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(56) Related Art
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D3: JP 04 190771 A (AMANO JITSUGYO KK) 09 July 1992;
D2: JP 60 145072 A SUGISAKI K) 31 July 1985;
D7: EP 0.888,723 A (NESTLE SA) 07 January 1999;
D6: JP 03 019679 A (MIYASAKA JOZO KK) 28 January 1991;
D9: WO 98/12934 A (NESTLE SA) 02 April 1998;
D4: US 3, 666,491 A (TOUBA ALI R) 30 May 1972;

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Abstract

Stock article for the culinary preparation of liquid foods or food ingredients in the form of a shaped multi-component stock article which has at least two subdivisions which can be differentiated from one another visually and/or by tactile means and which correspond to foodstuff ingredients having different compositions, in particular those for meat stocks and vegetable stocks.

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FOR A STANDARD PATENT

ORIGINAL

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Invention Title: MULTI-INGREDIENT STOCK CUBE FOR PREPARATION OF LIQUID FOODS OR FOOD COMPONENTS

Details of Original Application No. 2002247700 dated 08 Feb 2002

The following statement is a full description of this invention, including the best method of performing it known to me/us:-

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MULTI-INGREDIENT STOCK CUBE FOR PREPARATION OF LIQUID FOODS OR FOOD COMPONENTS

Field of the Invention

The present invention relates to a novel product for the culinary preparation of liquid foods or food ingredients such as stocks, sauces or soups made from solid stock mixes which are brought onto the market in the form of solid, generally individually packaged, shaped bodies.

Background of the Invention

Any discussion of the prior art throughout the specification should in no way be considered as an admission that such prior art is widely known or forms part of common general knowledge in the field.

It is known, in order to prepare liquid foods or food ingredients, to use dry products which can be converted into the desired culinary product by adding water, general hot to boiling water. Such products, in the context of the present application, are termed stock products based on stock mixes, the reference to "stocks" not being intended to be in any way limiting to a preparation using hot or boiling water. Stock mixes for the purposes of the present invention can thus also be mixes which may be dissolved or dispersed in cold or moderately warm water forming the desired culinary product.

In addition to stock products brought onto the market in pulverulent or granular form, for many years, in particular what are called stock cubes have been known, which are generally cubic or parallelepipidal,

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individually packaged shaped bodies which exist in two basic types, that is to say in the form of what are called hard stock cubes which are pressed from powder and crumble on being compressed, and also in the form of what are called soft stock cubes which are produced from pasty mixes by molding and have a somewhat plastic consistency.

It is an object of the present invention to overcome or ameliorate at least one of the disadvantages of the prior art, or to provide a useful alternative.

It is an object of certain preferred forms of the present invention to design in a novel manner stock mixes which are brought onto the market as shaped bodies and, in the context of the present invention, are termed "stock articles", in such a manner that the consumer obtains directly from the appearance of the respective unpackaged stock article information on the type of product obtained therefrom, and that in a single stock article different types of starting ingredients can be combined for the liquid food to be prepared therefrom.

Unless the context clearly requires otherwise, throughout the description and the claims, the words "comprise", "comprising", and the like are to be construed in an inclusive sense as opposed to an exclusive or exhaustive sense; that is to say, in the sense of "including, but not limited to".

Although the invention will be described with reference to specific examples it will be appreciated by those

skilled in the art that the invention may be embodied in many other forms.

Summary of the Invention

The present invention relates primarily to a novel development in the field of products which can be called stock cubes in the customary meaning, but which, in the context of the present invention, to avoid being fixed to a specific shape, are called "stock articles".

According to the present invention, there is provided a shaped stock article when used for the culinary preparation of liquid foods or food ingredients thereof comprising at least two sub-portions, wherein each said sub-portion is selected from the group consisting of hard stock mixes and loose stock mixtures, each sub-portion comprising different foodstuff ingredients and having colours attributable to their main compositions or special colouring, wherein said article comprises at least two layered sub-portions, of which one is formed from a loose stock mixture having a low internal cohesion, said article being enclosed during production by a packaging material selected from the group consisting of foil and paper, and wherein said production comprises charging with said loose stock mixture one or more molding recesses of a tableting press in which said packaging material is laid out, prior to tableting and packaging said article.

Conventional stock cubes are shaped from uniform stock mixes of predetermined composition by pressing, molding or extrusion. Commercially conventional stock cubes which are generally brought onto the market packaged in paper in angular form and individually or as a

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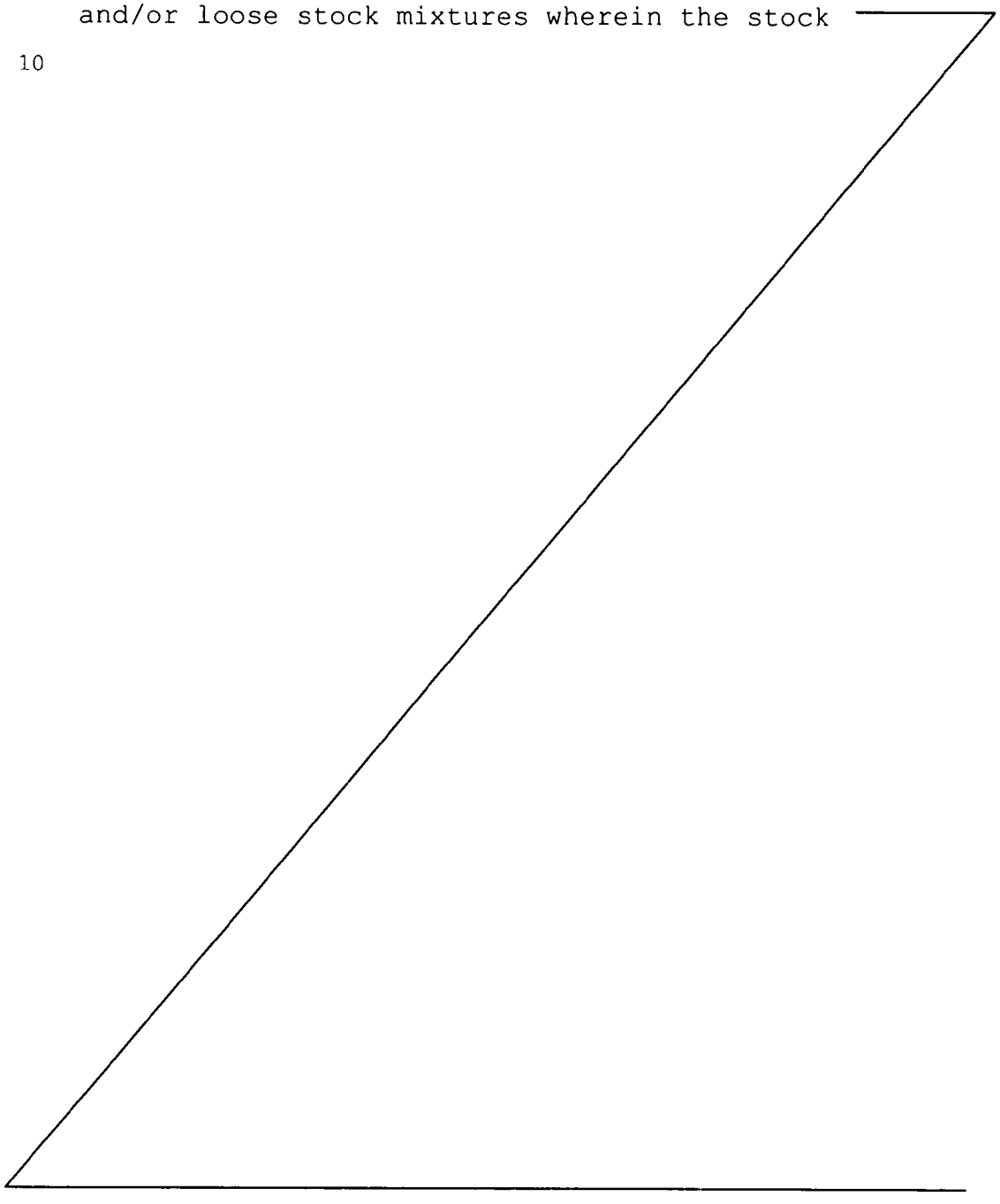
plurality, in the unpackaged state generally have a uniform appearance, and it is not usually possible to see from them as such what type of product having what taste and flavor notes can be produced from them.

The present invention relates generally to an inventive stock article for the culinary preparation of liquid foods or food ingredients using solid stock mixes and/or loose stock mixtures wherein the stock



article is a shaped multicomponent stock article which has at least two subdivisions which can be differentiated from one another visually and/or by tactile means, and which correspond to foodstuff ingredients having different compositions.

The at least two subdivisions can in this case be body sections of an essentially dimensionally stable stock article having different colors which can be related to differently colored stock mixes, and/or having differing surface structures, for example differing surface roughnesses and/or surface profiles. The at least two subdivisions, however, can also be subdivisions of a stock cube package unit, in which case one of the subdivisions can be a layer of a solid stock mix and the other subdivision, however, can also be present as a loose non-coherent or only slightly coherent layer of a powder and/or small plant pieces, for example herbs, spices or vegetable pieces, that is to say in the same package of stock cube shape.

Shaped here also means "essentially dimensionally stable", which means that the term "stock article" is not to mean flowable or pourable mixes, for example loose powders or granules or liquids. "Shaped" or "dimensionally stable" is to mean that the stock article, as such or in packaging enclosing it, essentially retains during distribution the shape given it during production, provided that no significant external mechanical forces act. Thus, stock articles are also "dimensionally stable" within the meaning of the present invention if they can be, for example, crushed or plastically deformed by hand.

An inventive multicomponent stock article can be produced in a manner known per se by pressing powder materials, by molding moldable mixes, to casting or extruding. To produce a stock article which is packaged in packaging paper or packaging film directly during

production, known tableting-molding machines, for example those of the Corazza type can also be used, in which the starting mixes are tableted or molded in molding cavities which are charged in advance with packaging material.

In an inventive multicomponent stock article, stock mixes of the most varied type can be combined, more precisely 2, 3 or more differing mixes which are differently colored.

An inventive multicomponent stock article can have the shape and the consistency of a conventional hard or soft stock cube, but if appropriate the shape can also be different, so that, for example, a stock article is obtained in block form, similar to a chocolate block, or else in rounded form, in which case, in particular, in the case of production in molds or in the case of extrusion, in principle a large variety of shapes is possible.

It can also have the shape of a conventional packaged stock cube, in which case the packaging holds together two subdivisions which can readily be separated from one another and of which one can also comprise a loose mix, for example of plant parts such as spices and vegetable pieces, which disintegrates after removing the packaging.

The invention will be described in more detail below with reference to products which have the conventional parallelepipidal or brick shape of customary stock cubes. Reference is made here to four figures which show examples of designs of inventive multicomponent stock articles made of two stock mixes or stock mixtures for various food ingredients.

In the figures:

Figure 1 shows a first embodiment of an inventive stock article in the form of a dimensionally stable body having a layer structure of two solid stock mixes in two layers one above the other (1, 2);

Figure 2 shows another embodiment of a two-component stock article in which the two stock mixes (1', 2') are joined laterally to one another, so that a different visual structure is obtained;

Figure 3 shows a view of a section through another embodiment in which the two components of the stock article are present in a shared film packaging (3) as subdivisions (1", 2") arranged in layers one above the other, of which the lower is formed by a loose mix of herbs (4) and vegetable pieces (5); and

Figure 4 shows a view of the stock article shown in section in Figure 3 after the packaging film has been opened (3).

The figures show three different examples of possibilities for combining two different stock mixes or stock mixtures to give a two-component stock cube. Apart from the fact that they have a different appearance, the various two-component stock cubes shown can also be produced using differing processes.

In a stock cube according to Figure 1, two differently colored stock mixes 1 and 2, which expediently can also be of different composition, are arranged in layers one above the other and joined to form a dimensionally stable stock cube body, which can be achieved, for example, by layering one above the other in a mold starting mixes of different composition, if appropriate after precompressing the first layer, and processing

them under a more or less high pressure and under compression/pressing to give tablet-like products. Production systems for tablets made up in layer form of this type are known in principle, and all suitable production processes can be employed without a limitation to any specific process being made. The molding can also take place in one step together with the packaging of the stock cube by simultaneously wrapping the molded stock cube with a packaging paper or a packaging film, for example in a Corazza type tableting machine.

The same applies to a two-component stock cube in which the differing stock mixes 1′ and 2′ are arranged as shown in Figure 2. A stock cube of this type can also be produced in molds, but it can also be produced in an expedient manner by extruding two stock mixes side by side through a shared shaping die and cutting the resultant extrudate.

Two-component stock articles in which one of the components is a layer of a loose mix having no internal coherence, or only slight internal coherence, as is shown by way of example in Figures 3 and 4, can in principle be produced in a similar manner to stock articles according to Figure 1, more precisely by charging molding recesses of a tableting press in which packaging material 3 is laid out, firstly with a loose mix 2″ of plant pieces 4, e.g. herbs, spices and/or vegetable pieces 5, and thereon a pasty stock mix 1″, after which the contents of the molding recess are compressed to a greater or lesser extent and thus molded and enclosed by a packaging material 3 which holds together the two components in cube shape.

The inventive multicomponent stock cubes can be produced in any desired size, and the side lengths can be, for example, from 10 mm to 400 mm, depending on the intended final use.

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In an inventive multicomponent stock cube, the most varied stock mixes can be combined with one another. The stock mixes can be those for different types of meat stocks and/or vegetarian stocks which can be combined in any manner with one another. For example, a stock mix for meat stock can be combined with a stock mix for a vegetable stock, for example beef flavor with onion flavor. Differing animal stocks can also be combined, for example chicken stock and pork stock. In the same manner, differing vegetable stocks can also be combined with one another, for example those having tomato flavor and having garlic flavor, or herbs and spices solidified in layers having a soluble binder. In the inventive multicomponent stock cubes, the combined stock mixes can be present at about the same proportions, but an inventive multicomponent stock cube can alternatively consist of up to 99% of a single stock mix and be combined with an only relatively thin layer of a different stock mix.

The stock mixes combined with one another preferably have different colors, either owing to their base composition, or owing to a special coloring with suitable food dyes, the colors preferably being chosen in such a manner that a defined color is assigned to a certain product, and in particular a professional cook, on the basis of the color, can immediately recognize the type of stock mix. The different stock mixes combined with one another in a stock article can, however, if appropriate, in addition, also differ in tactile properties, that is to say can be recognized by feeling different regions. The differences can be expressed as different roughnesses which can be caused, for example, by the type of composition, but the differences can also be caused or intensified by ensuring different surface structures or surface profiles during the molding of the stock article, for example by using corresponding mold halves or extrusion

dies having differing profiles in the peripheral region.

The differing stock mixes or stock mixtures can also have differing furnaces and a different internal cohesion. For example, stock mixtures of plant pieces can be present as compact layer(s) of a stock cube according to Fig. 1 or Fig. 2 which are bonded via a suitable sticky binder, or can be present as loose layer(s) of a stock cube according to Fig. 3 and 4 of relatively low internal cohesion.

In principle, the compositions of the stock mixes combined with one another which are used in the inventive multicomponent stock cubes correspond to conventional mixes for stock cubes, more precisely corresponding to the formulas for customary hard or soft stock cubes. Compositions of this type generally have:

from 30 to 70% by weight	of salt
up to 25% by weight,	preferably from 5 to 25% by weight, of glutamate,
from 1 to 59% by weight	of fillers (for example maltodextrin to improve cohesion, one or more starch(es), for example corn starch or potato starch, and if appropriate lactose or whey powder)
from 0 to 50% by weight	of fat, for example an animal fat or vegetable fat, in which case in particular palm fat is to be emphasized,
from 1 to 15% by weight	of flavor ingredients, for example meat flavors, spicy flavor concentrates, spices or flavors produced by food

	engineering,
from 0 to 10% by weight	of meat, for example in the form of meat extract or meat powder,
from 0 to 10% by weight	of vegetable ingredients, for example parsley, small pieces of carrots, onions and similar vegetables or vegetable extract,
from 0 to 10% by weight	of pigments, for example caramel color, turmeric, paprika (which can also be added in the form of a liquid oleoresin with spraying),
from 0 to 10% by weight	of further functional ingredients, including ribotides, vitamins, minerals, remaining water.

Said ingredients are customarily weighed out as dry ingredients or pasty raw materials and mixed with one another with or without addition of solid or liquid fat, and the resultant different stock mixes are then, for example, placed in a conventional tableting machine, another conventional press or a two-component extruder, in order to produce therefrom two- (or multi-)component stock cubes.

Advantages of inventive multiple component stock articles are, firstly, the visual and/or tactile identifiability of the products owing to the visible layer structure. Additional advantages can also result from being able to combine with one another stock mixes which comprise constituents which, when they are mixed directly, interact in an undesirable manner, and thus as a result, for example, adversely affect the storage times. In addition, products having differing dissolving time can also be combined, which can likewise be advantageous for certain applications.

Products of the type of the multi-component stock article shown in Figures 3 and 4 have two layers (subdivisions), which can be parted from one another relatively readily and as a result can be processed independently of one another at a distance in time, for example, from the stock mix of the upper layer, a meat stock or chicken stock can first be prepared, to which then the loose herb ingredients of the lower layer can be added only just before serving. This can avoid the herb ingredients coming into contact with hot or boiling water for an undesirably long time and as a result losing flavor.

The invention will be described in more detail below on the basis of two specific exemplary embodiments.

Example 1: Production of a hard two-component stock cube made up in layers

To produce a hard two-component stock cube in which stock mixes for chicken stock and beef stock are combined with one another, the following process is followed: two 500-kg batches are produced for chicken stock and beef stock, respectively. The mix for chicken stock is produced using the following ingredients in the amounts specified:

Ingredient		
Salt	250	kg
Maltodextrin	40	kg
Glutamate	70	kg
Corn starch	40	kg
Vegetable fat	60	kg
Chicken fat	15	kg
Chicken powder	10	kg
Chicken flavor	11	kg
Turmeric	4	kg

Said raw materials were mixed in a 1 200 liter mixer with doubled mixing and single fat injection.

In a similar manner, the beef stock mix was produced from the following ingredients:

Ingredient		
Salt	250	kg
Maltodextrin	40	kg
Glutamate	70	kg
Corn starch	30	kg
Vegetable fat	60	kg
Beef fat	15	kg
Beef powder	10	kg
Beef extract	10	kg
Chicken flavor	11	kg
Caramel	4	kg

Said ingredients of the beef stock mix were mixed as for the chicken stock mix.

The two stock mix mixtures obtained exhibited good flowability and could be stored in 1 000 liter containers without problems for two days, for example.

Using a rotating tableting press, the stock mixes were pressed to produce two-component stock cubes. For this the two mixtures were fed to two different feed funnels which feed two different metering systems of a press. The beef mixture is first metered in 5 g portions into the molding holes of the tableting press, after which the chicken mixture is added to the beef mixture, likewise in 5 g portions into the same molding holes. The mixes layered one above the other are pressed to form a two-layered tablet and ejected from the mold.

The resultant two-component tablets, each of 10 g, have a uniform shape having two visually recognizable

different layers. An example of such a product is shown in Figure 1. The hardness and the other physical properties of the resultant stock cube tablets are satisfactory.

In addition to the solution of the abovementioned objects, the inventive multi-component stock cubes are also distinguished by an interesting pleasing appearance and represent a novel kitchen product for the individual consumer or for commercial "convenience food" applications.

Example 2: Production of a packaged two-component stock cube comprising two layered subdivisions (chicken stock with herb mixture)

To produce a packaged two-component stock article as shown in Figures 3 and 4, first by dry mixing, a herb mixture of 20% by weight of parsley flakes and 80% by weight of carrot pieces, and secondly a stock mix for a chicken broth made of 5% by weight of chicken base, 21.7% by weight of palm fat, 45% by weight of common salt, 2.4% by weight of yeast, 13% by weight of glutamate, 3% by weight of sugar, 6.8% by weight of wheat semolina, 0.8% by weight of chicken meat, 1.6% by weight of onions, 0.2% by weight of inosine 5'-monophosphate (IMP) and 0.5% by weight of turmeric was prepared, for the production of the latter, the molten palm fat was mixed with the remaining ingredients and allowed to crystallize.

Both mixtures were placed in differing feed funnels. Then, using a powder metering apparatus, the herb mixture, in individual portions, is placed into molding holes of a tableting press which are prelined with packaging paper, and immediately thereafter, using a piston metering apparatus, the pasty mix for chicken stock is placed into each molding cavity. The

rectangular shaped bodies formed are wrapped by the paper-like packaging material.

After opening the packaging of the stock cube, as shown in Figure 4, two layers are exposed, of which the upper layer consists of a shaped stock mix for chicken stock and can be lifted off and used to prepare the chicken stock. The herb mixture remaining on the packaging paper can then be added later to the finished chicken stock.

Obviously, inventive stock articles can also be obtained by combinations of stock mixes and/or stock mixtures different from those described by examples above, and such modifications are obviously also included in the protective e scope of the present application.

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THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. A shaped stock article when used for the culinary preparation of liquid foods or food ingredients thereof comprising at least two sub-portions, wherein each said sub-portion is selected from the group consisting of hard stock mixes and loose stock mixtures, each sub-portion comprising different foodstuff ingredients and having colours attributable to their main compositions or special colouring, wherein said article comprises at least two layered sub-portions, of which one is formed from a loose stock mixture having a low internal cohesion, said article being enclosed during production by a packaging material selected from the group consisting of foil and paper, and wherein said production comprises charging with said loose stock mixture one or more molding recesses of a tableting press in which said packaging material is laid out, prior to tableting and packaging said article.

2. A shaped stock article according to claim 1, wherein said sub-portions are combined in equal portions.

3. A shaped stock article according to claim 1 or claim 2, wherein one said sub-portion forms a thin layer deposited on the remaining sub-portion/s.

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4. A shaped stock article according to claim 3, wherein said remaining sub-portion/s form up to 99% of said article.

5. A shaped stock article according to any one of the preceding claims, wherein said sub-portions have differing surface roughness and/or differing surface profiles.

6. A shaped stock article according to any one of the preceding claims, wherein said loose stock mixture is a mix of plant pieces.

7. A shaped stock article according to claim 6, wherein said plant pieces comprise herb flakes, spices and/or vegetable pieces.

8. A shaped stock article according to any one of the preceding claims, wherein said sub-portions are selected from the group comprising meat stocks and vegetable stocks.

9. A shaped stock article according to claim 8, wherein said meat stocks comprise beef stocks, pork stocks and/or chicken stocks, and wherein said vegetable stocks comprise stocks based on onions, tomato, herbs and/or spices.

10. A shaped stock article according to any one of the preceding claims wherein said stock article is a hard or soft stock article for preparing stocks, sauces or soups.

11. A shaped stock article substantially as herein described with reference to any one of the embodiments of the invention illustrated in the accompanying drawings and/or examples.

Dated this 26th day of August 2009

Shelston IP

Attorneys for: Societe Des Produits Nestle S.A.

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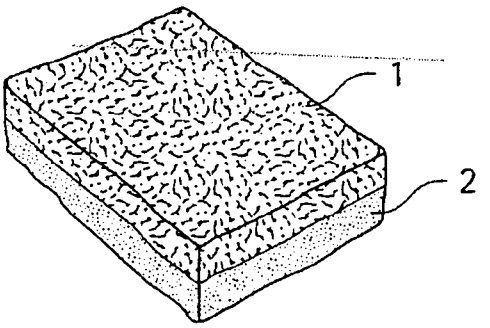

Fig. 1

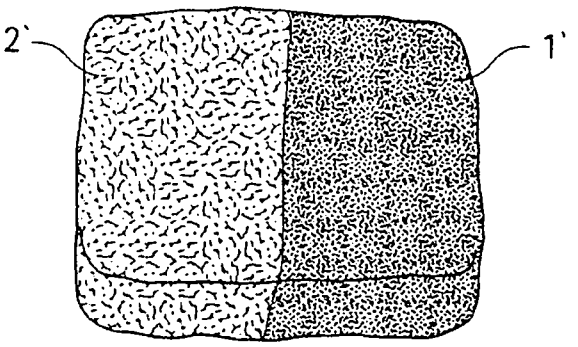

Fig. 2

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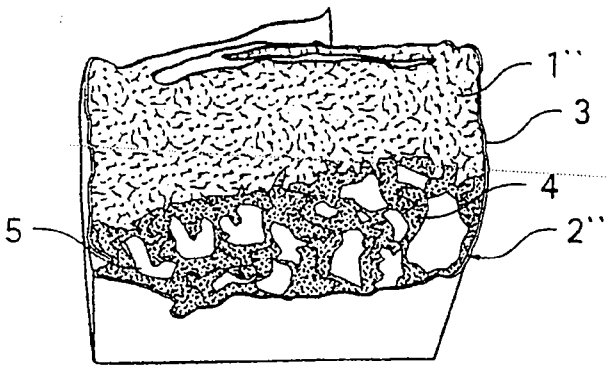

Fig. 3

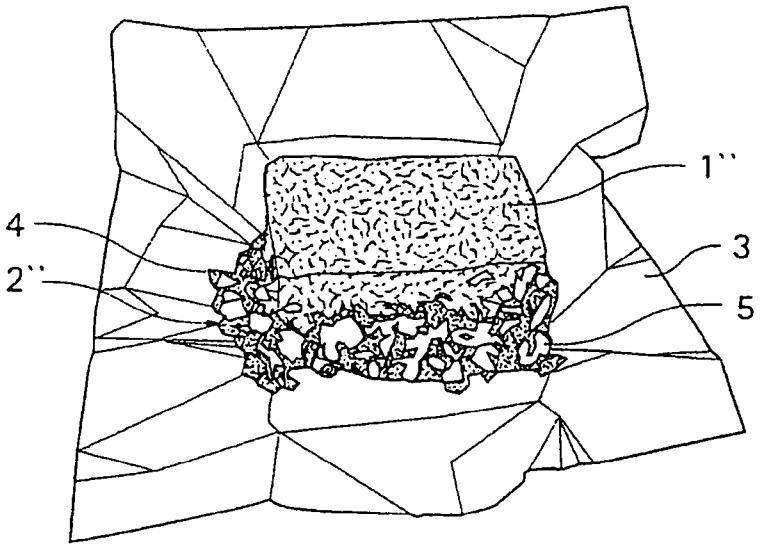

Fig. 4