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61/5 10,1 16 2 1 July 201 1 (21.07.201 1) US
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- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

- (84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17 :

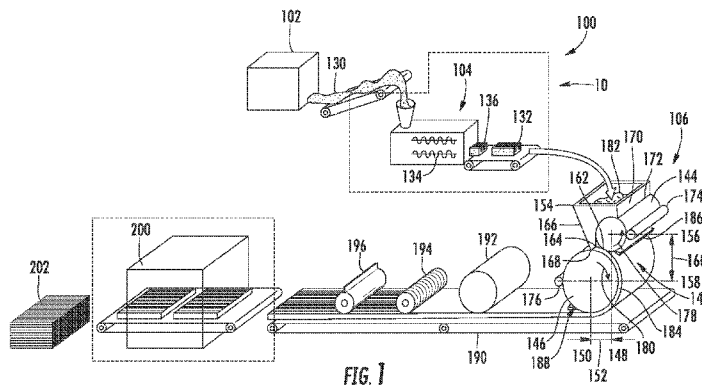
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.1 7(H))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.1 7(in))

Published:

- with international search report (Art. 21(3))

(88) Date of publication of the international search report:

20 June 2013

(54) Title: METHOD FOR FORMING CHEWING GUM

- (57) **Abstract:** Disclosed is a method for forming gum, the method including providing a pair of rollers including a first roller and a second roller, and sizing a gum mass into a substantially continuous and flat gum sheet having a substantially uniform thickness between about 0.3 mm to 10 mm and a width of not less than 50 cm solely via a moving of the gum mass through a gap between the pair of rollers.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2012/047404

A. CLASSIFICATION OF SUBJECT MATTER
INV. A23G4/04 A23G3/00
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)
A23G A23P B01F A21C B29B

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 4 555 407 A (KRAMER FRANKLIN [US] ET AL) 26 November 1985 (1985-11-26) claims 1, 10; example 1 -----	1-7
X	US 2011/052756 AI (CERVENKA MARTIN R [US] ET AL) 3 March 2011 (2011-03-03) paragraph [0033] ; claim 1; figure 3 -----	1-7
X	US 5 971 739 A (HOFFMAN EARL ROGER [US] ET AL) 26 October 1999 (1999-10-26) claims 1-9; figure 4 -----	1-7
A	US 5 733 583 A (MULLER BERNARDUS WILHELMUS [US]) 31 March 1998 (1998-03-31) figure 1 ----- - / - -	1-7



Further documents are listed in the continuation of Box C.



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 claim(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

13 November 2012

Date of mailing of the international search report

27/02/2013

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2012/047404

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A, P	wo 2011/090520 AI (KRAFT FOODS GLOBAL BRANDS LLC [US] ; JANI BHARAT [US] ; MILADINOV VESSEL) 28 July 2011 (2011-07-28) claims 1-25	1-7
X	----- EP 0 979 714 AI (COMERIO ERCOLE SPA [IT]) 16 February 2000 (2000-02-16) paragraph [0001] ; claim 1; figure 2 -----	1-7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/047404

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.: 2^c. 30
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:
see FURTHER INFORMATION sheet PCT/ISA/210

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. :
1-7

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: 1-7

A method for forming chewing gum, as defined by claims 1 to 7, characterized by a flow or velocity pattern .

2. claims: 8-14

A method of forming chewing gum, as defined by claims 8 to 14, characterized by an energy consumption of not more than 0.009 kWh/kg.

3. claims: 15-17 , 31

A method of forming chewing gum, as defined by claims 15-17 or 31, comprising a step of sizing solely via moving the mass through a gap between rollers . This group of claims relates to a limited sizing design method.

4. claims: 18-25

A method of forming chewing gum, as defined in claims 18-25 , characterized by preventing adhesion of the gum mass to the rollers .

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 26-30

The present application is based on eleven (!) independent claims.
The application does not fulfill the requirement of Art. 6 PCT.

No meaningful search argumentation:

The first five independent claims and claim 31 (and dependent claims thereto = first 25 claims, and claim 31) are searchable (see, however a non-unity objection here below), they relate to a method of forming chewing gum. The remaining claims (claim 26 to 30) are not searched, because the method of forming confectionery is not supported in the description: Chocolate is THE most important confectionery product. However, chocolate can not be processed between two rollers to form a flat, substantially uniform sheet. No examples of 'confectionery' material able to be processed according to methods 26 to 30 are provided in the application. No meaningful search possible for claims 26 to 30. Due to a non-unity objection (Rule 13.1 PCT), only the first invention (claims 1-7) were searched. Claims 8-25 and 31 were not searched due to lack of unity.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.2), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2012/047404

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4555407	A	26-11-1985	CA 1253735 AI 09-05-1989
		EP 0191986 A2 27-08-1986	
		JP 61162136 A 22-07-1986	
		US 4555407 A 26-11-1985	

US 2011052756	AI	03-03-2011	CA 2721516 AI 17-12-2009
		CN 102046020 A 04-05-2011	
		EP 2285231 A2 23-02-2011	
		RU 2010143675 A 10-05-2012	
		US 2011052756 AI 03-03-2011	
		WO 2009151506 A2 17-12-2009	

US 5971739	A	26-10-1999	US 5971739 A 26-10-1999
		US 6214389 B1 10-04-2001	
		US 6254373 B1 03-07-2001	

US 5733583	A	31-03-1998	NON E

WO 2011090520	AI	28-07-2011	AU 2010343332 AI 09-08-2012
		CA 2787148 AI 28-07-2011	
		EP 2525667 AI 28-11-2012	
		WO 2011090520 AI 28-07-2011	

EP 0979714	AI	16-02-2000	NON E
