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(54) **Title**: HOUSEHOLD APPLIANCE FOR PREPARING HOT AND COLD FOOD

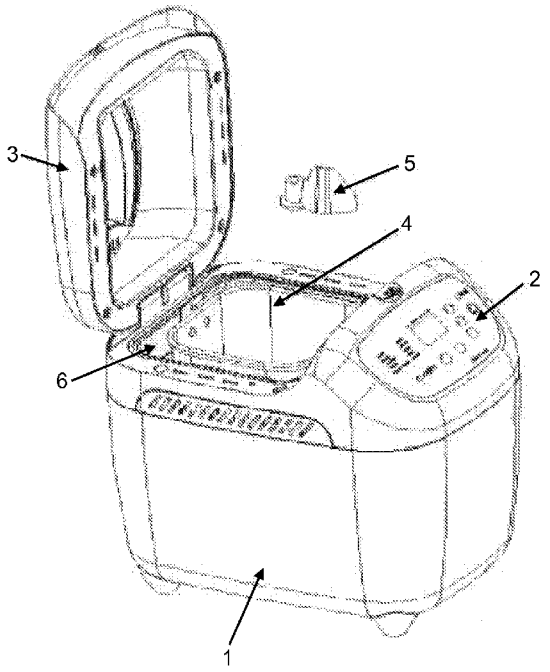



Fig.1

(57) **Abstract**: A kitchen household appliance for preparing cold and hot food comprises a housing (1) which encloses an electric motor and is provided with a control panel (2), an inner space of the housing (1) being closed by a cover (3) and a metal container (4) being arranged in the inner space where also a device for heating it and a mechanism for rotating a blade (5) placed in the container (4) are arranged, the sizes of the inner space and of the container (4) being such as to leave between them an interspace (6) in which a cooling sleeve, shaped and dimensioned so as to fit on the container (4) without interfering with said mechanism for rotating the blade (5), can be inserted. In this way, it is possible to combine in a single apparatus the functions of a bread machine and of an ice cream machine, thereby sharing several components for carrying out both functions.

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# HOUSEHOLD APPLIANCE FOR PREPARING HOT AND COLD FOOD

The present invention relates to kitchen household appliances for preparing food, and in particular a household appliance which is capable of preparing both hot food such as bread, cakes, polenta, etc. and cold food such as ice cream, sorbets and the like.

On the market are available for a long time (see for example US 5836237) household appliances commonly called "bread machines" through which it is possible to actually prepare not only various types of bread, but also, with suitable accessories, other hot food such as cakes, polenta and the like, which simply require a different type of blade for mixing.

Such a machine substantially comprises a housing provided with a control panel, of an electric motor and an inner space closed by a cover, as well as a metal container located in the inner space where also a device for heating the container and a mechanism (driven by the motor) for rotating the blade placed in the container are arranged. In this way, various types of hot food can be prepared simply by varying the ingredients, by mounting in the container a blade with a shape suitable for mixing the ingredients and by setting on the control panel an appropriate operating cycle which comprises the correct parameters of duration, speed, temperature, etc.

Between the metal container and the wall of the inner space there is an interspace which facilitates the extraction of the container also when it is dilated because of the heating and allows to avoid the contact between the hot container and the structure of the housing which usually is made of plastic.

Object of the present invention is to exploit said interspace to provide a household appliance which is capable to prepare also ice cream and the like.

This object is achieved by means of a household appliance provided with a cooling sleeve which can be inserted into the interspace between the metal container and the wall of the inner space, so as to carry out the function of cooling the container.

The advantage of this household appliance is therefore to combine in a single apparatus the functions of a bread machine and of an ice cream machine, with an obvious saving in terms of both cost and encumbrance.

This and other advantages and features of the household appliance according to

the present invention will become apparent to those skilled in the art from the following detailed description of an embodiment thereof with reference to the accompanying drawings in which:

Fig.1 is a perspective view showing the apparatus in the configuration of the bread machine, and

Fig.2 is a perspective view showing an example of a cooling sleeve.

Referring to Fig.1, it is seen that a household appliance according to the present invention traditionally comprises a housing 1 which encloses an electric motor and is provided with a control panel 2, an inner space of said housing 1 being closed by a cover 3. A metal container 4 is arranged in the inner space where also a device for heating it and a mechanism, placed on the bottom and driven by the electric motor for rotating a blade 5 placed in container 4, are arranged. The sizes of the inner space and of container 4 are such as to leave between them an interspace 6 of adequate size, at least 8 mm and approximately 15-20 mm.

The innovative aspect of the present invention is the presence of a cooling sleeve 7 as the one shown in Fig. 2. Such sleeve 7 is shaped and sized to be housed in said interspace 6 so as to fit on container 4 without interfering with the mechanism for rotating blade 5, for example being divided into two halves 7a provided with a recess 7b on their bottom to allow the movement of the mechanism for rotating blade 5.

The cooling sleeve 7 is carried out as a double-walled hollow sleeve having a thickness 7c substantially equal to or slightly shorter than the width of interspace 6. In the cavity of sleeve 7 there is preferably a liquid that freezes at a temperature significantly below 0 °C, indicatively at least 10-15 °C below zero, so that by placing housing 7 in a freezer at low temperature (typically -18 °C or more) this liquid freezes and acquires a strong cooling power.

When the user wants to use the bread machine for preparing an ice cream, it is sufficient that he takes sleeve 7 out from the freezer and inserts it into interspace 6 by arranging then blade 5 and the appropriate ingredients into container 4, and by setting on panel 2 the corresponding operating program. Sleeve 7, thanks to the liquid frozen inside it, provides then to carry out the function of cooling container 4, while for the function of mixing and cycle programming the same components already used in the

configuration of the bread machine are exploited.

It is clear that the embodiment of the household appliance according to the invention described and illustrated above is just an example susceptible of various modifications. In particular, the exact shape of container 4, of the corresponding sleeve 7 and of blade 5 may vary depending on specific manufacturing requirements; furthermore sleeve 7 can also be carried out in one piece or in a higher number of pieces instead of the two halves 7a illustrated in the present embodiment.

## CLAIMS

1. Kitchen household appliance for preparing food, comprising a housing (1) which encloses an electric motor and is provided with a control panel (2), an inner space of said housing (1) being closed by a cover (3) and a metal container (4) being arranged in said inner space where also a device for heating said metal container (4) and a mechanism for the rotation of a blade (5) placed in the container (4) are arranged, the sizes of said inner space and of the container (4) being such as to leave between them an interspace (6) of at least 8 mm, characterized by further comprising a cooling sleeve (7) shaped and dimensioned for being housed in said interspace (6) so as to fit on the container (4) without interfering with said mechanism for rotating said blade (5), said cooling sleeve (7) being carried out as a double-walled hollow sleeve which has a thickness (7c) substantially equal to or slightly shorter than the width of the interspace (6) and contains a liquid which freezes at a temperature lower than 0° C.

2. Household appliance according to claim 1, characterized in that the cooling sleeve (7) is divided into two halves (7a) provided on the bottom with a recess (7b) suitable for allowing the movement of the mechanism for rotating the blade (5).

3. Household appliance according to claim 1 or 2, characterized in that the cooling sleeve (7) contains a liquid which freezes at a temperature lower than -15° C.

4. Household appliance according to claim 1 or 2 or 3, characterized in that the interspace (6) has a width comprised between 15 and 20 mm.

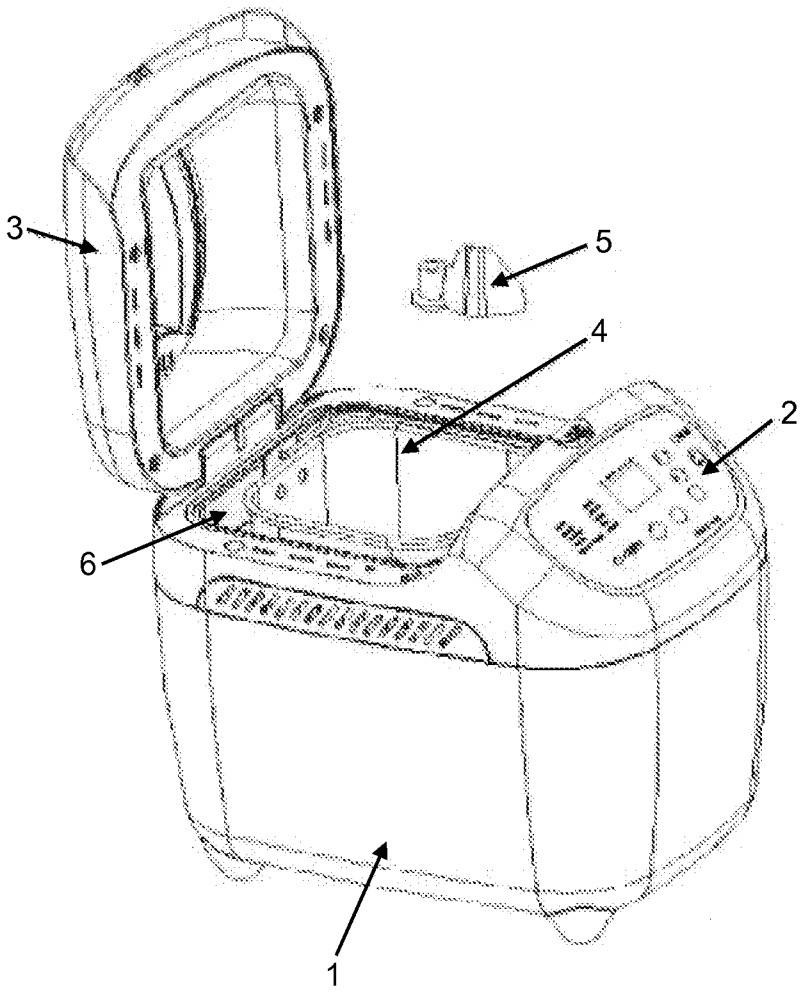



Fig.1

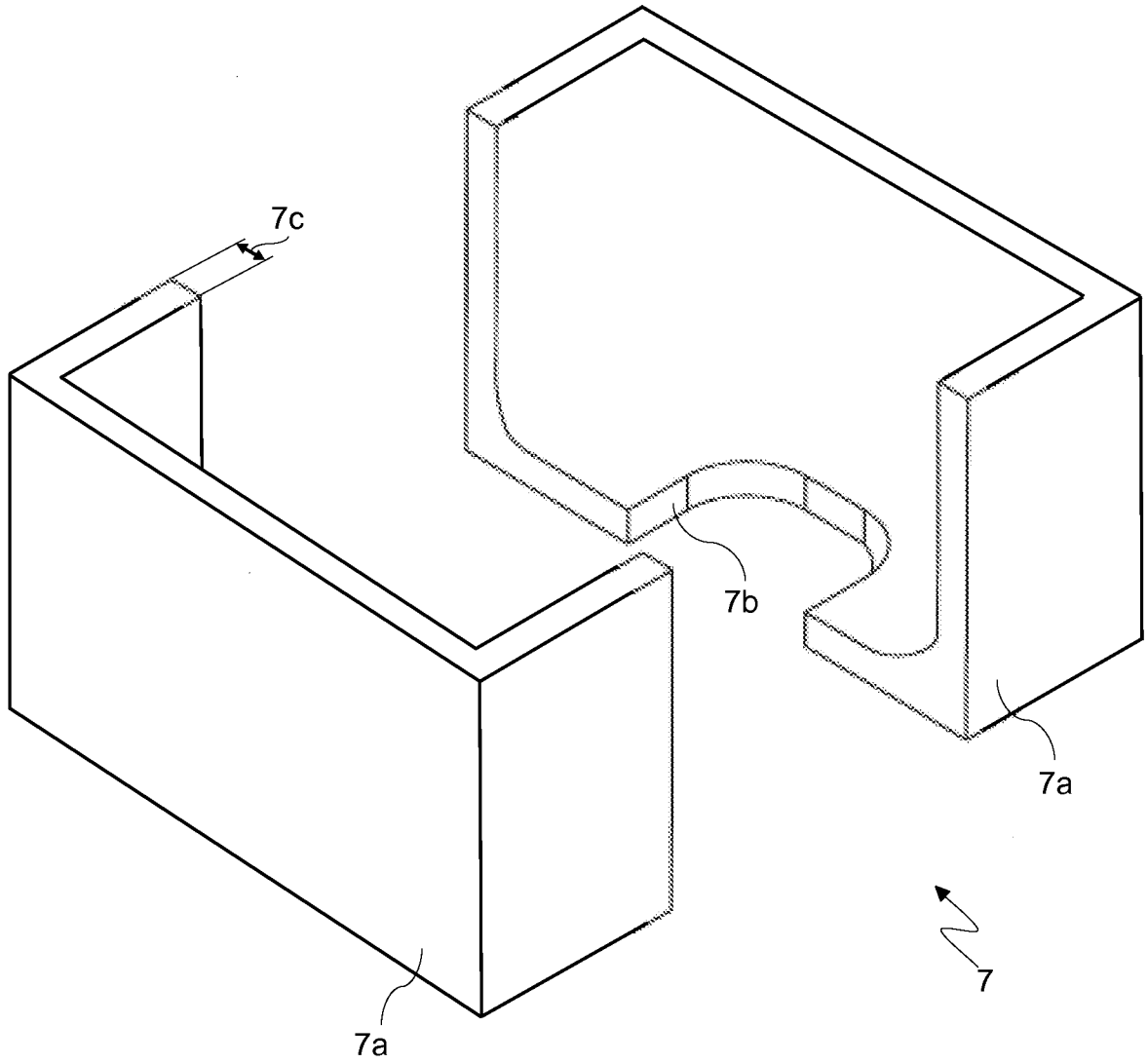



Fig.2

# INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. A21B7/00 A23G9/04 A47J43/07
ADD.

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)
A21B A23G A47J

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)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| A | US 5 836 237 A (CHIANG HANH [TW])<br>17 November 1998 (1998-11-17)<br>cited in the application<br>column 2, lines 6-55<br>column 3, lines 13-49<br>column 4, lines 18-23<br>figures 1-3, 8, 10<br>----- | 1,3 |
| A | DE 100 48 535 A1 (VORWERK CO INTERHOLDING [DE]) 28 February 2002 (2002-02-28)<br>paragraphs [0016] - [0030]; figures 1, 3-5<br>----- | 1,3 |
| A | DE 39 21 115 A1 (BRAUN AG [DE])<br>10 January 1991 (1991-01-10)<br>column 4, line 23 - column 5, line 12<br>column 6, lines 24-49<br>claims 1-3; figure 1<br>----- | 1,2 |

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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| Date of the actual completion of the international search | Date of mailing of the international search report |
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| 18 October 2012 | 26/10/2012 |

| Name and mailing address of the ISA/ | Authorized officer |
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| European Patent Office, P.B. 5818 Patentlaan 2<br>NL - 2280 HV Rijswijk<br>Tel. (+31-70) 340-2040,<br>Fax: (+31-70) 340-3016 | Novelli, Bruno |

# INTERNATIONAL SEARCH REPORT

Information on patent family members

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| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---|---|---|
| US 5836237 A | 17-11-1998 | NONE | |
| DE 10048535 A1 | 28-02-2002 | NONE | |
| DE 3921115 A1 | 10-01-1991 | NONE | |