

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: see form PCT/ISA/220	PCT WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)	
Date of mailing (day/month/year) see form PCT/ISA/210 (second sheet)		
Applicant's or agent's file reference see form PCT/ISA/220	FOR FURTHER ACTION See paragraph 2 below	
International application No. PCT/EP2020/074780	International filing date (day/month/year) 04.09.2020	Priority date (day/month/year) 05.09.2019
International Patent Classification (IPC) or both national classification and IPC INV. A21D13/062 A21D13/28 A21D13/38 A23G3/40 A23G3/42 A23G3/54 A23L29/212 A21D2/18 A21D2/36		
Applicant ROQUETTE FRERES		

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA:  European Patent Office P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Fax: +31 70 340 - 3016	Date of completion of this opinion see form PCT/ISA/210	Authorized Officer Piret-Viprey, E Telephone No. +31 70 340-0 
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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed.
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. ☐ forming part of the international application as filed:
 - ☐ in the form of an Annex C/ST.25 text file.
 - ☐ on paper or in the form of an image file.
 - b. ☐ furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. ☐ furnished subsequent to the international filing date for the purposes of international search only:
 - ☐ in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - ☐ on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>8, 11, 13-15</u>
	No: Claims	<u>1-7, 9, 10, 12</u>
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-15</u>
Industrial applicability (IA)	Yes: Claims	<u>1-15</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents (D1-D5):

D1	EP 2 061 343 A1
D2	EP 2 068 647 A1
D3	WO 2007/017593 A2
D4	US 2008/081092 A1
D5	US 5 676 994 A

1 - Remark for assessing the novelty of claims 1, 2, 10 and 13

The person skilled in the art knows that a native pea starch has an average particle size between 20 and 30 μm , with a D90 smaller than 40 μm .

Furthermore the person skilled in the art knows that a native pea starch has an amylose content between 20 and 45% by dry weight relative to the total dry weight of the starch.

We have therefore also cited D4 for assessing the novelty of claims 1 and 2.

2 - The present application does not meet the requirements of Article 33(2) because the subject-matter of claims 1-7, 9, 10, 12 is not new.

- D1 describes a cooked cereal product comprising a filling consisting of a continuous aqueous phase, said filling having:

- a water activity (A_w) from 0.5 to 0.8, and
- a fat content of less than 25% by weight,
- a sugar content from 0 to 50% by weight,
- a starch content from 4 to 26% by weight,

said filling being characterized in that:

- at least 5%, preferably at least 10%, and still more preferentially at least 15% of the particles of said non-gelatinized starch have a size greater than or equal to 10 μm , and

the non-gelatinized starch has, for at least 90% of the particles, a granulometry comprised between 4 μm and 45 μm .

In spite of sugar and fat reduction, the filling of D1 presents a slightly lower sweet flavor, but quite close to that of the control filling. Moreover, the chocolate flavored taste remains very close to the standard, as well as the texture in mouth (hardness, sugar bonbon, particle-size distribution, pasty). In addition, the filling of D1 presents a (calories brought by slowly digestible carbohydrates)/(total calories) ratio that increases from 1% to 17% thanks to the addition of native starch in the filling according to the invention.

The subject-matter of claims 1,5-7,9,10,12 is therefore not new.

- D2 describes a cereal baking product comprising a filling, said filling comprising a food composition comprising:

- a fat content of less than 15% by weight,
- a sugar content of 10 to 84% by weight, and
- a native starch powder content of 10 to 40% of by weight,

said food composition being characterised in that:

at least 15% of the non-gelatinised starch particles in the food composition have a size greater than or equal to 10 μm , and

the non-gelatinised starch has, for at least 90% of the particles, a grain size between 5 μm and 45 μm .

The subject-matter of claims 1,5,7,10,12 is therefore not new.

- D3 describes a butterfat filling or imitation chocolate with a reduced butterfat and/or sugar content, and cereal cooking products comprising one such butterfat filling or imitation chocolate. The inventive butterfat filling or imitation chocolate consists of a suspension of solid particles in a continuous fat phase, said suspension comprising less than 33 % butterfat and between 3 and 40 % raw starch.

The suspension comprises fat at less than 33 wt.% and a flour, preferably of non-roasted and optionally overdried and/or thermized cereal, at 3-30 wt.%, preferably 8-13 wt.% of the fatty filling or imitation chocolate. The suspension further comprises an emulsifier, salt or flavors. The suspension comprises sugars, preferably saccharose, at 0-55 wt.%, preferably 10-49 wt.%. The dry product is a cookie comprising at least a layer of fatty filling or imitation chocolate between two layers of dry cookies. The starch has a content of at least 90% of particles with a particle size of 5-45 μm .

The addition of starch to the fat filling or the chocolate substitute according to the invention moreover makes it possible to reduce the sugar and edible fat content of these products.

The subject-matter of claims 1,5-7,9,10,12 is therefore not new.

- D4 describes a nut butter composition comprising 65-85% nut butter, 0.15-0.5% emulsifier, 5-30% sugar alcohol, 1-5% triglyceride-based stabilizer, and 1-5% food starch. Starches useful may be obtained from arrowroot, tapioca, rice, wheat, corn, potatoes, arracha, buckwheat, banana, barley, sassava, kudzu, oca, sago, sorghum, sweet potato, taro, yam, fava bean, lentil, and pea.

The subject-matter of claims 1-4,7,9,10 is therefore not new.

- D5 describes the preparation of non-separable starch-oil composition used as a coating on a food prod. pref. on nuts, legumes and cereals (for example popcorn), or is used to partially or wholly replace a lipid component which is normally present in a food product, for example in sour cream, yogurt, ice-cream.

D5 indicates that starch occurs in living plants in the form of discrete granules ranging from about 5 to 40 microns in diameter, depending on the plant source, and that normal cornstarch contains about 25% amylose.

Example 34 of D5 shows the preparation of a standard low-fat ice milk formulation from the following ingredients: 484 g of 0.5% skim milk, 100 g of sugar, 1.9 g of vanilla extract, 0.4 g of table salt, 0, 2, 5 and 10%, by weight, of a drum dried and coarsely ground composition prepared according to this invention from 20 parts of either soybean oil or butter per 100 parts of starch.

The subject-matter of claims 1,2,5 is therefore not new.

3 - Dependent claims 8,11,13-15 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, the reasons being as follows:

- In claims 8 and 11 a slight constructional change in the composition of claim 1 is defined which comes within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen.

- In claims 13-15 a slight constructional change in the method of claim 12 is defined which comes within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen.

Consequently, the subject-matter of claims 8,11,13-15 lacks an inventive step.

4 - Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1-D5 is not mentioned in the description, nor are these documents identified therein.

Re Item VIII

Certain observations on the international application

1 - The term "sugar-reduced" used in claims 1-11 is vague and unclear and leaves the reader in doubt as to the meaning of the technical feature to which it refers, thereby rendering the definition of the subject-matter of said claim unclear, Article 6 PCT.

Claim 7 indicates that the composition comprises 20% to 50%, preferably 30% to 45%, more preferably 35% to 40% by weight of sugar relative to the total weight of the food cream composition.

2 - The step of "selecting a recipe" of claim 12 could fall under a method for performing mental acts (Rule 39.1(iii) PCT).