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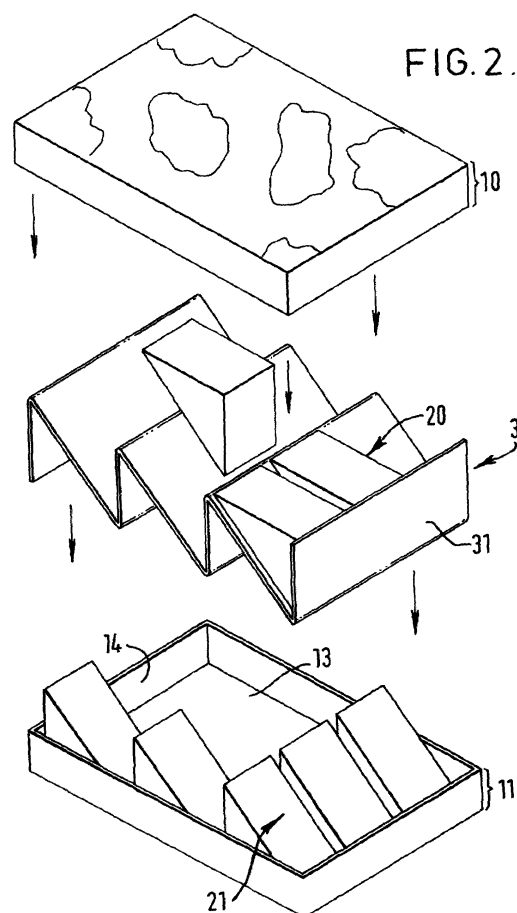
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(54) Display package for food items

(57) The invention relates to a confectionery package for storage and display of confectionery items characterised in that it comprises:

- a box assembly comprising two half-box members (10, 11) arranged together in a substantially opposed arrangement with respect to a median plane (P) when the box assembly is in closed position;
- a first series of confectionery items (20) and a second series of food items (21) housed within the box assembly and capable to substantially complementary fit together in an interlocked manner with respect to said median plane when they are in position of storage within the box assembly;
- at least one partition member (3) arranged within the box assembly so as to separate the first and second series (20, 21) of confectionery items.



Description

[0001] The present invention relates to a package for food products, and is more particularly concerned with a combination comprising a box-type assembly and food items specifically adapted thereto.

[0002] Traditional confectionery boxes such as a carton box for chocolate assortment comprise a bottom portion and a lid for closing the bottom portion in an overlapping arrangement. The confectionery items are generally stored in a series of superposed layers which are accessible after the lid has been opened. Each layer of confectionery items is stored in a vacuum-formed-tray (VFT) and the trays are stacked up within the box. Generally, cushion pads need to be inserted between the trays to secure the confectionery. The layers of confectionery have generally to be consumed one after the other and in the order of presentation of the layers; i.e., the uppermost layer first, then the layer under the uppermost layer after having removed the empty tray.

[0003] The traditional confectionery assortment box suffers from a number of drawbacks.

[0004] The conception of the box would gain in being rationalised as the number of packaging elements including the trays (one for each confectionery layer) and the cushion pads make the box relatively expensive.

[0005] The distribution of the confectionery items within the box is also usually not properly optimised and the space occupation of the confectionery within the box is usually relatively poor, due to relatively large gaps left between the confectionery items and/or between the confectionery items and the box side walls. Although this might be an acceptable marketing practice, this has the consequence that more packaging material is needed which thus increases the packaging costs. Sometimes, the consumer may also feel deceived that the box is not filled according to his expectations. Furthermore, the boxes occupy a relatively large room on the pallets during the transport which consequently make the costs of transport very high relative to the tonnage of product transported which in turn increases environmental impact.

[0006] In general, the confectionery items stored in a traditional box, due to the relatively poor occupation of the items therein, tend to more easily mix up during the transport and/or the manipulation of the box by the user. Mixing up of the confectionery items in a traditional box might be reduced by adding cushion pads but it increases accordingly the cost of the package.

[0007] GB Patent 2199015 B relates to a box for packaging pieces of confectionery which has a transparent protective cover sheet overlying an upper tray and contoured to avoid contact with the chocolates. However, this packaging solution suffers all the problems of the traditional chocolate boxes.

[0008] EP Patent Application 441102 A describes a cardboard retention and display fitment for confectionery boxes which has downturned flaps of punched holes

and fold under support frame to form a placement tray for the confectionery items. Although the confectionery items are secured within the box, the distribution within the box is not optimal and a certain gap must necessarily be left between each punched hole which renders the occupation of the confectionery within the box relatively low.

[0009] Therefore it is an object of the present invention to propose a novel package for food products, preferably confectionery items, which would provide more freedom in the way of organising, displaying and consuming the food products from a box-type container. It is also an object to propose a package more fully occupied with less empty spaces left inside with an optimised confectionery layout within the container. It is also an object to propose a package of relatively smaller size relative to the number and weight of the food items contained therein and compared to traditional food packages. It is also an object of the invention to propose a container for food items that enables the saving of significant room during the transport on the pallets and which also makes the transport environmentally more friendly. It is also an object of the invention to propose a new way of displaying food items from a package which offers alternatives to access the food items.

[0010] For that, the invention relates to a food package for storage and display of food items characterised in that it comprises:

- a box assembly comprising two half-box members arranged together in a substantially opposed arrangement with respect to a median plane when the box assembly is closed;
- a first series of food items and a second series of food items housed within the box assembly and, said first and second series of food items being capable to substantially complementary fit together in an interlocked manner with respect to said median plane when said food items are in position of storage within the box assembly;
- at least one partition member arranged within the box assembly so as to separate the two series of food items.

[0011] An important advantage of the invention is that it allows a double possible entry of the box assembly depending upon which side of the box assembly is directed for presentation to the consumer and opening. By providing a complementary food arrangement, furthermore in a substantially interlocked manner, one contributes to a better room optimisation and layout of the food items. One also promotes the connection of the confectionery items within the box assembly with no risks of displacement of the food items when the box is manipulated.

[0012] It is meant by "interlocked" arrangement, a

confectionery arrangement in which the confectionery items of the first and second series fill and fit together in a substantially complementary manner with regions crossing over the median plane. This interlocked food arrangement provides a better layout of the food items as opposed to the known presentation in which the food items are stacked up in layers within the box such as in the confectionery field.

[0013] In a preferred aspect of the invention, each half-box member comprises a housing with a bearing surface and sidewalls capable of holding the series of food items in place when the container is closed. Therefore, while the package allows a double entry, the food items remains securely at rest within the box assembly which reduces the risks of mixing up during the transport and the manipulation of the container, in particular, when the consumer desires to rotate the box for a side of access.

[0014] Preferably, the sidewalls of the half-box members extend substantially half the height of the food items when the food items rest onto said bearing surface. As to the implication of the presence of sidewalls of sufficient height, all the food items, including those placed on the upper series, can be laterally held in place to prevent accidental displacement of the food items over the box assembly.

[0015] In a preferred embodiment, it is desirable that the partition member is sufficiently supporting to hold the food items of the first series in place when food items of the second series are missing and vice versa. The partition member may be formed of a substantially rigid or semi-rigid plastic or paperboard or cardboard material.

[0016] In a preferred aspect of the invention, the partition member has substantially rigid free lateral ends forming upturned and/or downturned bent flaps, depending upon the spatial position of the box, onto which portions of the sidewalls of the half-box members are capable of slidably engaging so as to enable the half-box members to assemble together to form a butt-jointed connection. Therefore, the partition member also participates in the closure of the container in a manner that enables making the half-box members identical which, in turn, positively contributes to inform the consumer that the container can be opened by either side. Identical half-box members also contribute to the rationalisation of the package and to cost savings.

[0017] The number of food items in a series is not limited and depends upon the desired size and shape of the box assembly. A very convenient arrangement consists of a series of food items arranged in a number of parallel rows within the box assembly on each side of the partition means. As a "row", it is meant an array of aligned adjacent or substantially adjacent discrete pieces of food items. The rows are organised in opposite arrangement on each side of the partition member with slanted portions of the partition member separating them two-by-two. The number of rows in the first series of food items is preferably the same as the number of

rows in the second series as placed on the other side of the partition means. However, the number of rows might also be different. The partition member has preferably an indented transversal shape in cross section adapted to receive on each side a number of rows of food items.

[0018] In a preferred aspect of the invention, the food items have a triangular cross-section. The triangular cross section is particularly suitable to achieve the purposes of the invention. In particular, the choice of a triangular cross section enables the assembly of the series of food products in close "head to tail" or interlocked relationship with substantially no space left therebetween and with no part of the partition member apparent to the consumer when he opens the box assembly. Consequently, the consumer has the visual impression that the box has no free spaces and that the confectionery items fully occupy the room available within the box. The triangular shape also more surely secures the food items together to form a sort of food interlocked compact block. The triangular shape also enables all the food items to be packed to the same height in both sides of the box. This means that the food items, even those positioned in the upper half, are laterally held in the housing of the lower half-box member which is serving as bottom of the box assembly when the other half half-box member is being opened.

[0019] In an even more preferred aspect the food items comprise a right-angled triangular cross-section. This specific confectionery geometry appears to be the best mode of the invention as it optimises at best the storage room available within the box assembly. In particular, the right angles of the food items are appropriate to occupy the right-angled side edges of the half-box members in more fully complementary manner. However, the invention is not limited to that particular shape and other ones are possible.

[0020] Specific embodiments of the present invention will now be described with reference to the drawings of which:

Fig. 1 is a perspective view of the package in a closed arrangement;

Fig. 2 is a perspective exploded view of the package of the invention;

Fig. 3 is a perspective view of the package of the invention showing the full content of it after one of the half-box member, serving as lid, has been removed;

Fig. 4 is a side view of Fig. 1;

Fig. 5 is a side view of Fig. 3;

Fig. 6 is a cross section view along A-A of Fig. 3;

Fig. 7 shows a top view of Fig. 6;

Fig. 8 shows an individual confectionery item which fits within the package of Fig. 1-7;

Fig. 9 shows a variant of the invention in a view similar to Fig. 6;

Fig. 10 shows a front view of a confectionery item according to a variant of the invention;

Fig. 11 is a side view of the confectionery item of fig. 10.

[0021] In the drawings, the food package of the invention is referenced by general reference numeral 1. As apparent from Fig. 1, the food package comprises a box-type assembly with two half-box elements 10, 11 which are arranged together in an opposite closing arrangement with respect to a horizontal plane of symmetry P. The two half-box elements preferably form open tray-shaped members made of plastic or cardboard material. In closed configuration, the box-type assembly has preferably the general shape of a rectangular parallelepiped. The plane surfaces of the box assembly can be decorated of various patterns or graphics which can be different on each side of the box. The plane surfaces of the box assembly are meant to designate the two surfaces 100, 110 of the half-box elements which stand parallel to the median plane P when the package is in a closed configuration (Fig. 4).

[0022] According to one important feature of the invention, due to its specific construction, the opening of the box can be made by either side of the two half-box members. In Fig. 1 to 3, the bottom portion of the box assembly is constituted by the half-box member designated by reference numeral 11, whilst the top portion or lid is constituted by the other half-box member referenced 10. However, according to a characteristic of the invention, the box assembly, when in a closed configuration, may be turned upside down to display the half-box member 11 for the lid and the half-box member 10 for the bottom of the box assembly so as to allow the opening of the box assembly by removing the half-box member 11.

[0023] A main characteristic of the invention is also the presence of confectionery items 2 arranged in an interlocked manner with respect to the median plane of symmetry P. More specifically, an indented partition member 3 is disposed between two series of confectionery items 20, 21 so as to substantially vertically separate them within the box assembly. The confectionery items are shaped in a substantially complementary manner in order to allow the confectionery items of the upper series to enter into the free spaces provided between the confectionery items of the lower series and vice versa. As a result of this interlocking arrangement, the confectionery items are very surely secured with less or even no free space within the box assembly.

[0024] Preferably, the confectionery items are chosen

to have triangular cross-sections. Fig. 5 and 6 show more clearly the modularity of the triangular shaped confectionery items of the two series fitting together. The upper series of confectionery items comprises a plurality of rows 20a, 20b, 20c aligned in a first direction of the box assembly parallel to the median plane P, which complementary fit with a plurality of complementary rows 21a, 21b, 21c of the lower series of confectionery items so as to form two-by-two a plurality of rectangular food subassemblies within the box which occupies substantially the all volume of the box. The two series of confectionery items are further separated by the partition member 3 which has an indented cross-section forming a succession of pairs of V shaped portions comprising slanted portions 32 adjacent to upwardly oriented or transversal portions 33. This succession of V shaped portions forms recesses adapted in size and dimensions to receive, on each side of the partition member, the confectionery items in the opposite arrangement of rows. In particular, the slanted portion 32 of the partition member will have a length substantially equal to the hypotenuse surfaces 210 of the confectionery items.

[0025] In the description, the "cross section" of the confectionery items is meant to refer to the shape of the confectionery items which extends in a plane transverse to the median plane and orthogonal to the direction of the rows as shown in Fig. 6.

[0026] As also more apparent in Fig. 6, each half-box member 10, 11 comprises a housing with a relatively flat bearing surface 13 onto which the lower series 21 of confectionery items is capable to rest when the box assembly is oriented so that the lower half-box member 11 constitutes the bottom part of the box assembly. It is understood, of course, that the upper half-box member 10 could also take the position of the bottom of the box assembly with the series 20 of items resting onto its internal surface should the box assembly be turned by 180 degrees. Each half-box member further includes sidewalls 14 extending upwardly from the bottom surface 13 so as to provide lateral support to the confectionery items. More preferably, the height of the sidewalls extends along substantially half the height H_0 of the confectionery items so as to laterally hold both the lower and the upper series of confectionery when the upper half-box member 10 is removed and consequently to avoid any accidental fall of the upper confectionery items out of the package. In a closed configuration of the box, the sidewalls of the two half-box members come together in abutting engagement so that the bearing surfaces are spaced apart a distance predetermined which is substantially equal to, or slightly larger than the confectionery height, which so prevents any possible or a very limited movement of the confectionery items within the box assembly during the 180-degree rotation. A cushion pad could also be inserted, if necessary, between the confectionery items and each bearing surface. In that event, it is obvious that the distance between the bearing surfaces will be determined to take

into account the thickness of the cushion pads.

[0027] The confectionery items are further secured within the box assembly due to their specific triangular cross-sections which are complementary in dimensions and shapes to the housing of the half-box members. For that, it is preferred to have a right angled cross section, so that the right angle of the triangle section will fit more closely to the bottom internal edges 34 of the housing of each half-box with a minimum of lost room. The number and dimensions of confectionery items can be, of course, determined so as to optimally fit the entire available room of the housing of the box assembly.

[0028] The partition member may advantageously comprise substantially vertically oriented lateral free ends forming bent flaps 30, 31 extending along the direction of the confectionery rows. These flaps are of a determined thickness to be inserted at the interface between the confectionery side lateral surfaces and the sidewalls of the half-box members, thus forming a sliding arrangement with the half-box members. The half-box members are thus assembled by friction along the flaps. All the friction parameters will be adjusted to favour opening of the half-box members by pulling the upper one while securely handling the lower half-box member. Consequently, there is no need to foresee an overlapping of the two half-box members as they are simply slidably connected to the free ends of the partition member. The box structure is therefore much simplified and the symmetry resulting from it participates to inform more clearly the consumer on the possibility to access by either side of the container.

[0029] In a preferred aspect of the invention, the partition member 3 has a substantially serrated or indented structure which constitutes a substantially rigid support for the confectionery items. In particular, the partition member must be sufficiently supporting to hold the confectionery items of one row when the confectionery items of the opposite row have been partially or totally removed from the package. Preferably, the partition member is made of one piece such as in foodgrade plastic or cardboard material. It may be formed from a plate member that is subsequently bent so as to form the desired indentation or it may be thermoformed at its final shape. The partition member may be of either an opaque material or a transparent material. The thickness of the partition member is preferably kept minimal so as to favour the shape modularity of the confectionery and to avoid the excess of non-consumable material within the package.

[0030] In an alternative, the partition means could also be of separate pieces forming individual "N"-shaped portions adapted to receive a pair of opposite confectionery row (Not shown).

[0031] Fig. 7 shows the distribution of the confectionery items along the plane of the box assembly. Each confectionery item may have a substantially rectangular planar base surface 22 intended to rest on the internal surface of its respective half-box member. Small pins 33

may be provided protruding from the partition member between each individual confectionery items in the rows in order to slightly separate them and to prevent them from sticking and/or to make them easier to remove from the box assembly. These small pins may be formed by various suitable means such as thermoformed integral parts of the partition member 3.

[0032] Naturally, the manufacturing details and embodiments may be varied widely from those described and illustrated without departing from the scope and principle of the present invention. This applies to various aspects of the arrangement such as one example illustrated in Fig. 9. In this variant, the shape of the confectionery items has been changed to present a substantially trapezoidal cross section instead of the rectangular cross section of the previous embodiment. Although the main advantages of the invention are maintained, the space distribution is less optimised as free spaces 40, 41 are naturally left on each lateral end of the box assembly. Therefore, the lateral flaps 30, 31 of the partition member may advantageously be bent to form an up-turned and/or downturned V-shape so as to compensate the free spaces 40, 41 between the confectionery and the sidewalls 14 and thus retain the confectionery items correctly within the packaging with reduced risks of movement, even if the upper box member 10 forming the lid is not at rest on the lower box member 11. The lateral ends 30, 31 projects outwardly from the lowermost half-box member so as to allow the upper half-box member 11 to rest on the upper portions of the free ends 30, 31.

[0033] Fig. 10 and 11 illustrate a possible variant of shape for the confectionery items in which the base portion of the triangular section can be made slightly rounded while the other surfaces remain substantially planar so as to fit with the cavities of the indented partition member.

[0034] It will be readily understood from the above that the rectangular arrangement of the packaging illustrated by way of preferred examples in the appended drawings could be replaced by other box shapes such as polygonal, circular or oval shapes.

[0035] The invention is not necessarily limited to the box assembly as openable in the way described before. In particular, it may be envisioned to have the two half-box members be connected together by means of a hinge or hinge-like connection located at or on the vicinity of their edges so as to permit to open the box assembly while not entirely separating the two half-box members.

[0036] Finally, the package of the invention aims to provide a confectionery box which can be used on both sides to locate the confectionery, which participates to the packaging reduction in weight and size and to a compact and minimalist structure with no or reduced empty spaces. The invention also has the advantages of an attractive visual impression created and of the unique uniformity of the confectionery items within the box.

[0037] Suitable confectionery items may be selected from among chocolate, chocolate-like products, sugar-based confectionery, ice-cream products, dough-based products and combination thereof.

[0038] The box assembly may be made of varied materials such as cardboard, plastic, metal such as aluminium or a combination thereof.

[0039] One may take advantage of the double opening feature of the invention for organising differently the confectionery assortment within the box compared to the traditional box assortment. For example, it is rendered possible to have the confectionery items of the first series of a different nature and/or colour from the nature and/or colour of the confectionery items of the second series. As an example, the first series may be of white chocolate whereas the second series may be of dark chocolate. In another example, the first series may be of low fat chocolate whereas the second series may be of full cream chocolate, etc. Other varied dualities themes can be found related to the products such as hot/cold sensation when eating, male/female oriented recipes, etc.

[0040] Although the present invention has been described with reference to the confectionery field, those skilled in the art will recognise that applications are possible in other food areas such as in the culinary field without departing from the spirit of the invention and the scope of the appended claims.

Claims

1. A food package for storage and display of food items **characterised in that** it comprises:
 - a box assembly comprising two half-box members (10, 11) arranged together in a substantially opposed arrangement with respect to a median plan (P) when the box assembly is closed;
 - a first series of food items (20) and a second series of food items (21) housed within the box assembly and said first and second series being capable to substantially complementary fit together in an interlocked manner with respect to said median plane when said food items are in position of storage within the box assembly;
 - at least one partition member (3) arranged within the box assembly so as to separate the first and second series (20, 21) of food items.
2. A food package according to claim 1, **characterised in that** each half-box member (10, 11) comprises a housing with a bearing surface (13) and sidewalls (14) adapted to hold the first and second series of food items in place when the container is closed.
3. A food package according to claim 2, **characterised in that** both half-box members (10, 11) are identical.
4. A food package according to claim 2 or 3, **characterised in that** the sidewalls (14) extends in a direction substantially perpendicular to the bearing surface (13) and along substantially half the height (H₀) of the food items.
5. A food package according to any of the preceding claims, **characterised in that** the partition member (3) has an indented shape.
6. A food package according to any of the preceding claims, **characterised in that** the partition member (3) is supporting enough to hold the food items of the first series in place when food items of the second series are missing and vice versa.
7. A food package according to any of the preceding claims, **characterised in that** the partition member has substantially rigid free ends forming bent flaps (30, 31) which are arranged in a sliding relationship with at least portions of the sidewalls (14) of the half-box members (10, 11) so as to permit the half-box members to substantially assemble in a butt-jointed connection.
8. A food package according to any of the preceding claims, **characterised in that** the series of food items (20, 21) are arranged in a plurality of parallel rows (20a, 20b, 20c, 21a, 21b, 21c) within the box assembly.
9. A food package according to claim 8, **characterised in that** the number of rows of the two series are identical.
10. A food package according to any of the preceding claims, **characterised in that** the food items have the cross-section of triangles or trapeze.
11. A food package according to claim 10, **characterised in that** the food items have cross-section of right-angled triangles.
12. A food package according to any of the preceding claims, **characterised in that** the food items are confectionery items, preferably chocolate or chocolate-like items.
13. A food package according to any of the preceding claims, **characterised in that** the food items of each series are of identical colour and/or nature in the series but the food items of one series are dif-

ferent in colour and/or nature from the food items of the opposite series.

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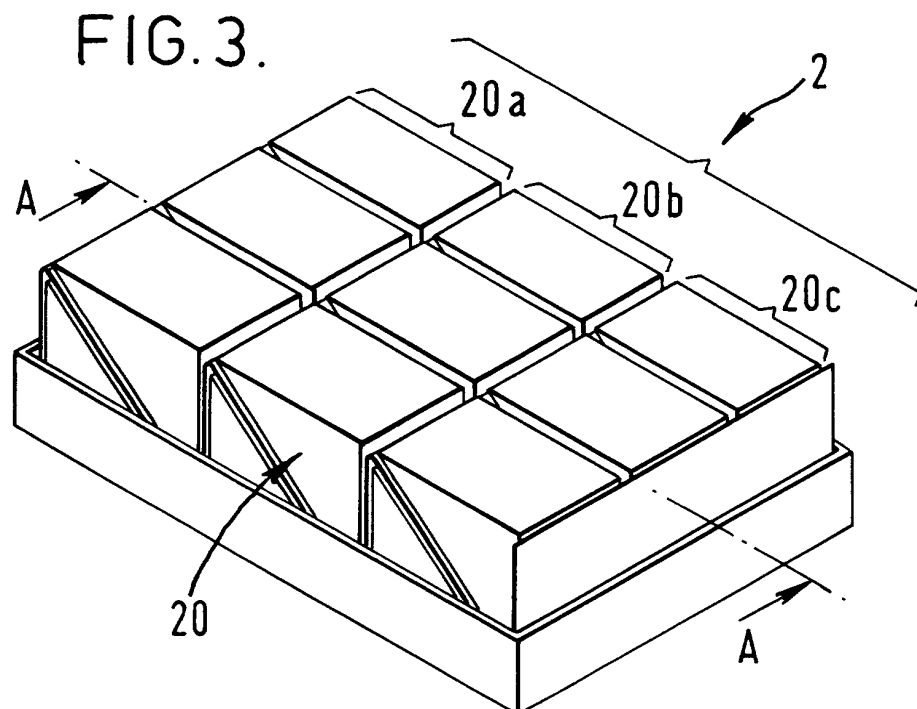
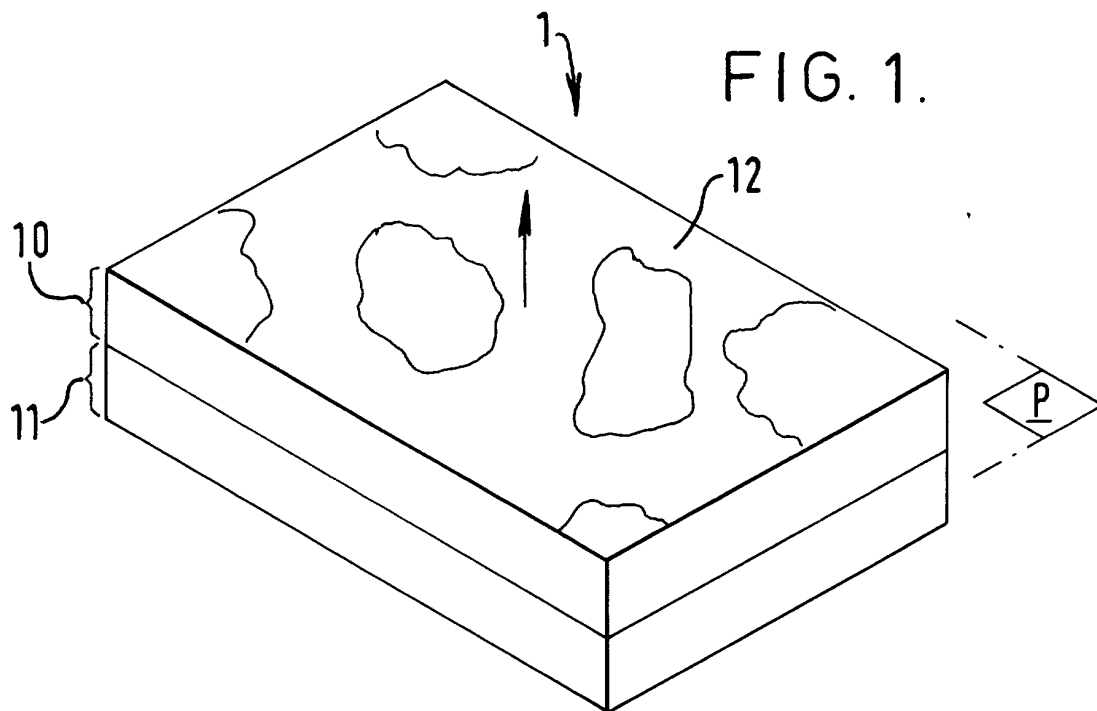


FIG. 2.

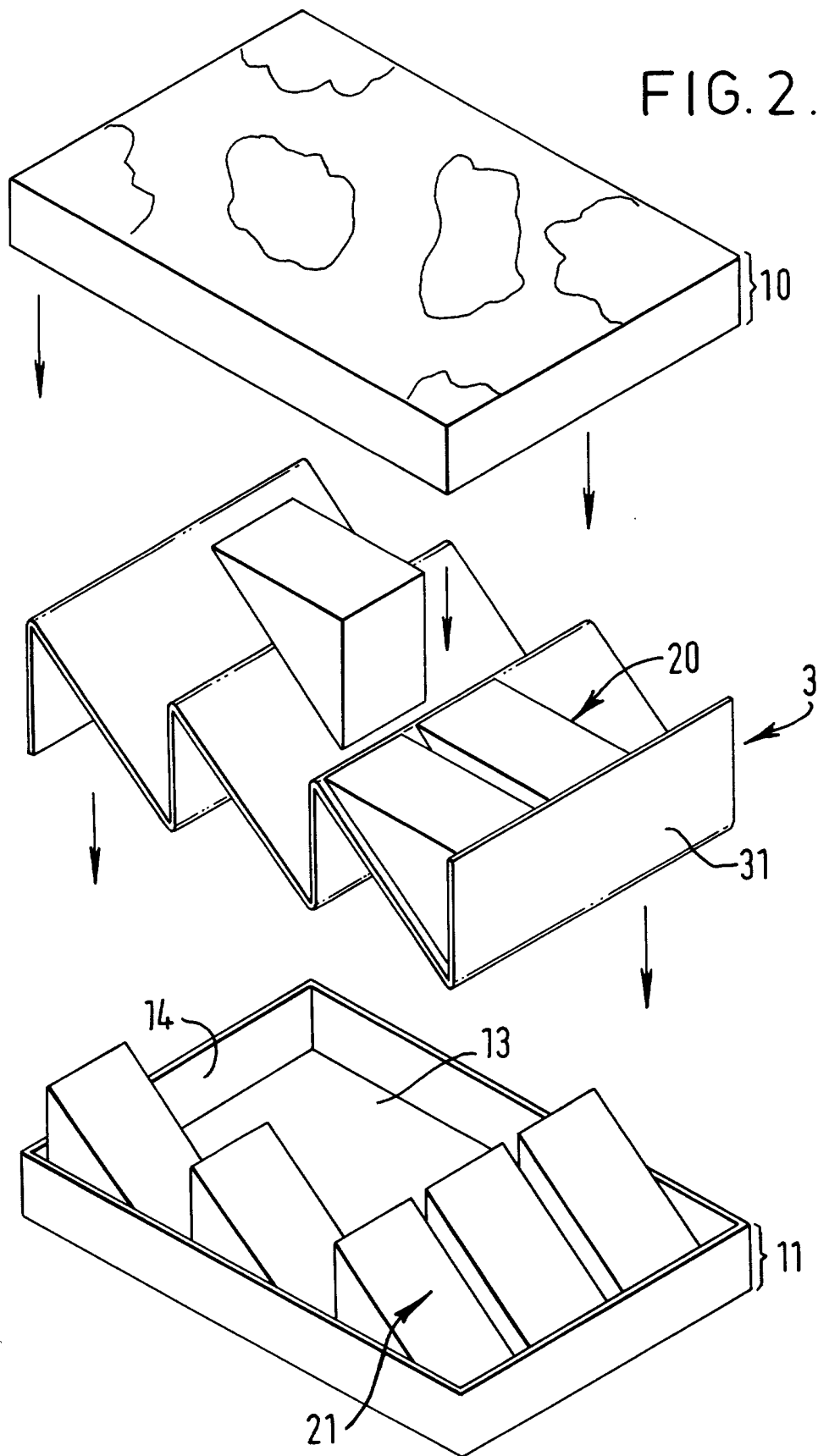


FIG. 4.

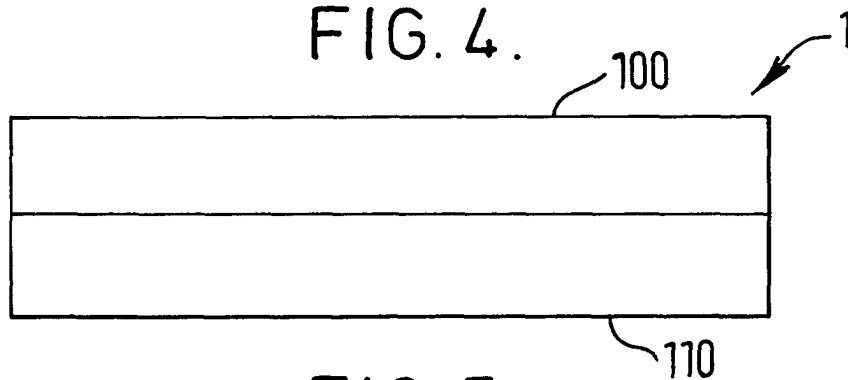


FIG. 5.

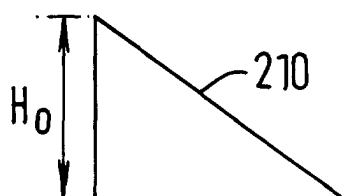
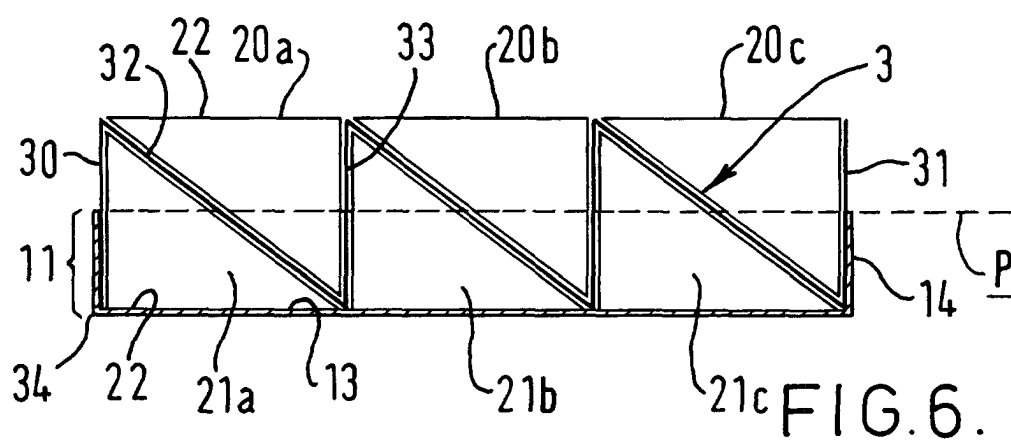
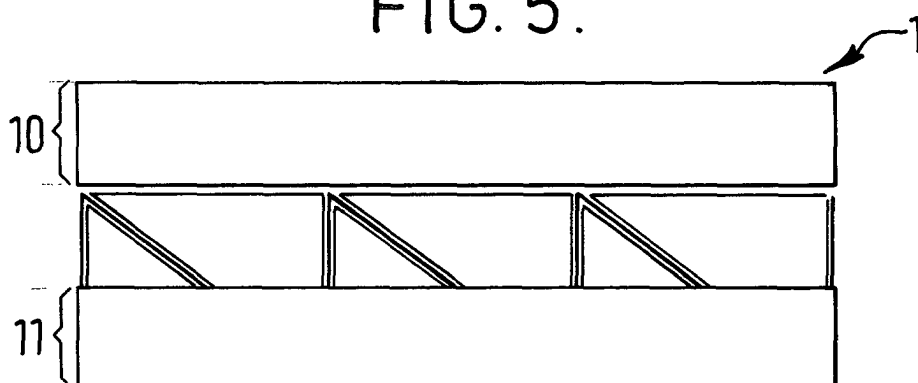


FIG. 8.

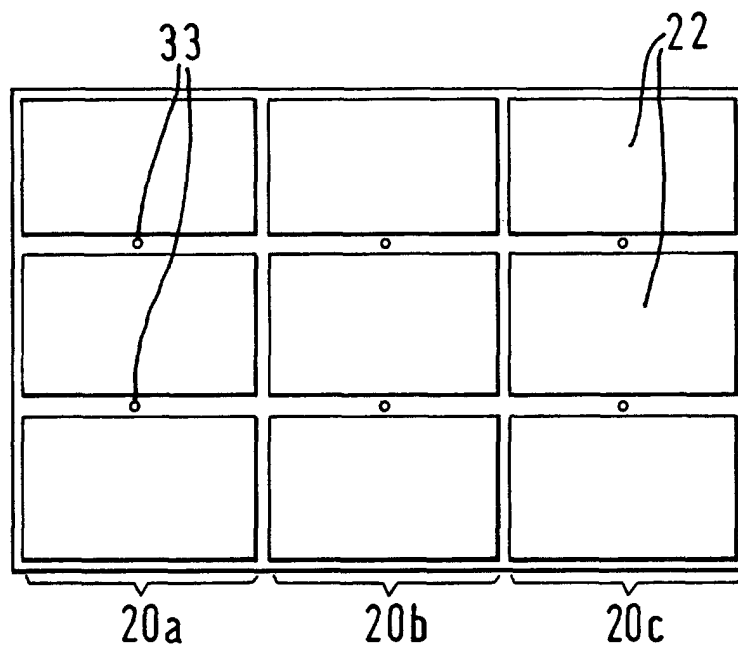


FIG. 7.

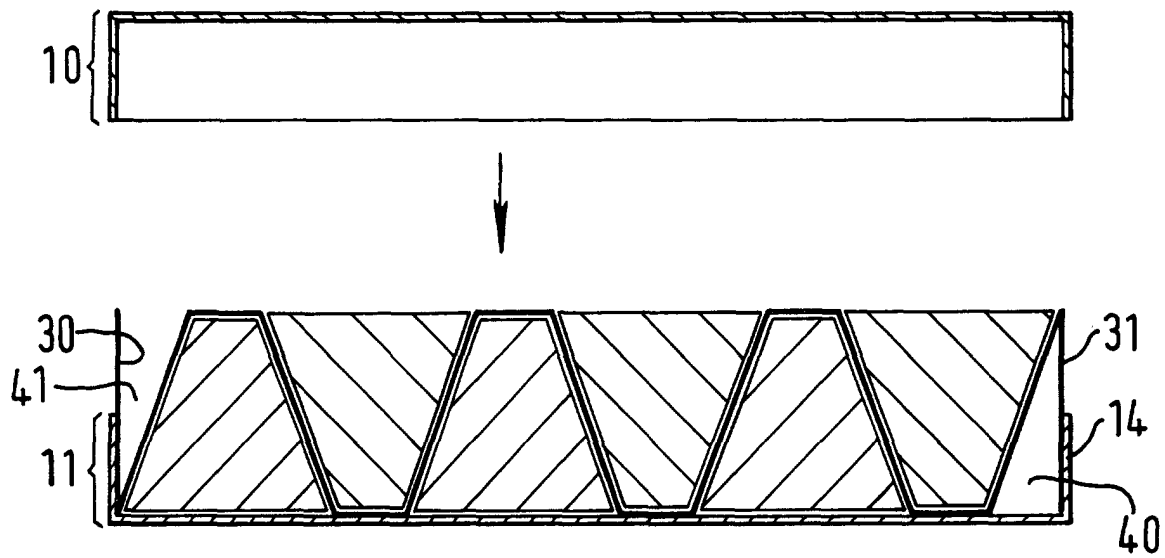


FIG. 9.

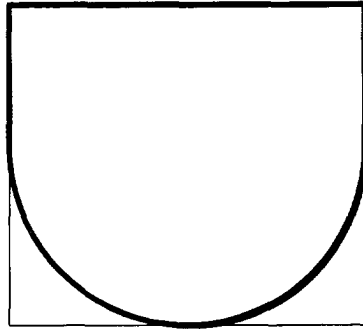


FIG. 10.

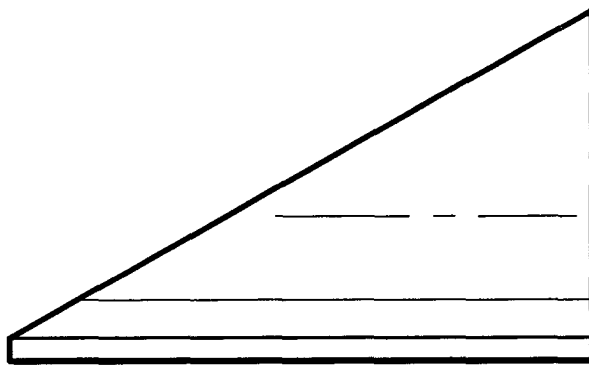


FIG. 11.



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 00 20 1019

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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 22 August 2000	Examiner Pernice, C
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			

EPO FORM 1503 03/02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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