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(71) Applicant and

(72) Inventor: **BEANI, Giuseppe** [IT/IT]; Via Vittorio Veneto,
12, I-43036 Fidenza (IT).

(74) Agent: **GOTRA, Stefano**; Bugnion S.p.A, Via Garibaldi,
22, I-43100 Parma (IT).

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(54) Title: PRE-COOKED EDIBLE PASTA WITHOUT CONDIMENT AND METHOD FOR ITS MANUFACTURE

(57) Abstract: A pre-cooked and pasteurised pasta without external condiments is packaged in a sealed container under vacuum or in modified atmosphere. The method for manufacturing the pre-cooked pasta without external condiments, be it fresh or dry and possibly also filled, comprises in combination the following steps: - cooking the pasta; - pasteurising the cooked pasta; - possibly drying the pasta; - possibly cooling the pasteurised pasta; - packaging under vacuum or modified atmosphere. Pasteurisation takes place with steam or with hot air.



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PRE-COOKED EDIBLE PASTA WITHOUT CONDIMENT AND METHOD FOR ITS MANUFACTURE

TECHNICAL FIELD AND BACKGROUND ART.

5 The present invention relates to a pre-cooked edible pasta without condiment and to a method for its manufacture.

The food industry has for years made use of packages of fresh pasta, such as *tortellini*, packaged in a vacuum or in modified atmosphere in sealed envelopes and destined to be preserved in a refrigerator or at ambient
10 temperature only for a few days or for a rather limited time interval. However, after the package is opened the aforesaid *tortellini* must be cooked. Therefore, the need has arisen for the availability of pre-cooked pasta, so that the consumer can simply heat the pasta without having to cook it for the entire cooking time that would be required if the pasta were not pre-cooked.

15 Therefore, already known are packages of pre-cooked and frozen pastas, without condiments external to the pasta, typically destined to restaurants but also sold in supermarkets directly to final consumers, which pastas are simply to be heated in boiling water or in an oven and do not need to be cooked.

20 Also known are packages of pre-cooked frozen pastas, also called ready dishes, which include condiments. During the preparation process the pasta may be cooked, mixed with the condiments and then frozen, or the pasta may be frozen without condiments, which may be prepared and frozen separately, and pasta and condiments are joined in a single package only after freezing.

25 This second operating mode has the advantage that it does not cause the

pasta to absorb the condiments.

Both types of pasta described above, being frozen, require a considerable preparation time to go from freezing temperature to ambient temperature and therefrom to be heated sufficiently for consumption. Moreover, the cold chain may be subject to interruptions which cause changes to the organoleptic characteristics of the frozen product.

A third type of known packages is that of pre-cooked fresh pastas, with or without condiments, sealed in a single-portion or dual portion package and destined to be preserved in a refrigerator or at ambient temperature.

In this case the method comprises: cooking the pasta, possibly adding the condiment while hot, cooling the cooked pasta, possibly with the condiment, packaging under vacuum or in modified atmosphere.

Once the package is opened, they simply need heating, even in a microwave oven. Since this is a fresh product, it heats faster than the frozen one, but it can be preserved for a shorter time. Moreover, the pasta is treated with protecting oils to prevent it from absorbing the humidity of the condiment and to prevent sticking, which would not be appreciated by consumers, and this has a negative impact on the quality of the product.

Fresh pre-cooked pasta can absorb about 50-60% of humidity (i.e. it can grow by about 50-60% in the presence of humidity or condiments) if it contains no filling, and it can absorb about 30% if it does contain filling, whilst in the case of dry pasta this percentage reaches even 100% (a typical case is the pasta whose volume doubles while cooking in boiling water).

Some types of pasta are subjected to post-packaging sterilisation, i.e. the package containing the product is treated.

This allows for long preservation not in a refrigerator, in substantially similar fashion to long-preservation milk, as opposed to fresh milk, to be preserved in refrigerators, and more generically to fresh pasta, whose preservation time is more limited, but whose organoleptic qualities are superior.

5 DISCLOSURE OF INVENTION.

An aim of the present invention is to eliminate the aforesaid drawbacks and to make available a pre-cooked pasta with high organoleptic qualities and a method for its manufacture which allow to maintain intact and durable the organoleptic characteristics of the pasta for a time interval of about 30 - 60
10 days.

A further aim is to enable to reduce the time required to prepare the pasta for consumption.

Yet another aim is to achieve this in simple, economical fashion.

Said aims are fully achieved by the method and by the pasta of the present
15 invention, which are characterised by the content of the claims set out below and in particular in that the pasta is pre-cooked and pasteurised prior to packaging, without external condiments, packaged in a sealed container under vacuum or in a modified atmosphere.

BEST MODE FOR CARRYING OUT THE INVENTION.

20 The method for manufacturing the pre-cooked pasta without external condiments, be it fresh or dry and possibly also filled, comprises in combination the following steps:

- cooking the pasta;
- pasteurising the cooked pasta;
- 25 - possibly drying the pasta;

- possibly cooling the pasteurised pasta;
- packaging under vacuum or modified atmosphere.

Pasteurisation may take place at high temperature ($> 80^{\circ}\text{C}$) with steam or with hot air and with stabilising effect.

5 This and other characteristics shall become more readily apparent from the description that follows of a preferred and non limiting embodiment.

The pasta of the present invention is a pre-cooked and pasteurised pasta, without external condiments, packaged in a sealed container under vacuum or in modified atmosphere.

10 The pasta can be of the fresh or dry kind and possibly also filled (in this case obviously it does comprise condiments, but they are within the pasta itself).

Preparation comprises the following steps:

- cooking the pasta in boiling water;
 - original pasteurisation of the cooked pasta before its packaging:
- 15 pasteurisation takes place with steam or hot air, it has a stabilising effect and it forms a protective film on the pasta which allows to maintain its shape and enables to avoid use of oils and/or protective substances for the pasta or greatly to limit their use;
- possibly cooling the pasteurised pasta;
- 20 - packaging under vacuum or in modified atmosphere (according to a known technique which entails replacing the air in the container of the package with a mixture of gases suitable for preserving food products).

The aforesaid pasta package is available in a short time because, not being frozen, it requires a shorter heating time to be brought to the consumption
25 temperature.

The condiment can be prepared and possibly heated separately and added to the heated pasta ready for consumption, thereby preventing the possible absorption of the aqueous or humid part of the condiment by the pasta, which is thus preserved in better fashion and for a duration of about 30 – 60 days.

- 5 The pasta of the present invention does not require the addition of oils or protective substances or requires it in reduced quantity with respect to the prior art and in any case it requires no special oils and therefore maintains its organoleptic characteristics unchanged.

CLAIMS

1. Pre-cooked pasta without external condiments, packaged in a container sealed under vacuum or in modified atmosphere, characterised in that it is a pasteurised pre-cooked pasta.
- 5 2. Method for manufacturing pre-cooked pasta without external condiments, both fresh and dry and possibly also filled, characterised in that it comprises in combination the following steps:
 - cooking the pasta;
 - pasteurising the cooked pasta;
 - 10 - possibly drying the pasta;
 - possibly cooling the pasteurised pasta;
 - packaging under vacuum or modified atmosphere.
3. Method as claimed in claim 2, wherein pasteurisation occurs with steam or with hot air and with stabilising effect.
- 15 4. Method as claimed in claim 2, wherein pasteurisation occurs before packaging.
5. Method as claimed in claim 2, wherein pasteurisation forms a protective film on the pasta.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A23L1/16

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 7 A23L

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 practical, search terms used)

EPO-Internal, WPI Data, PAJ, FSTA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 332 587 A (FIELD ERIC SYDNEY ET AL) 26 July 1994 (1994-07-26) column 5, line 50 -column 6, line 2; claims 1,30,46,50,51,56,57 column 7, line 49-61 ---	1-5
X	US 6 017 573 A (TOH TIAN SENG ET AL) 25 January 2000 (2000-01-25) column 2, line 1 -column 4, line 29; claims 1-16 ---	1-5
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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Uhl, M

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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