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HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
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ZM, ZW.

[Continued on next page]

(54) Title: SYSTEMS AND METHODS FOR INSTANT FOOD PREPARATION

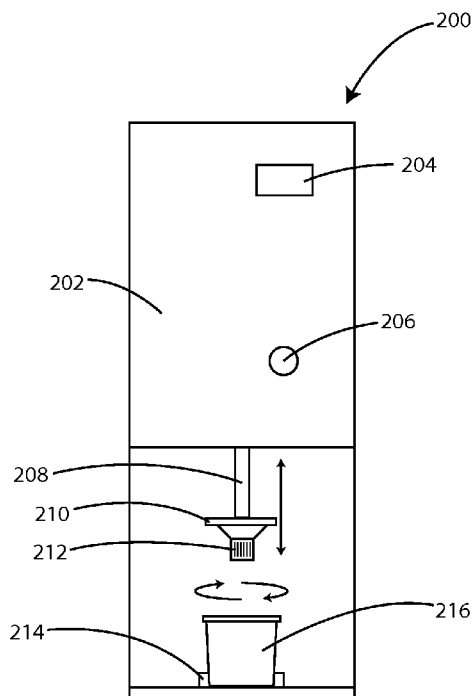


FIG. 2

(57) Abstract: Embodiments of the invention include instant food systems and methods regarding the same. In an embodiment, the invention includes a method for preparing a hot instant food product. The method can include adding a heated liquid to a container, adding a substantially dry food product mixture to the container, wherein the volume of the dry food product mixture is equal to at least 20% of the volume of heated liquid, placing a mixing head into the container, and rotating the mixing head for a period of less than sixty seconds in order to form a fully hydrated frothed food product. In an embodiment, an instant food preparation machine (200) is included. In an embodiment, a mixing head is included. In an embodiment, an instant food preparation kit is included. Other embodiments are also included herein.



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Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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International application No
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A. CLASSIFICATION OF SUBJECT MATTER INV. A23L1/40 A23L2/39 A23L1/00 A47J43/04 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) A23L A47J A23G		
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, 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 2004/156971 A1 (WUERSCH PIERRE [CH] ET AL) 12 August 2004 (2004-08-12) claims; examples <div style="text-align: center; margin-top: 10px;">-----</div>	1-11,23
<div style="display: flex; justify-content: space-between; align-items: center;"> <div> ☐ Further documents are listed in the continuation of Box C. </div> <div> ☒ See patent family annex. </div> </div>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>* Special categories of cited documents :</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"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</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&" document member of the same patent family</p> </div> </div>		
Date of the actual completion of the international search <div style="text-align: center; font-size: 1.2em;">14 August 2013</div>		Date of mailing of the international search report <div style="text-align: center; font-size: 1.2em;">08/01/2014</div>
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016		Authorized officer <div style="text-align: center; font-size: 1.2em;">Leprêtre, François</div>

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/034142

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-11, 23

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-11, 23

A method for preparing an instant food product comprising:
adding a liquid to a container;
adding a substantially dry food product mixture to the container, wherein the volume of the dry food product mixture is equal to at least 20% of the volume of liquid;
placing a mixing head into the container; and
rotating the mixing head for a period of less than sixty seconds in order to form a fully hydrated frothed food product, and an instant food preparation kit

2. claims: 12, 13

An instant food preparation machine comprising:
a drive shaft, the drive shaft configured to move between a raised position and a lowered position;
a first electric motor operably connected to the drive shaft to raise and lower the drive shaft;
a second electric motor operably connected to the drive shaft to rotate the drive shaft at speeds between 2000 and 6000 rotations per minute;
a high shear mixing head, the high shear mixing head configured to engage the drive shaft; and
a controller module configured to control operation of the first electric motor and the second electric motor

3. claims: 14-22

A high shear mixing head comprising:
an annular mixing blade, the annular mixing blade defining a central aperture; the annular mixing blade comprising a plurality of flat portions and a plurality of humps rising above the flat portions;
a central hub disposed above the annular mixing blade; and
a first strut and a second strut, the first and second strut connecting the annular mixing blade to the central hub.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2013/034142

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