaped packing material, the seals are formed on the very outer edges of the package. Accordingly, it is difficult for a user to open the package without the aid of additional tools such as scissors or knives. Accordingly,

such packages are often provided with incisions or perforations enhancing the convenient opening of the package. Such additional elements are provided at specified locations of the package.

[0006] To overcome this problem, US 3,291,377 discloses a conveniently openable package for enclosing a perishable comestible. In particular, this package comprises a rectangular blank in the form of a generally rectangular sheet of a packing material. This blank includes a central body portion onto which a food product to be packed is laid. Additionally, the blank comprises flaps on opposed longitudinal sides of the central portion. When a block-shaped product is to be packed, the blank is folded around the product such that wings of the blank provided at opposite sides of the product abut one another in face to face relationship. Subsequently, the flaps which are attached to the extremities of the wings are folded inwardly of the wrapper along fold lines and are sealed thereto. The package itself is sealed such that the folded flaps which form tabs remain freely accessible. In particular, the package is closed along the abutting wings and front and end seal areas. Even though this kind of package provides a better access to the food product by simply applying a tensional force manually to the tabs, its manufacture is rather complicated.

Summary of the Invention

[0007] It is an object of the present invention to provide a package which is conveniently openable and easy to manufacture for packing generally block-shaped food products. Further, it is an object of the present invention to provide a method of packing a block-shaped food product.

[0008] These objects are solved by a package having the features according to claim 1 and a method according to claim 10.

[0009] It is to be noted that the expression "top", "bottom", "side", "front" and "rear" and the like, denote the direction of the sheet-like packing material when this is conveyed within a packaging machine. Obviously, these directions are considered presently the most convenient ones for packaging a food product. However, the invention is not limited to these directions. On the contrary, these are intended to simplify the description of the present invention.

[0010] The invention is based on the idea that the opening of a package for a block-shaped food product is simplified by providing flap-shaped tabs along one of the sealings, namely a sealing which runs over the backside of a package. Accordingly, the package can be opened by simply applying a manual force and pulling the tabs or flap-shaped tabs away from each other such that the crease formed by the seal running over the back surface of the package is opened. For forming the seals, any means which is per se well-known in the art, for example applying adhesive or using a thermoplastic ma-

material on the inner surfaces of the sealing portion, may be employed.

[0011] It is further an idea of the present invention to avoid a complicated folding of the flapped portions as required by the package disclosed in US 3,291,377. This can be achieved by providing the sealing portion such that it does not extend to all edges of the sheet-shaped material and, in particular, that at least one flap portion is adjacent the sealing portion towards the outer edge of the rectangular foldable packing material. In particular, this implies that only the sealing portion itself is coated with an adhesive or provided with a corresponding layer providing the adhesion of the referent portion of the packing material to each other. Accordingly, the package can be manufactured as simple as a conventional package providing the sealing portion which extends to the outer edges of the foldable packaging material.

[0012] The sheet material comprises two flap portions opposite each other. This means that one of the flap portions is adjacent one side portion of the sealing portion and the other flap portion is adjacent the other one of the side portions of the sealing portion, such that both flap portions are parallel to each other. This ensures an easy opening of the package as both flap portions can be gripped by a user with his fingers and pulled away from each other.

[0013] One of the flap portion is wider than other one of the flap portions. This ensures an easier gripping of the flap portions by a user who wishes to open the package.

[0014] Preferred embodiments are characterized by the remaining claims.

[0015] According to a preferred embodiment these flap portions are provided along the edges of the sheet-like packaging material which are parallel to the feeding direction in a packing machine. This enhances the workability when packing a block-shaped food product.

[0016] In particular, it has to be noted that by the expression "block-shaped food product" a parallelepiped, a prism or similar shapes are addressed, as long as the food product is provided as one block to be packed.

[0017] Preferably, the seal is formed by adhesive applied to the inner surfaces of the sheet in the sealing portion. By applying adhesive, in particular a peelable adhesive, the sealant can be applied precisely only to those portions of the sheet-like material which are to form the seal.

[0018] Additionally, a pattern may be embossed in these portions to enhance the closing strength of the package. This may be achieved by applying a pressure when producing the seal.

[0019] The package according to the present invention is particularly suited for use to wrap a product having a decorative upper face and a bottom face, in particular confectionary which has at least one decorative surface. In this case, the food product is preferably placed on the sheet material such that upon closing the package the

decorative upper face of the food product is directed towards the seal which is formed by the side portion of the sealing portion and which usually runs in a centre portion of the upper surface of the product. This is advantageous as a user immediately recognises the decorative pattern or the embossed information of the food product when opening the package.

[0020] For example, such a food product is a chocolate bar.

[0021] According to a preferred embodiment the sealed side portions of the sealing portion together with the at least one adjacent flap portion are folded around a fold line formed at the border of the central body portion to one of the side portions. This may be done before or after sealing. This means that the package remains flat and, accordingly, very suited for transportation or storage.

Brief description of the figures

[0022] In the following one preferred embodiment of the invention is described by way a non-limiting example in combination with the enclosed drawings, in which:

Fig. 1 shows schematically a product which is placed on a film wrapper according to one embodiment of the present invention;

Fig. 2 illustrates an opened package in which a front face of a food product is directed towards the consumer; and

Fig. 3 illustrates an opened pack in which a rear face of the food product is directed towards the consumer.

Best way for carrying out the invention

[0023] Fig. 1 shows schematically a generally rectangular sheet of a flat, foldable packing material 10 which is conveyed in the direction of the arrow A in a packaging machine. The sheet of foldable packing material comprises an inner surface (visible surface in Fig. 1) and an outer surface. Further, the sheet comprises a central body portion for enclosing the top, bottom, side, front rear surfaces of a block-shaped food product 12 which is illustrated in Fig. 1 as a chocolate bar. This central body portion is denoted in Fig. 1 with reference number 14.

[0024] Further, a frame-shaped sealing portion 16 surrounds the central body portion. The sealing portion 16 is coated with an adhesive on the inner surface of the sheet material 10 or is formed from a thermoplastic material, for example, so that the seals can be formed under temperatures and pressures which initiate a sticking of the coating to itself.

[0025] Considering the feeding direction of the packing material in a packing machine, the sealing portion

comprises a front portion 17, a rear portion 18 and two side portions 19.

[0026] The front portion 17 and the rear portion 18 of the sealing portion 16 are arranged such that they extend to the edge of the generally rectangular sheet of the flat foldable packing material 10. The side portions 19 are located between the central body portion 14 and two flap portions 20, 21. The flap portions 20, 21 extend the entire length of the side portions of the sealing portion and form the lateral outer end portion of the sheet of packing material.

[0027] As can be seen from Fig. 1, the flap portion 20 is wider than the flap portion 21.

[0028] The foldable material can be formed from any suitable material, which is in particular suited for packing food products. In particular, requirements regarding gas and moisture imperviousness, pleasing appearance, robustness, printability etc., can be taken into account.

[0029] In the following, the method of packing a food product 12 using a package 10 shown in Fig. 1 is described.

[0030] The food product 12, for example a chocolate bar as shown in Fig. 1, is placed on the folding material such that the food product 12 contacts the inner surface of the sheet. As can be seen in Fig. 1, the food product 12 is preferably placed onto the sheet such that its decorative surface, for example a surface comprising embossing, product information or grooves for breaking the food product, is directed upwards. The food product 12 can be placed within the central body portion of the packing material according to the respective requirements. In particular, if it is required that the sealing line formed by the side portions 19 of the sealing portion is located in a central portion of the food product 12, the food product 12 has to be placed centrally and symmetrically within the central body portion and the sealing portion. It has to be noted that this does not necessarily mean that the food product 12 is placed symmetrically within the entire surface of the sheet of packing material. This is due to the effect that the flap portions 20, 21 may have different widths.

[0031] Subsequently, the sheet material is folded around the food product 12 such that the inner surfaces (i.e. the visible surfaces in Fig. 1) of the side portions 19 of the sealing portion 16 contact. This means that the inner surfaces of the flap portion 20, 21 are also directed to each other. Subsequently, a seal is formed, for example by applying pressure, only within the sealing portions such that the side portions 19 contact each other and such that the front portion 17 of the sealing portion 16 is folded back to itself as well as the rear portion 18 of the sealing portion is folded back to itself. Accordingly, the inner surface of the front portion 17 and the inner surface of the rear portion 18 contact themselves.

[0032] Subsequently, the overlapping portions 19 and 20, 21 of the packing material may be folded back onto the central body portion, for example around the border of the central body portion 14 to the right-hand side por-

tion 19 of the sealing portion or around the border of the central portion 14 to the left-hand side side portion 19 of the sealing portion. This means that the outer surfaces of the respective side portion 19 and the adjacent flap portion contact the outer surface of the central body portion.

[0033] Accordingly, a finished package is obtained which is shown in Figs. 2 and 3. It is to be noted that the flap portions 20, 21 are only laid loosely above one another such that the inner surface as well as the outer surface thereof remains accessible.

[0034] Accordingly, a user wishing to open the package may grip one or preferably both of the flap portions 20, 21 and pull them away from each other such that the package is opened as shown in Figs. 2 and 3.

[0035] Depending on the orientation of the food products 12, the decorative surface of the food product 12 of the bottom surface of the food product 12 is directed to the consumer when opening the package as shown in Figs. 2 and 3, wherein in Fig. 2 the decorative surface is directed to the consumer and in Fig. 3 the bottom surface. If the food product 12 is, for example, prism-shaped, it is of course possible that two decorative surfaces are directed upwards.

[0036] If the bottom surface is intended to be directed towards the consumer when opening the package, the food product 12 has to be placed upside down on the packing material with respect to the situation shown in Fig. 1.

[0037] Accordingly, the present invention provides a package for packing generally block-shaped food products which is convenient to open and easy to manufacture. In particular, there are no additional folding steps required.

[0038] The following numbered paragraphs describe further embodiments of the invention.

1. Package for packing generally block-shaped food products (12), the package comprising a generally rectangular sheet of a flat, foldable packing material (10) having an inner and an outer surface, the sheet comprising a central body portion (14) for enclosing the top, bottom, side, front and rear surfaces of the block-shaped food product (12), a frame-shaped sealing portion (16) enclosing the body portion (14) for sealing the package and comprising a front (17), a rear (18) and two side portions (19), and at least one flap portion (20, 21) adjacent at least one of the side portions (19) of the sealing portion (16), wherein the package is folded around the food product (12), such that the body portion (14) encloses the food product (12) with the inner surface of the sheet (10) directed to the food product (12), the inner surface of one of the side portions (19) of sealing portion (16) abuts to the inner surface of the other one of the side portions (19) of the sealing portion (16), and a seal being formed along the front (17), rear (18) and the side portions (19)

of the sealing portion (16), respectively, characterized in that the inner surface of the flap portion (20, 21) and the outer surface of the flap (20, 21) portion are accessible.

2. Package according to claim 1, characterized in that the sheet (10) comprises two flap portions (20, 21), one of the flap portions (20) being adjacent one side portion (19) of the sealing portion and the other flap portion (20) being adjacent the other one of the side portions (19) of the sealing portion (16).

3. Package according to claim 2, characterized in that one of the flap portions (20) is wider than the other one of the flap portions (21).

4. Package according to any one of the preceding claims, characterized in that the seal is formed by means of adhesive applied on the inner surfaces of the sheet (10) in the sealing portion (16).

5. Package according to any one of the preceding claims, characterized in that the seal is formed by means of a patterned peel sealant.

6. Use of a package according to any one of the preceding claims for packing a product (12) having a decorative upper face and a bottom face.

7. Use according to claim 6, characterized in that the decorative upper face of the food product is directed towards the seal being formed by the side portions (19) of the sealing portion (16).

8. Use according to claim 6 or 7, characterized in that the food product (12) is a chocolate bar.

9. Method of packing a block-shaped food product by means of a package according to any one of claims 1 to 5, comprising the steps of:

- (a) placing the food product on the inner surface of the sheet in the central body portion;
- (b) folding the sheet around the food product, such that the food product is enclosed by the sheet and the side portions of the sealing portion abut each other with their inner surfaces; and
- (c) sealing the package along the sealing portions.

10. Method according to claim 9, further comprising the step of folding the abutting side portions of the sealing portion together with the at least one adjacent flap portion around a fold line formed at the border of the central body portion to one of the side portions.

11. Method according to claim 9 or 10, characterized in that the food product is placed on the central body portion such that an upper, decorative surface of the product is upwards and the sheet is folded such that the seal formed by the side portions of the sealing portion is adjacent the decorative surface of the product.

12. Method according to any one of claims 9 to 11, characterized in that the flap portions are parallel to the feeding direction of the sheet in a packaging machine.

15 Claims

1. Package for packing generally block-shaped food products (12), the package comprising a generally rectangular sheet of a flat, foldable packing material (10) having an inner and an outer surface, the sheet comprising a central body portion (14) for enclosing the top, bottom, side, front and rear surfaces of the block-shaped food product (12), a frame-shaped sealing portion (16) enclosing the body portion (14) for sealing the package and comprising a front (17), a rear (18) and two side portions (19), and two flap portions (20, 21), one of the flap portions (20) being adjacent one side portion (19) of the sealing portion and the other flap portion (20) being adjacent the other one of the side portions (19) of the sealing portion (16), wherein the package is folded around the food product (12), such that the body portion (14) encloses the food product (12) with the inner surface of the sheet (10) directed to the food product (12), the inner surface of one of the side portions (19) of sealing portion (16) abuts to the inner surface of the other one of the side portions (19) of the sealing portion (16), and a seal being formed along the front (17), rear (18) and the side portions (19) of the sealing portion (16), respectively, wherein the inner surface of the flap portion (20, 21) and the outer surface of the flap (20, 21) portion are accessible, one of the flap portions (20) is wider than the other one of the flap portions (21), the flap portions (20, 21) are folded such that the wider flap portion (20) is located on top of the narrower flap portion (21) and the seal is formed by means of adhesive applied on the inner surfaces of the sheet (10) in the sealing portion (16),

characterized in that

both grippable flap portions (20, 21) are free of adhesive.

2. Package according to claim 1, **characterized in that** the adhesive applied to the front (17), the rear (18) and the two side portions (19) is peelable.
3. Package according to claim 1 or 2, **characterized**

in that the seal is formed by means of a patterned peel sealant.

4. Package according to any of the preceding claims, **characterized in that** the seal is formed by embossing a pattern in a peel seal. 5
5. Package according to any of the preceding claims, **characterized in that** the flap portions (20, 21) are made of a single layer or an unfolded sheet of the packing material (10). 10
6. Package according to any of the preceding claims, **characterized in that** it contains a generally block-shaped food product. 15
7. Use of a package according to any one of the preceding claims for packing a product (12) having a decorative upper face and a bottom face. 20
8. Use according to claim 7, **characterized in that** the decorative upper face of the food product is directed towards the seal being formed by the side portions (19) of the sealing portion (16). 25
9. Use according to claim 7 or 8, **characterized in that** the food product (12) is a chocolate bar.
10. Method of packing a block-shaped food product by means of a package according to any of claims 1 to 6, comprising the steps of: 30
 - a) placing the food product on the inner surface of the sheet in the central body portion;
 - b) folding the sheet around the food product, such that the food product is enclosed by the sheet and the side portions of the sealing portion abut each other with their inner surfaces;
 - c) sealing the package along the sealing portions; and 40
 - d) folding the flap portions (20, 21) such that the wider flap portion (20) is located on top of the narrower flap portion (21).
11. Method according to claim 10, further comprising the step of folding the abutting side portions of the sealing portion together with the at least one adjacent flap portion around a fold line formed at the border of the central body portion to one of the side portions. 50
12. Method according to claim 10 or 11, **characterized in that** the food product is placed on the central body portion such that an upper, decorative surface of the product is upwards and the sheet is folded such that the seal formed by the side portions of the sealing portion is adjacent the decorative surface of the product. 55

13. Method according to any one of claims 10 to 12, **characterized in that** the flap portions are parallel to the feeding direction of the sheet in a packaging machine.

Fig. 1

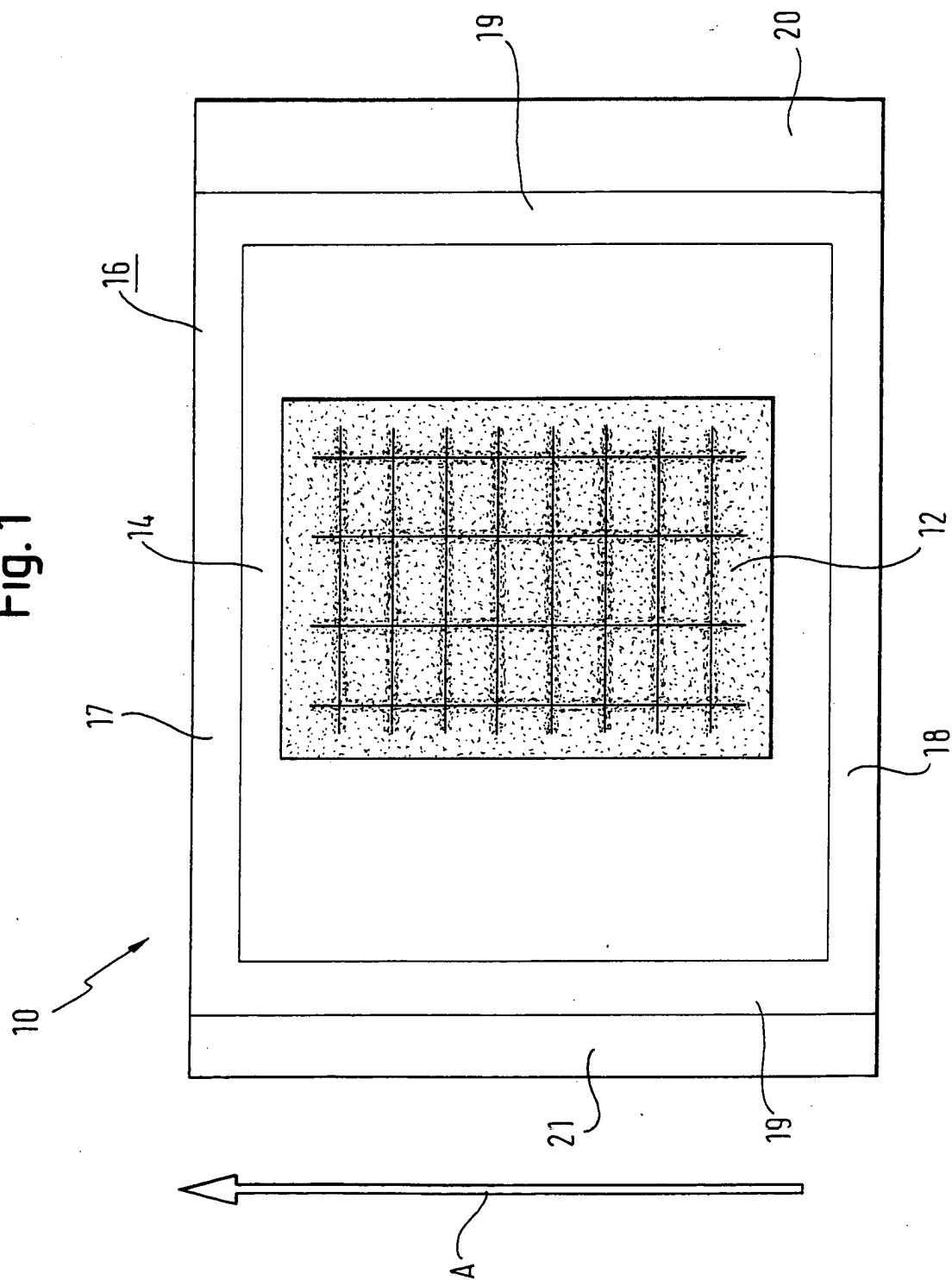


Fig. 2

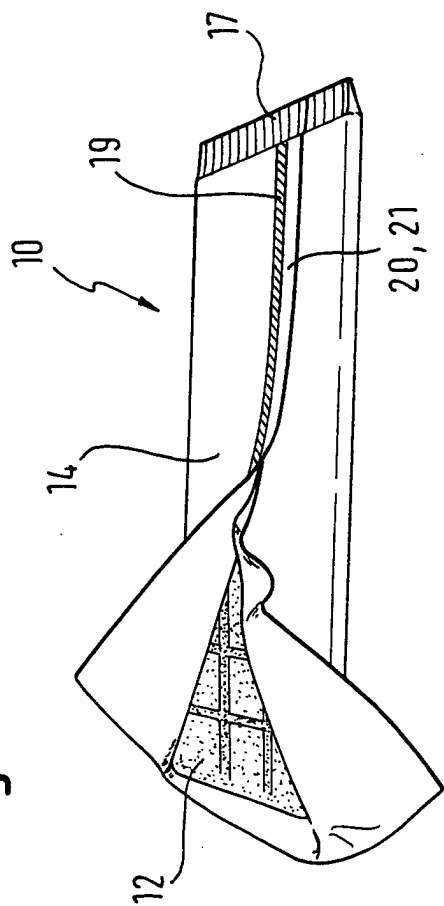
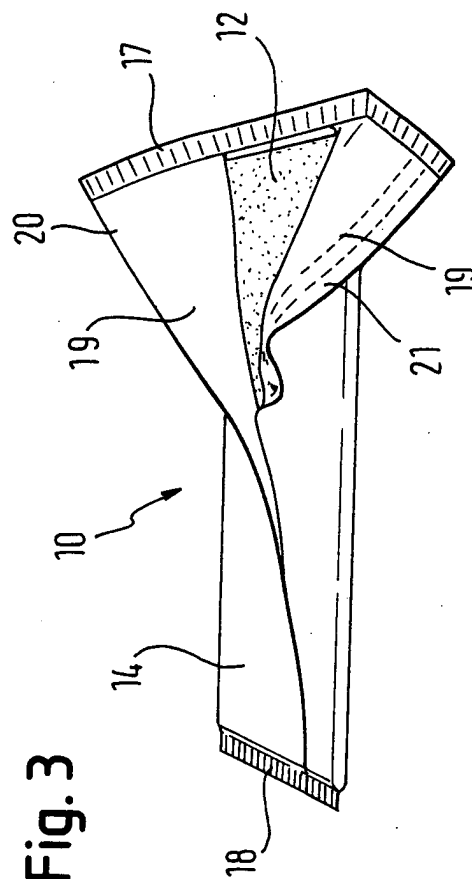


Fig. 3





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 05 01 2864

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.7)
X	US 5 945 145 A (NARSUTIS JO ELLEN NIELSEN ET AL) 31 August 1999 (1999-08-31) * column 7, line 21 - line 61; figures 8-35 *	1-13	B65D75/58
A	US 2 998 880 A (LADD JOHN W B) 5 September 1961 (1961-09-05) * the whole document *	1	
A	US 2 968 396 A (PRATT ROBERT H) 17 January 1961 (1961-01-17) * the whole document *	1	
D,A	US 3 291 377 A (EGGEN REX M) 13 December 1966 (1966-12-13) * figure W *	1	
A	GB 2 337 243 A (DAIRY CREST LIMITED) 17 November 1999 (1999-11-17) * figures *	1	
A	DE 92 16 416 U (ZIMMERMAN) 4 March 1993 (1993-03-04) * the whole document *	1	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
A	CH 407 868 A (NYFFENEGGER OSKAR) 15 February 1966 (1966-02-15) * figures *	1	B65D
A	DE 26 58 631 A (RITTER KG ALFRED) 29 June 1978 (1978-06-29) * figures *	1	
A	DE 19 97 266 U (SAROTTI AKTIENGESELLSCHAFT) 21 November 1968 (1968-11-21) * figures *	1	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 14 October 2005	Examiner Fournier, 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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EPO FORM 1503 03 82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 05 01 2864

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14-10-2005

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5945145	A	31-08-1999	NONE	
US 2998880	A	05-09-1961	NONE	
US 2968396	A	17-01-1961	NONE	
US 3291377	A	13-12-1966	BE 688408 A DE 1536188 A1 GB 1107200 A	31-03-1967 08-01-1970 20-03-1968
GB 2337243	A	17-11-1999	EP 0959022 A1	24-11-1999
DE 9216416	U	04-03-1993	NONE	
CH 407868	A	15-02-1966	NONE	
DE 2658631	A	29-06-1978	NONE	
DE 1997266	U	21-11-1968	NONE	