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(54) CONTAINER FOR HORTOFRUTICOL AND SIMILAR PRODUCTS BEARING A PRESERVATION AGENT

(57) Container for food products such as hortofruticol and similar products, bearing a preservation agent capable of generating effluviums intended to extend the period of time during which such a product is in appropriate consumption conditions, without any deterioration or degradation. The preservation agent is incorporated in the body of the food product container and is configured as a mass adhered to one or a plurality of walls of the container or it can be impregnated in said walls in order to provide for the direct penetration of the effluviums of said preservation agent inside the container. Said container may have various shapes and configurations such as plastic or carboard boxes, nets or bags for wrapping such food products.

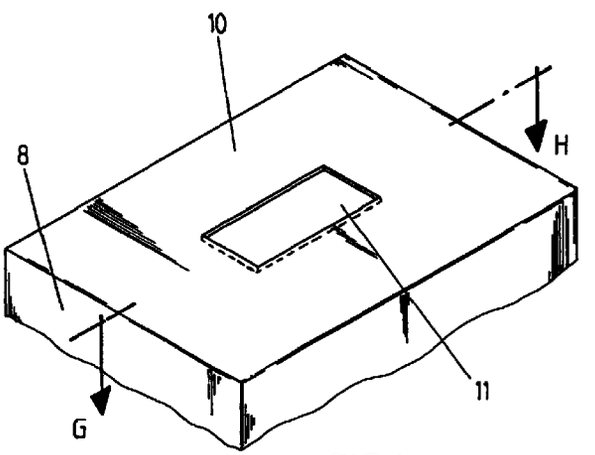

FIG.4

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Description

OBJECT OF THE INVENTION

[0001] The present invention refers to a container for horticultural and similar products bearing a preservation agent, with the purpose of extending the period in which a horticultural or similar product can be kept in proper conditions without any damage or degradation.

BACKGROUND OF THE INVENTION

[0002] Some frangible products, such as horticultural products, start suffering a degradation process, when cutt off from corresponding plant, due to different types of pest, typically of bacterian type, causing a progessive degradation of the product so as to make same inadequate for human consumption.

[0003] At present and in order to prevent as much as possible this degradation process extending the product caducity date, a cooling, and some times a frrezing, process is applied as it is well known that the lower the temperature there will be more difficult conditions for germs and pest to grow causing the degradation of said products. However, that is an expensive solution as there will be refrigeration chambers required for the storage, transportaion and distribution of said products.

[0004] In the state of the art different preservation agents are known, with different formulations, adequate to generate an atmosphere which helps to extend the useful life, i.e. the caducity period, of horticultural and food products.

DESCRIPTION OF THE INVENTION

[0005] The container covered by the present invention has been specifically developed for the application of said preservation agents. Thus, the work done with respect to the preservation of the frangible product inside said container will only be the wrapping and packaging process of said products in the container.

[0006] The present invention provides several options with respect to the preservation agent shape and its arrangement with respect to the container frame, said frame having possibly different shapes. In that respect, the preservation agent can be made as a body or as a substance spreaded partially or totally over the container frame.

[0007] A first embodiment for the arrangement of said preservation agent is by means of a label or a self sticking patch, with its front side comprising manufacturers data, trademark, barcode, etc., and its back side containing a coat of the preservation agent initially protected, together with the adhesive coat, by a film of waxed paper, silicon or similar material, removable when appliying the label on the product and, in particular, to the product container. Thus, the preservation agent can be fastened to any conventional container like a box, bag or similar.

[0008] Furthermore, the container can have, in a given point of a wall, a hole or recess to house said preservation agent mass, which will fastened to the walls of said hole or embedded in the same. It is obvious that tha container bottom must have a grid type structure, for example, a grid so that the gases exhalated by the preservation agent flow through into the container so as to impregnate the surface of the food products housed in said container.

[0009] As a complement, the own container interior walls will be integrally coated with a meshed film, treated and impregnates with a preservation agent, like that mentioned above, so that, when required, the preservation effect of the container walls adds to the label preservation effect.

[0010] Optionally, the label or patch may include a material to absorbe the vapor condensation produced inside the container with the label, specially in the case of a water tight container. In a similar manner, the label can be associated with a small opening for the removal of the air from inside the container, producing a vacuum in said container, like, for example, a small piece of an adequate elastomeric material.

[0011] Also, a wrapping film for horticultural and similar products, according to the invention can incorporate a preservation agent to protect the products covered by said film.

[0012] In particular, said wrapping film made of a conventional transparent plastic film, for use in the food industry, can incorporate a series of stripes configuring a meshed structure treated or impregnated with said food preservation agent.

[0013] Thus, the protection effect of the specific preservation agent is added to the physical protection provided by said plastic film.

[0014] Advantageously, said film can include a second protection plastic film, for food use, to cover the said meshed structure, in the opposite side of the first plastic film, so that said meshed grid in housed between both plastic films. The second plstic film will be in contact with the food products, preventing a direct contact of preservation agent with the food products.

[0015] In this case, however, the second plastic film will have a proper thickness and will, preferably, be of bubble type film of the wrapping type, having the feature of being provided with a series of interior micro holes to allow that the gases expelled by the presrvation agent come in contact with the food products inside the container.

[0016] According to another embodiment of the present invention, the container can be a bag made of plastic mesh, textiles, synthetic or natural fibers, susch as, for example, a tubular configuration bag with ends sealed by welding or stitching, having the feature that the bag material has been treated with on of said preservation agents, so that the gases expelled by said preservation agent get in contact with, and adheres to,

the food surface, for protection agaisnt all above mentioned degrading agents.

DESCRIPTION OF THE DRAWINGS

[0017] In order to complete the description of the present invention and for a better understanding of the invention features, in accordance with the practical preferred embodiments of present invention, a set of drawings is incorporated to said description, which describe, in an illustrative manner, with no limiting purposes, the following:

Figure 1 shows a front view of label acting as a support for a preservation agent, applicable to horticultural or similar products, accordin to an embodiment, and in accordance with the object of the present invention.

Figure 2 shows a back side view of said support label, with the protecting film partially removed so as to allow for the fastening of said label to a food container.

Figure 3 shows in detail a cross section of said support label, as per A - B line of figure 1.

Figure 4 shows a perspective partial view of a container for horticultural and similar products having the shape of a box.

Figure 5 shows a section detail of the container of figure 4, in accordance with the line A - B in said figure and after the label supporting the preservation agent has been fastened.

Figure 6 shows a perspective of a schematic illustration of a horticultural product wrapping film, partially unwound from a storage reel.

Figure 7 shows a detail section, widely enlarged, of the film shown in figure 6.

Figure 8 shows a perspective schematic illustration of a horticultural wrappin film provided with an additional coat of bubble plastic film, partially extended from a storage reel.

Figure 9 shows a widely enlarged detail of a section of the film of figure 8.

Figure 10 shows an enlarged detail of the bubble plastic film of figure 9, in a plan view, showing the midro holes made in said plastic film.

Figure 11 shows a schematic illustration, in side view, of a tubular bag for horticultural and similar products in accordance with the object of the present invention.

Figure 12 shows an enlarged detail, in section, of the mesh conforming the bag of figure 11.

PREFERRED EMBODIMENTS OF THE INVENTION

[0018] When observing figures 1, 2 and 3, the support for a preservation agent, prepared for further fastening to a food container, is structured from a laminated body (1) configuring a label, with a similar aspect to any conventional label, so that said label will comprise the manufacturer's data (2), the trademark (3), the barcode (4) and any other information, whereas on its back side, and as shown in figure 2, said laminated body (1) is provided with a perimetric adhesive stripe (5) of adequate features to be fastened to the particular food container, not shown, said adhesive stripe (5) framing a a central area occupied by the preservation agent (6), with the whole back side covered by a paraffin, silicone or similar paper film (7), to be removably fastened to the mass of the product (6) before the label is applied onto the food container.

[0019] In accordance with this structure, said label can be fastened to any container allowing for the access of the preservation agent to the inside, such as for example a plastic or cardboard box, or a mesh bag, but said label will be specifically fastened to a closed wall container, whic has a wall opening of adequate dimension to house the product (2), so that said product may have access to inside the container through said opening, wheras the label gets correctly fastened to the perimeter area which is coated with a adhesive coat (5).

[0020] In this manner, the gases expelled by the preservation agent (6) spread inside the container with the horticultural product, to act against germs and pest responsible for the degration of the food product, and, as a consequence, it extends the period in which said food product keeps the adequate conditions for human consumption.

[0021] Optionally, the label can include, in parallel to the preserved product, a moisture absorbing agent to eliminate the condensation vapor produced inside the container to which the label is attached, specially in he case of a water tight container. In a similar manner, said label can be associated with a small openingfor the removal of the air from inside the container, and obtain a vacuum, such as, for example, a small block of an elastomeric material.

[0022] Figure 4 represents, in inverted position, a container with a prismatic rectangular body (8), such as a conventional wooden, cardboard or plastic box for food use, of variable dimensions, while said container is shown in figure 5 in normal position and covered with a lid (9) closing its upper end.

[0023] Therefore, in accordance with an embodiment of the present invention, sai container (8) is based in the characteristic of, for example, having on its bottom (10)

an opening with an adequate configuration, in this case being of rectangular shape, for this is the configuration matching the preservation agent block (6) which will be introduced through said opening (11), properly attached to a self sticking label (1), which through its perimeter area is fastened to the perimeter of said opening (11), as it can be seen in particular in figure 5.

[0024] Depending on the container wall (10) thickness, said opening (11) could just be a recess of adequate dimensions to house the block (6) of the preservation agent, but in this case, in consequence the recess bottom (11) must have a meshed structure in order to allow the gases expelled by said preservation agent (6) flow inside the container (8) and get in contact with the food products within said container.

[0025] However, there can be several openings in the container, following a proper distribution and arranged to receive several labels (1).

[0026] As a complement, and as an optional feature, the container body (10) as well as the lid (9) could be a film provided on its inside surface with a meshed structure impegnated with a preservation agent, and eventually also provided with a moisture absorbing agent to improve the efficiency of said patches.

[0027] When a vacuum in the container is required, body (10) and lid (11) will be sealed by means of a perimeter sealing tape or other conventional means, to seal said coupling.

[0028] In all cases, the gases expelled by the preservation and moisture absorbing agent (6) will spread inside the container, covering the whole surface of the horticultural products and stopping the action of germs and pest affecting to the food condition, and, in consequence, extending the caducity period of the food product.

[0029] An alternative embodiment of the invention is shown in figures 6 and 7, whrein a film structured from a food wrapping plastic film (12) transparent and extensible, with a variable width depending on requirements for each case and with an indefinite length, preferably wound on a conventional reel (13), but having the feature that this plastic film is provided, on one of its surfaces, to be arranged as its interior face when applied to the food product, with a mesh or grid (14) treated or impregnated with a preservation agent (15), adequate to the type of product to be protected, so that this mesh or grid coating (14) slowly produces and along a considerable time period, gases which affect to the food product wrapped with said film, acting on germs and pest that determine the product degradation and, in consequence, extend considerably the consumption period of said product.

[0030] Advantgeously, the said film can comprise a second protective plastic coat (16) intended for food use, such as it is shown in figures 6, 9 and 10, cobering th said mesh or grid structure (14) on the opposite side with respect to the first plastic film (12) in such a way that said mesh (14) is located between both plastic films (12) and (16). The second plastic film or coat (16) will remain in contact with the food, preventing any contact of the mesh (14) which is impregnated with the preservation agent, with the food.

[0031] In this case, however, the second plastic film or coat (16) will have a certain thickness, such as shown in figure 9, preferably like the bubble plastic films conventionally used for wrapping objects, and having said film inside, a series of micro holes (17) in order to let the gases expelled by the preservation agent of the impregnated mesh get into the container housing the food.

[0032] Another embodiment of the invention is illustrated in figures 11 and 12, with the configuration of a tubular bag, similar to any conventional bag, made of a plastic, fabric or natural or synthetic mesh, said bag incorporating in the practical example shown in figure 11a tubular body (18) and being sealed, after the food is introduced in the same, by stitching both ends (19 - 19), and particularly by fastening, but said tubular bag can present a flat configuration, so that by keeping a tubular structure the ends will be sealed by thermoplastic welding.

[0033] In any case and in accordance with the basis of the invention, the plastic, fabrics, synthetic or natural fiber filaments which constitute the mesh wall, are treated or impregnated with a coat (21) of an adequate preservation agent, in accordance with the type of food product housed inside the bag (18), in such a manner that a slow and progessive sublimation of said agent (4) will create inside the bag (18) a protective atmosphere for food products located inside said bag, even with surface impregnation in the case that it does not affect human health, acting on germs and pest to prevent the product degradation and, in consequence, extending the period in which the food keeps proper consumption conditions.

[0034] It is considered it will not be required to extend this description as it will be easily undrstood by any expert in the art.

[0035] The materials, shapes, sizes and arrangements of the different elements can be modified as long as they are maintained within the scope of the present invention.

[0036] The terms of the description of the present invention should be taken in its widest non limiting sense.

Claims

1. Container for food products such as horticultural products and similar bearing a preservation agent, capable to expell gases intended to extend the period in which a horticultural product or similar is considered to be in good condition for its consumption without suffering any damage or degradation, characterized in that the preservation agent is placed in the food container body to allow for a direct introduction of gases expelled by said agent

inside the container.

2. Container, according to the first claim, characterized in that said container is structured as a box or tray having any configuration, provided with a closing lid, and incorporating in any proper location at least an opening with adequate dimensions to house a block of a preservation agent attached to the back side of a self sticking label, havin a perimeter area intended to be fastened to the perimeter area of said opening while the preservation agent keeps housed inside the container.

3. Container, according to claim 2, characterized in that said label is made of a laminated body, of a self sticking type, having on its front face the typical data required by horticulture products and having on its back side a perimeter adhesive stripe, having the feature that said perimeterstripe defines a wide central area occupied by a preservation agent attached by any means to the laminated body configuring the label, as, for example, with the own adhesive, in such a manner that the support can be attached to the container of the food product by means of the back side perimeter adhesive stripe, said preservation agent being introduced inside said container through its wall by means of a mesh structure o through an opening located in an opening in said wall.

4. Container, according to claim 3, characterized in that the label back side is totally coated by a protective film made of paraffin, silicone paper or similar, covering the perimeter adhesive stripe and being attached to same, covering simultaneously the central mass of the preservation agent, before the label is fastened on the corresponding container with the food product.

5. Container, according to claim 2, characterized in that the body as well as the closing lid are coated with a film which is provided on its back side with a mesh or grid structure impregnated with a preservation agent, said agent improving the preservation effects created by said self sticking labels, acting simultaneously as a structural stiffener of the container assembly.

6. Container, according to claim 2, characterized in that, when possible, said opening is configurated as a recess, with adequate dimensions to receive the preservation agent block, having, said recess having,in that case, a bottom with a mesh structure with the purpose of letting the gases expelled by the preservation agent into the container.

7. Container, according to previous claims, characterized in that the sel stincking label as well as, optionally, the internal coating of the container, include a moisture absorbing product generating a dry atmosphere inside the container.

8. Container, according to previous claims, characterized in that optionally the container further includes an air exhaust to make a vacuum inside the container, and in that case the body and lid will be sealed by means of an adhesive tape.

9. Container, according to claim 1, characterized in that it comprises a mesh body of plastic, fabrics, synthetic or natural fibers material, with the shape of a bag which can have its ends sealed by thermowelding, stitching, or any other means, and treated with a preservation agent for the food content of the bag, impreganted on said mesh surface, and of volatile nature, capable of expelling slowly and progressively, gases which act to prevent the negative action of germs and pest that produces the degradation of the food product.

10. Container, according to claim 1, characterized in that it comprises a film for the wrapping of horticultural and similar products made of a extensible and transparent plastic film for food use, of variable width depending on the specific use, wound on a conventional reel, said film provided on its back or interior side facing the protected product, a mesh or grid treated and impregnated with a preservation agent of volatile nature, capable of expelling slowly and progressively, gases which act to prevent the negative action of germs and pest that produces the degradation of the food product.

11. Container, according to claim 10, characterized in that said film comprises a second protective plastic coat, also for food use, covering said mesh or grid structure on the opposite side corresponding to said first plastic film, in such a manner that it is placed between both plastic films, the second plastic coat or film being in direct contact with the mesh impregnated with the preservation agent for the food product.

12. Container, according to claim 11, characterized in that the second plastic film or coat presents the shape of a film with a certain thickness of the plastic bubble film, having the feature of having inside a series of micro holes that allow the gases expelled by the preservation agent from the mesh impregnated with said product get into the container with the food product..

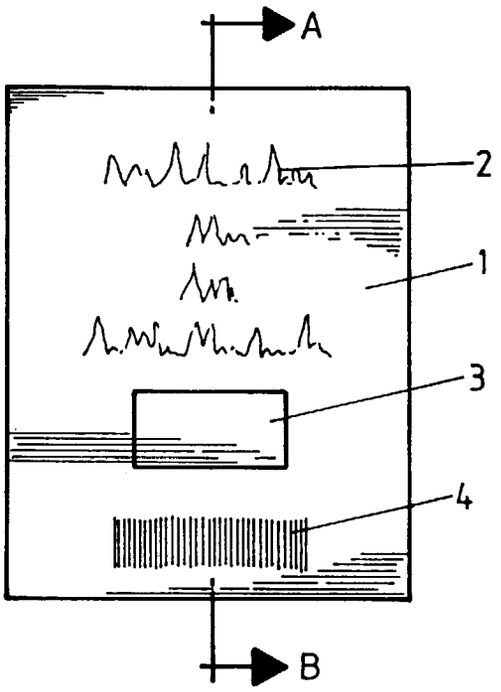


FIG.1

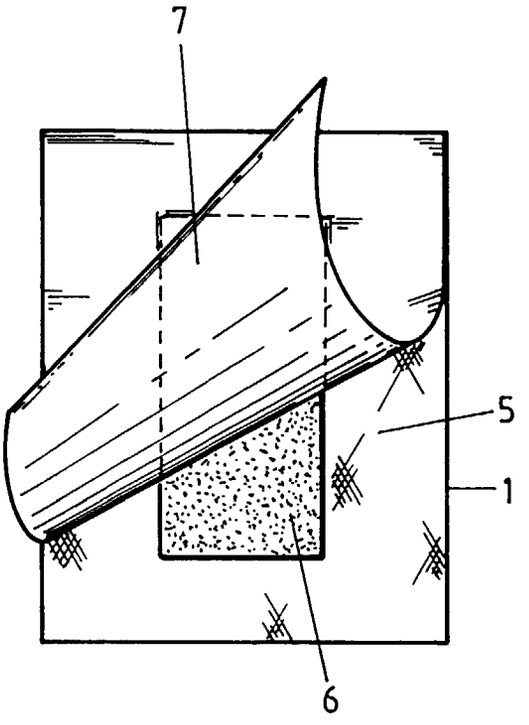
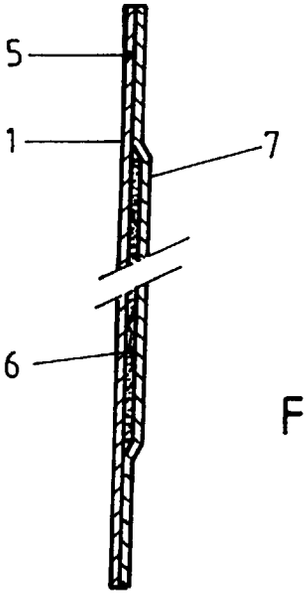


FIG. 2



A-B

FIG. 3

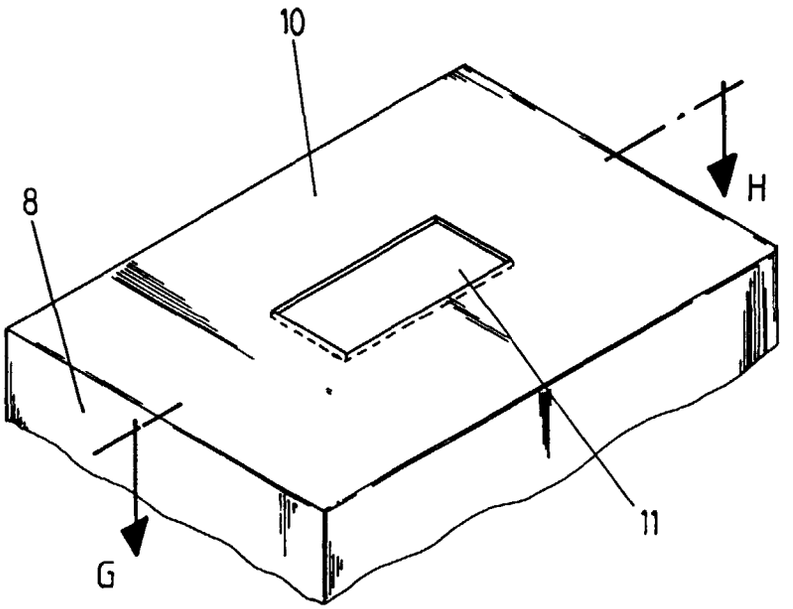
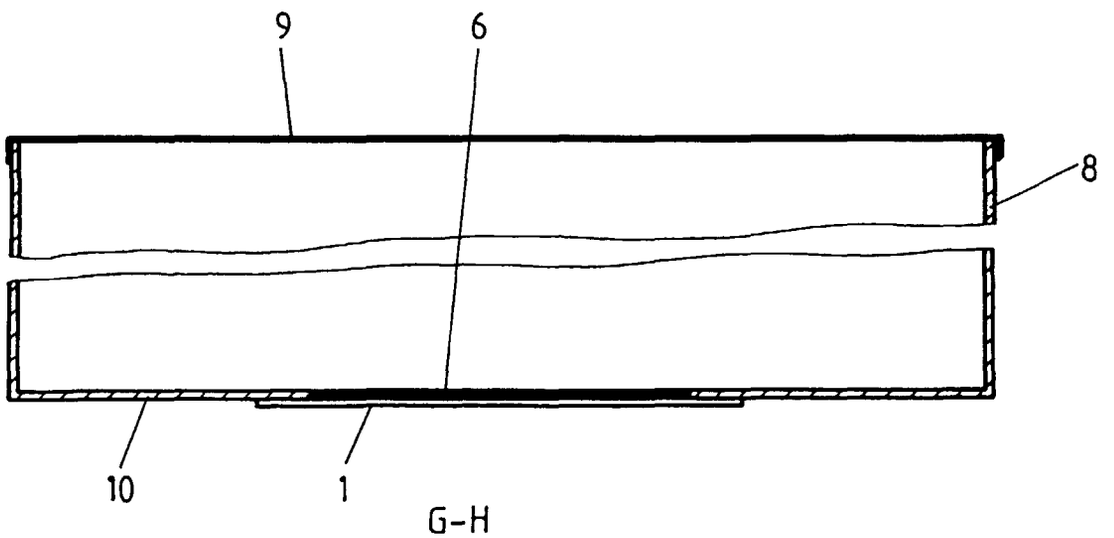


FIG.4



G-H

FIG.5

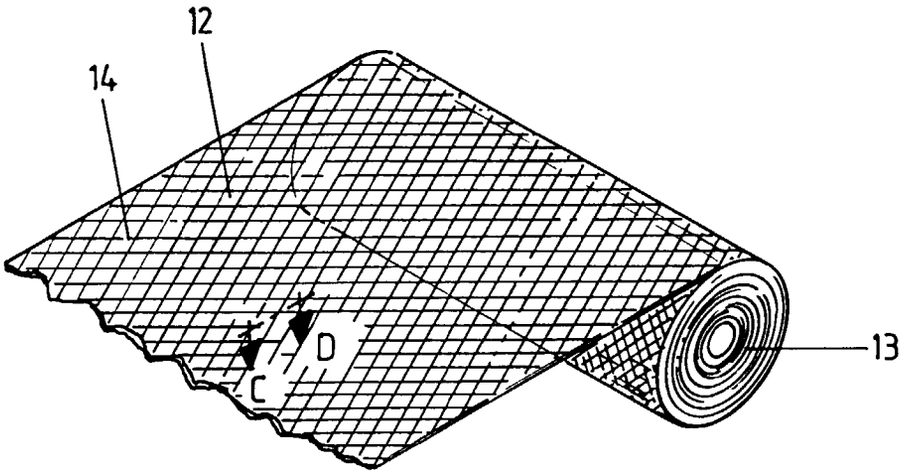
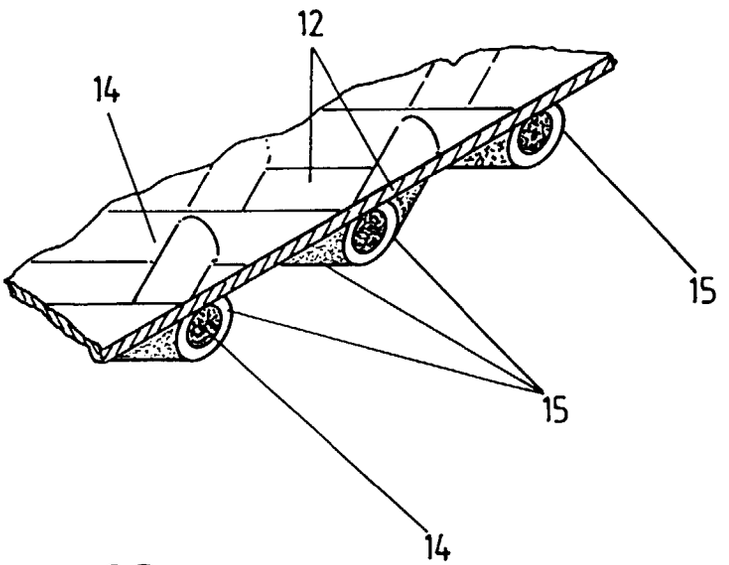


FIG.6



C-D

FIG.7

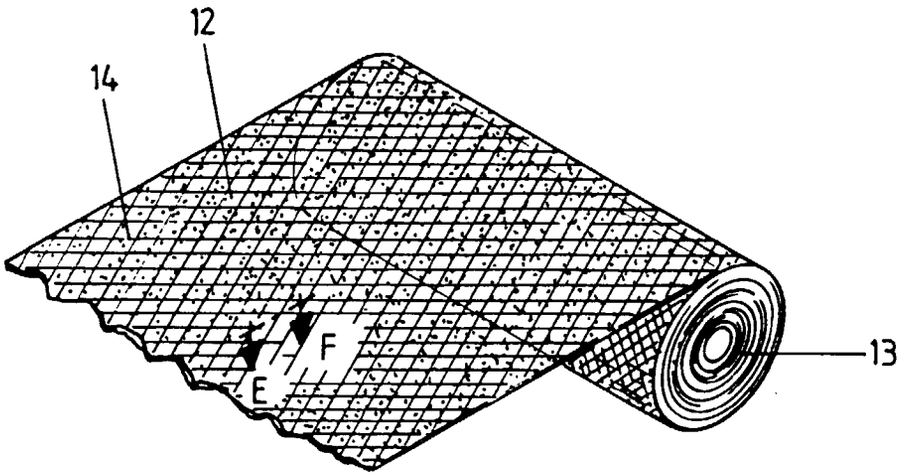
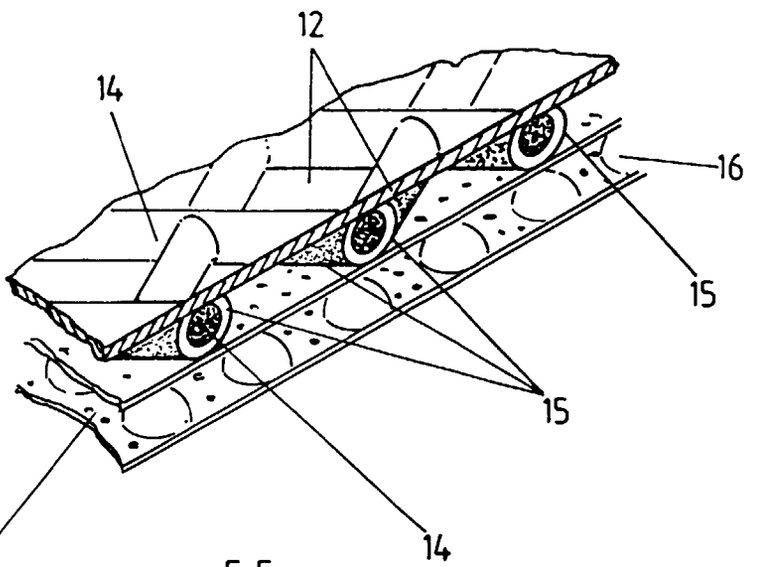


FIG. 8



E-F

FIG. 9

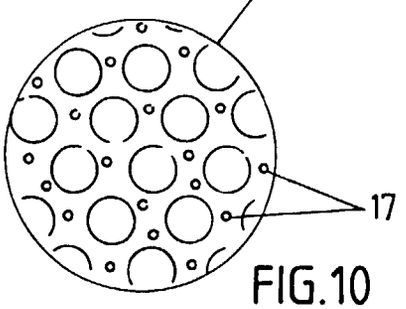


FIG. 10

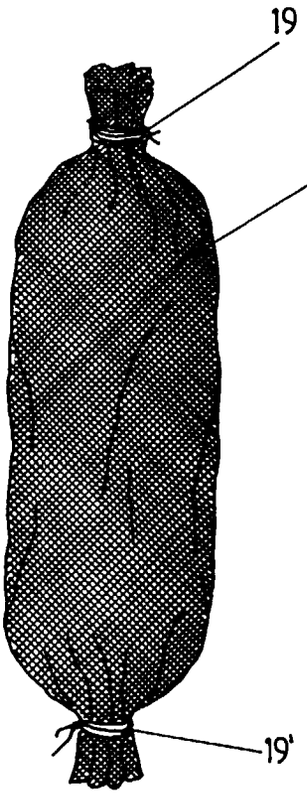


FIG. 11

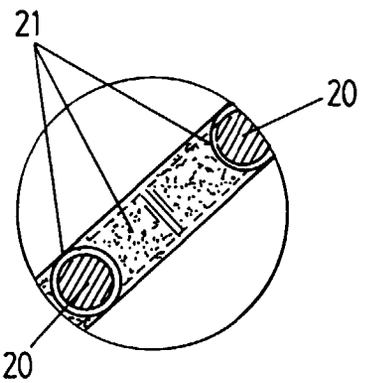


FIG. 12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES 97/00235

A. CLASSIFICATION OF SUBJECT MATTER

IPC^6 B65D 81/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC^6 B65D 81/24, 81/26,81/28,A01F 25/14,A23B 7/00,A23N 15/06

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CIBEPAT,WPIL,PAJ,EPODOC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	EP 0571228 A (CLEMES,DENNIS Charles) 24 November 1993 (24.11.93) Claims	1,10,11,12
X	EP 0444917 A (W.R. Grace & Co.- Conn.) 4 September 1991 Page 1, lines 1-51; page 5,lines 35-58	1,5,9,10,11
X	ES 138202 U (PROMOSAC S.A.) 10 January 1969 (10.01.69) Claim 1; figure	1,9,10
X	US 4061785 A(NISHINO et al) 6 December 1977 (06.12.77) Abstract	7

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:

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Date of the actual completion of the international search	Date of mailing of the international search report
14 January 1998 (14.01.98)	28 January 1998 (28.01.98)
Name and mailing address of the ISA/ S.P.T.O. Facsimile No.	Authorized officer Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Information on patent family members

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