

SEARCH REPORT

Application Number

LH 26

LT 2021007

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	CN 103 960 711 B (JIN YUBIN) 7 September 2016 (2016-09-07) * claim 1 *	1-6	INV. A23L13/20 A23L13/30 A23L13/40
A	----- KR 2016 0131597 A (SODAMFOOD CO LTD [KR]) 16 November 2016 (2016-11-16) * claims 1-4 *	1-6	
A,D	----- WO 2011/132815 A1 (KIM KI BUM [KR]; KIM MIN YOUNG [KR]) 27 October 2011 (2011-10-27) * page 2, paragraph 4; claim 1 *	1-6	
A	----- US 2004/005382 A1 (OKADA KINEO [JP]) 8 January 2004 (2004-01-08) * paragraph 65; example and comparative example *	1-6	
			TECHNICAL FIELDS SEARCHED (IPC)
			A23L
<p>1 The present search report has been drawn up for all claims</p>			
Munich		Date of completion of the search 17 November 2021	Examiner Georgopoulos, N
CATEGORY OF CITED DOCUMENTS		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	
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			

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

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

17-11-2021

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
CN 103960711	B	07-09-2016	NONE	

KR 20160131597	A	16-11-2016	NONE	

WO 2011132815	A1	27-10-2011	KR 20110116651 A	26-10-2011
			WO 2011132815 A1	27-10-2011

US 2004005382	A1	08-01-2004	AT 524985 T	15-10-2011
			AU 2003245044 A1	23-01-2004
			EP 1534088 A1	01-06-2005
			ES 2371243 T3	28-12-2011
			US 2004005382 A1	08-01-2004
			WO 2004004490 A1	15-01-2004

WRITTEN OPINION

File No. LH26	Filing date (<i>day/month/year</i>) 09.03.2021	Priority date (<i>day/month/year</i>)	Application No. LT2021007
International Patent Classification (IPC) INV. A23L13/20 A23L13/30 A23L13/40			
Applicant MB "KULAGENAS"			

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 the opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the application
- ☒ Box No. VIII Certain observations on the application

	Examiner Georgopoulos, N
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WRITTEN OPINION

Box No. I Basis of this opinion

1. This opinion has been established on the basis of the latest set of claims filed before the start of the search.
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the application, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ on paper
 - ☐ in electronic form
 - c. time of filing/furnishing:
 - ☐ contained in the application as filed.
 - ☐ filed together with the application in electronic form.
 - ☐ furnished subsequently for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-6
	No: Claims	
Inventive step (IS)	Yes: Claims	1-6
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-6
	No: Claims	

2. Citations and explanations

see separate sheet

WRITTEN OPINION

Application number
LT2021007

Box No. VII Certain defects in the application

see separate sheet

Box No. VIII Certain observations on the application

see separate sheet

Item V

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

1 Documents

1.1 Reference is made to the following documents:

- D1 CN 103 960 711 B (JIN YUBIN) 7 September 2016 (2016-09-07)
- D2 KR 2016 0131597 A (SODAMFOOD CO LTD [KR]) 16 November 2016 (2016-11-16)
- D3 WO 2011/132815 A1 (KIM KI BUM [KR]; KIM MIN YOUNG [KR]) 27 October 2011 (2011-10-27) [cited in the present application]
- D4 US 2004/005382 A1 (OKADA KINEO [JP]) 8 January 2004 (2004-01-08)

2 Novelty

2.1 The subject-matter of present independent claim 1 is not anticipated by any one of the documents D1-D4, for the following reasons:

2.2 Document D1

Said document discloses the following:

A steamed beef soup preparation method, which is characterised in that it comprises the following steps:

Step S100: soaking for 3 hours after beef and/or oxtail bone being cleaned in cold water;

Step S101: beef clod is added auxiliary and condiment big fire stew brought to boil for 30-60 minutes. The ingredients are described beef clod in the form of a square of 3-4cm. In the aforementioned auxiliary and condiment further ingredients include onion parts 50-60g, ginger slices 50-60g, garlic clove 50-60g, aniseed 10-20g, monosodium glutamate 8-10g, vanilla 20-30g and nutmeg 20-30g;

Step S102: stewing of oxtail bone and ox wild goose wing in slow fire and boiling for 2-4 hours, and finally extracting soup at the bottom of ox bone;

Step S103, the beef clod after stewing in step S101 is put in soup at the bottom of described ox bone slow fire and is stewed and boiled for 2-3 hours in order to obtain steamed beef soup;

Stewing after boiling at 50-80°C for 2-3 hours, in insulating process, and arrange stewing at the bottom of the boiling container (see claim 1 of D1).

D1 does not disclose a dry broth, the addition of vinegar, the boiling of the mixture containing said vinegar for at least 28 hours at a constant T of 93°C, the skimming step of the unnecessary substances, the evaporating step for at least 10 hours at 99°C, the shock freezing step, the pouring step into a lyophilization form or a lyophilization step as in present claim 1.

2.3 Document D2

D2 discloses the following:

Meat broth manufacturing step (S1) of making beef bone broth by boiling three times after removing blood from beef including bones; simmering the noodles in hot water and boil them and take them out.S2; and heating the Chinese pan to remove water, adding 20 ml of cooking oil, adding 30 g of carrots, cabbage and onions, 20 g of oysters, and 10 g of red peppers Vegetable preparation step (S3) and putting the host 100g to the vegetables prepared in the vegetable preparation step (S3) and then stir-frying vegetables (S4); and 400ml of the bone broth after adding 50g miso powder, red pepper seed oil 10ml, red pepper powder 10g, pepper 0.2g, minchi 10g. Then adding 10 g of leek and mix the broth completion step (S5); and putting the broth completed in the broth completion step (S5) in a bowl to release the noodles prepared in the exemption tank step (S2) in the broth vegetable completion step (Ramen manufacturing method using miso and beef bone broth; see claims 1-4 of D2).

Said document does not disclose a dry broth, the addition of vinegar, the boiling of the mixture containing said vinegar for at least 28 hours at a constant T of 93°C, the skimming step of the unnecessary substances, the evaporating step for at least 10

hours at 99°C, the filtering of the anatomical parts of the bovine bones, the shock freezing step, the pouring step into a lyophilization form or a lyophilization step as in present claim 1.

2.4 Document D3

D3 discloses the following:

A process of containing the raw material (bovine bone) and water at a ratio of 1: 2, then warming the whole at a high temperature (70 to 90 ° C) to increase the temperature of the water, draining the washing water, injecting the drinking water into the washed bovine bone at a ratio of 1: 3, setting the internal pressure (1.5 to 2.5 kg/cm²) and heating to 110 to 130°C, increasing the concentration of the raw liquid to be extracted while keeping the temperature (70 to 90°C) at a warmed state, checking the concentration of the raw liquid, removing the odor by air exhaust, cooling the raw liquid and a step of storing the crude stock solution (see claim 1 of D3).

Said document does not disclose a dry broth, the addition of vinegar, the boiling of the mixture containing said vinegar for at least 28 hours at a constant T of 93°C, the skimming step of the unnecessary substances, the evaporating step for at least 10 hours at 99°C, the filtering of the anatomical parts of the bovine bones, the shock freezing step, the pouring step into a lyophilization form or a lyophilization step as in present claim 1.

2.5 Document D4

D4 discloses the following:

Using a meat chopper, 10 kg of beef were minced (6 mm) and blended in a food processor with 1 kg of beef extract and chicken extract, 0.2 kg of various vegetable extracts, and 0.1 kg of sugar (sucrose). Next, 0.01 kg of a lactic acid bacteria starter, *Pediococcus pentosaceus*, was added and mixed with the rest of the ingredients in a mixer.

The thoroughly blended ingredients were transferred to a stuffer machine, and filled into water-permeable casings to be shaped into thin sheets. The shaped products were placed in an incubator at 25°C to undergo fermentation for 48 hours.

After the fermentation and ageing processes were completed, the mixed ingredients were dehydrated at 70°C for 12 hours in a forced-air dryer, and then left for 12 hours in an incubator at 15°C, set at a constant humidity of 65%. Next, dehydration in the forced-air dryer was conducted for 12 hours at 60°C, and then left for 12 hours in an incubator at 15°C, set at a constant humidity of 65%, thereby completing the preliminary dehydration process. After this preliminary dehydration process, the mixed ingredients underwent a preliminary grinding in a grinder and were dehydrated for 4 hours at 60°C to produce powder with a water content of about 5%.

This powder was then put back into the grinder to produce a more finely ground powder, thus resulting in the powdered beef bouillon product (see example of D4).

Said document does not disclose the addition of vinegar, the boiling of the mixture containing said vinegar for at least 28 hours at a constant T of 93°C, the skimming step of the unnecessary substances, the evaporating step for at least 10 hours at 99°C, the shock freezing step, the pouring step into a lyophilization form or a lyophilization step as in present claim 1.

3 Inventive step

3.1 Closest prior art document

D4 is considered to represent the closest prior art document, as it concerns the manufacturing of a powdered beef bouillon (see e.g., example of D4).

3.2 Technical effect - Technical problem to be solved by the present invention

Technical effect: a dry broth from bovine bones that exhibits a good preservation of the valuable nutrients contained in said bones as well as a very good solubility in water.

Technical problem: how to provide a dry broth from bovine bones, said dry broth having a very good nutritional value and exhibiting an very good water solubility.

3.3 Solution

The solution to the aforementioned technical problem is the combination of the two following factors:

i/ the boiling of the mixture containing the apple cider vinegar for at least 28 hours at a constant T of 93°C; and

ii/ the lyophilization step for the conditions as described in the last four lines of present claim 1.

That is mentioned on page 6, last paragraph of the present description.

In particular, in this passage, it is disclosed that due to the long cooking conditions valuable nutrients are extracted from the anatomical parts of the cattle into the broth, and one of them, a protein that is especially important for the body - collagen.

Furthermore, it is disclosed that due to the optimal lyophilization conditions as in the present invention, a dry broth is obtained with preservation of valuable nutrients and a very good solubility in water. This theory is credible due to the long duration of the cooking and lyophilization steps at the temperatures as in present independent claim 1.

3.4 Why the invention would not be obvious for the person skilled in the art

D4 does not disclose any one of the aforementioned long boiling step and lyophilization step (see also point 4.5 above).

Moreover, D4 does not address the technical problem to be solved by the present invention: in D4, the technical problem to be solved is the provision of beef bouillons, in which the beef component is responsible for the flavour characteristics of the final product (see paragraphs 4 and 5 of D4).

None of the documents D1-D3 discloses / suggests any one of the aforementioned long boiling and lyophilization steps (see point 4 above).

Therefore, the skilled person would not be prompted to start from the disclosure of D4, modify it by using the technical teaching of any one of the documents D1-D3 and arrive at the claimed invention.

As the subject-matter of present independent claim 1 would not be obvious to the skilled person in view of the documents D1-D4, said subject-matter involves an inventive step in view of the documents D1-D4.

4 Industrial applicability

4.1 The subject-matter of present claims 1-6 is susceptible of industrial application in the field of the industry concerning the production of dry broth products

Item VII

5 The word "palced" on page 4, 6th line from the bottom of the page, should be replaced by the word "placed".

Item VIII

6 The word "clause" in each one of present claims 2-6 should be replaced by the word "claim" so that present claims 1-6 are clear and concise (here, it is reminded that in a set of claims, it is the word "claim" that is used for referring to / describing / mentioning claims).