(51) International Patent Classification: A23C 19/14 (2006.01)
(21) International Application Number: PCT/CA20 11/001033
(22) International Filing Date: 13 September 2011 (13.09.2011)
(25) Filing Language: English
(26) Publication Language: English
(72) Inventors: and
(71) Applicants: STROMOTICH, Greg [CA/CA]; 4157 McConnell Drive, Burnaby, British Columbia V5A 3J7 (CA).
STROMOTICH, Terumi [CA/CA]; 4157 McConnell Drive, Burnaby, British Columbia V5A 3J7 (CA).
THUNE, Darrell [CA/CA]; 1630 King Crescent, Abbotsford, British Columbia V2S 7M7 (CA).
(43) International Publication Date 22 March 2012 (22.03.2012)
(10) International Publication Number WO 2012/034218 A3

Title: PUFFED CHEESE PRODUCT AND PROCESS FOR MAKING SAME

Abstract: Partially dehydrated cheese products that may be consumed as a puffed cheese snack, and that may be stored for extended periods of time prior to consumption or reconstitution are provided, as are methods for making the same. Precursor cheese having a suitable fat content and moisture content is formed into pieces suitably sized for processing, optionally treated to facilitate the free flow of the formed pieces relative to one another, chilled and then vacuum micro-waved to cause the precursor cheese pieces to become partially dehydrated and puffed. Optionally, microwave heating may be reduced in a gradual or step-wise fashion during the second half of the vacuum microwave drying step in order to minimize the elevation of heat in the fats of the cheese pieces while still allowing water vapour (i.e. heat) to escape therefrom. Microwave heating is then discontinued and vacuum reduced to enable the puffed cheese pieces to give off their thermal energy and cool in a controlled fashion while maintaining their puffed size. Atmospheric pressure is then reintroduced immediately or in the course of several minutes, dependant on the amount of fat, moisture level and temperature of the puffed cheese product. The final moisture content / water activity of the puffed cheese product is selected empirically with reference to desired shelf life, and is dependent in part upon the salt content of the precursor cheese.
A. CLASSIFICATION OF SUBJECT MATTER
   IPC: A23C 19/14 (2006.01) , A23C 19/086 (2006.01) , A23P 1/14 (2006.01)
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: A23C 19/14 (2006.01) , A23C 19/086 (2006.01) , A23P 1/14 (2006.01)
   
   Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
   
   Electronic database(s) consulted during the international search (name of database(s) and, where practicable, search terms used)
   Canadian Patent Database, EPOQUE, SCOPUS (Keywords: cheese, puff*, expand*, puffed, expanded, microwave, vacuum)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>US 4,803,090 (SCHLIPALrUS, L. et al.) 7 February 1989 (07-02-1989) <em>cited by Applicant</em> <em>whole document</em></td>
<td></td>
</tr>
</tbody>
</table>

[ ] Further documents are listed in the continuation of Box C. [X] See patent family annex.

* Special categories of cited documents :
   "A" document defining the general state of the art which is not considered to be of particular relevance
   "E" earlier application or patent but published on or after the international filing date
   "L" document which may throw doubts on priority claims(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
   "O" document referring to an oral disclosure, use, exhibition or other means
   "P" document published prior to the international filing date but later than the priority date claimed

"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
"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
"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
"&" document member of the same patent family

Date of the actual completion of the international search: 29 November 2001 (29-11-2001)
Date of mailing of the international search report: 14 December 2001 (14-12-2001)

Name and mailing address of the ISA/CA
Canadian Intellectual Property Office
Place du Portage 1, Cl14 - 1st Floor, Box PCT
50 Victoria Street
Gatineau, Quebec K1A 0C9
Facsimile No.: 001-819-953-2476

Authorized officer
Malcolm Downey (819) 934-2329

Form PCT/ISA/210 (second sheet) (July 2009)
## INTERNATIONAL SEARCH REPORT
### Information on patent family members

<table>
<thead>
<tr>
<th>Patent Document</th>
<th>Publication Date</th>
<th>Patent Family Member(s)</th>
<th>Publication Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>WO200712260A1</td>
<td>01 November 2007 (01-11-2007)</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>